APPENDIX 1:
Architectural Plan Set

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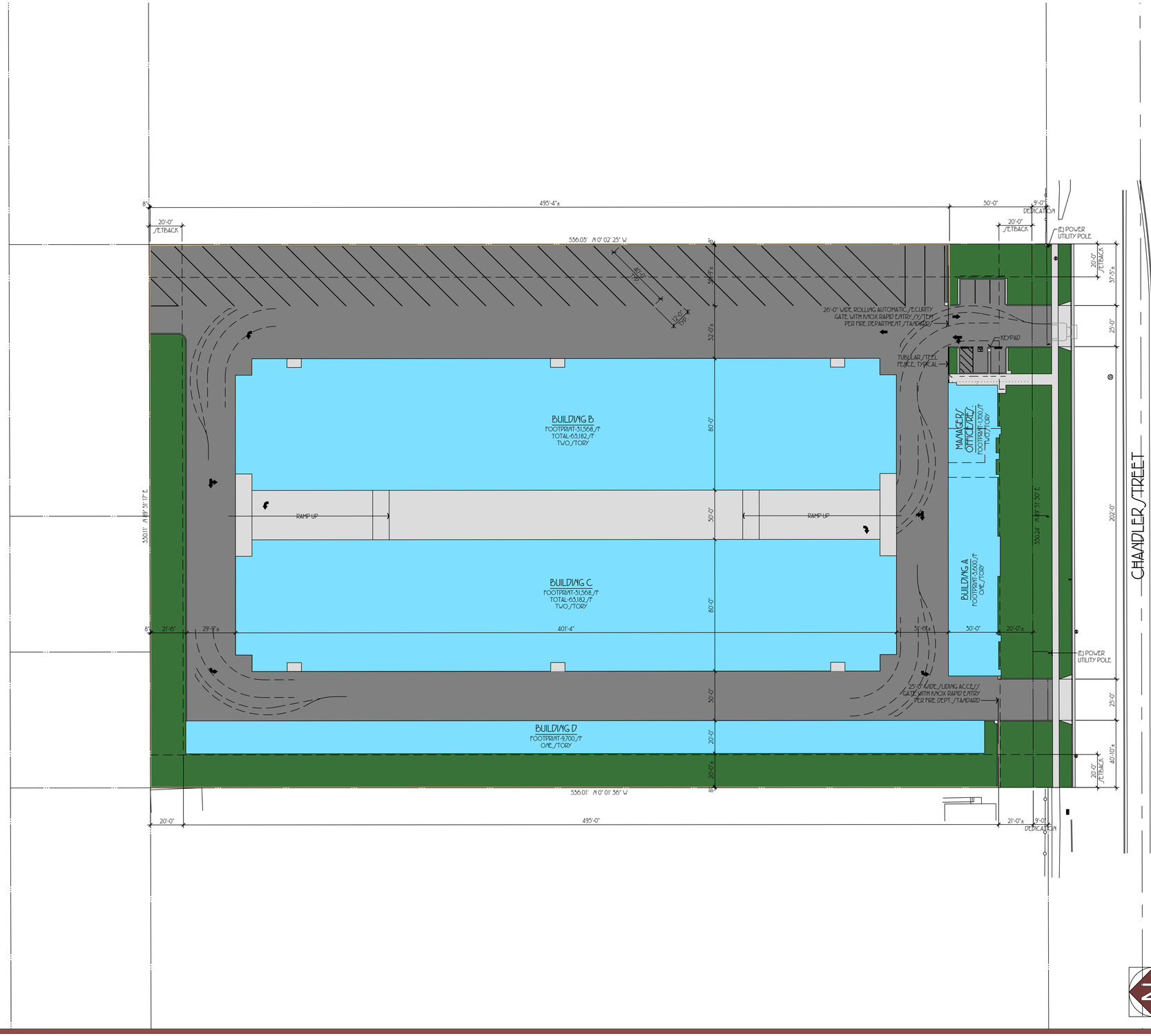

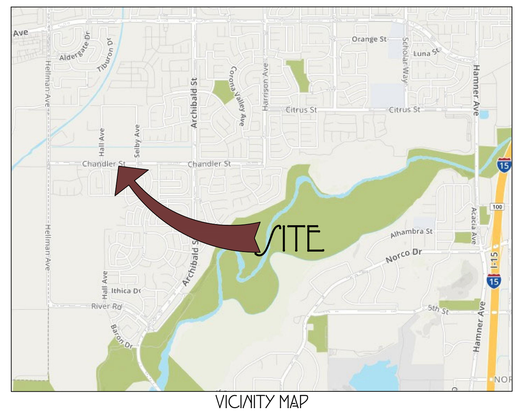

VICINITY MAP

PROJECT DATA

SITE/SQUARE FOOTAGES/

BUILDING/SITE COVERAGE	78,136/SQUARE FEET (44.1%)
LANDSCAPE/SITE COVERAGE	22,500/SQUARE FEET (12.6%)
HARDSCAPE/SITE COVERAGE	76,544/SQUARE FEET (43.3%)
GROSS/SITE AREA	(4.08 ACRES) 176,980/SQUARE FEET (100.0%)

PARKING DATA

PARKING - REQUIRED	
PARKING/SPACES (1/PER 3 EMPLOYEES)	4/SPACES
TOTAL PARKING REQUIRED	4/SPACES
PARKING - PROVIDED	
STANDARD/SPACES	3/SPACES
HANDICAP/SPACES	1/SPACE
CLEAN AIR/SPACES	1/SPACE
COVERED/SPACES	2/SPACES
TOTAL PARKING PROVIDED	7/SPACES

BUILDING DATA

CONSTRUCTION TYPE	OFFICES/RESIDENCE - TYPE V-B/SPRINKLERED BUILDINGS A & D - TYPE II-B NON-SPRINKLERED BUILDING B & C - TYPE II-B/SPRINKLERED
CURRENT ZONING	A-1 (LIGHT AGRICULTURE)
PROPOSED ZONING	C-1/C-P
OCCUPANCY GROUP	S-1 (STORAGE) B (OFFICE) R-1 (APARTMENT) U (GARAGE)
NUMBER OF EMPLOYEES	4 MAXIMUM
A.P.N./LOT/PARCEL NUMBER	144-120-002, 003, & 004
PROJECT TYPE	PERSONAL STORAGE FACILITY

BUILDING/SQUARE FOOTAGES/

BUILDING	BUILDING FOOTPRINT	TOTAL/SQUARE FOOTAGE
BUILDING A		
OFFICE	860/SQUARE FEET	860/SQUARE FEET
APARTMENT	225/SQUARE FEET	1,700/SQUARE FEET
GARAGE	615/SQUARE FEET	615/SQUARE FEET
BALCONY (NOT A PART OF TOTAL)	0/SQUARE FEET	152/SQUARE FEET
STORAGE	3,600/SQUARE FEET	3,600/SQUARE FEET
BUILDING A	5,300/SQUARE FEET	6,775/SQUARE FEET
BUILDING B	51,568/SQUARE FEET	63,182/SQUARE FEET
BUILDING C	51,568/SQUARE FEET	63,182/SQUARE FEET
BUILDING D	9,700/SQUARE FEET	9,700/SQUARE FEET
TOTAL	78,136/SQUARE FEET	142,859/SQUARE FEET

PROJECT DIRECTORY

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Kenneth K. Carrell
No. C-23871
Exp. 10/31/21
LICENSED ARCHITECT

JOB NUMBER	19120
DRAWN BY	KKC
SCALE	1"=30'-0"
DATE	19 NOV 06
REVISIONS	20 JAN 15

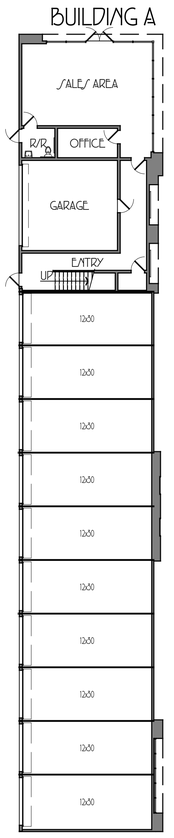
OVERALL SITE PLAN
EASTVALE SELF STORAGE
14555 CHANDLER STREET, EASTVALE, CALIFORNIA

1

UNIT MIX - OVERALL							
UNIT SIZE	UNIT SQ. FT.	EXTERIOR		INTERIOR		TOTAL	
		UNITS	UNIT SF	UNITS	UNIT SF	UNITS	UNIT SF
5x5	25 SF	0	0 SF	79	1,975 SF	79	1,975 SF
5x10	50 SF	0	0 SF	106	5,300 SF	106	5,300 SF
7.5x10	75 SF	0	0 SF	64	4,800 SF	64	4,800 SF
10x10	100 SF	0	0 SF	212	21,200 SF	212	21,200 SF
10x12.5	125 SF	0	0 SF	96	12,000 SF	96	12,000 SF
10x15	150 SF	2	300 SF	86	12,900 SF	88	13,200 SF
10x20	200 SF	81	16,200 SF	74	14,800 SF	155	31,000 SF
10x25	250 SF	53	13,250 SF	0	0 SF	53	13,250 SF
10x30	300 SF	35	10,500 SF	0	0 SF	35	10,500 SF
12x30	360 SF	10	3,600 SF	0	0 SF	10	3,600 SF
15x20	300 SF	3	900 SF	0	0 SF	3	900 SF
TOTAL		184	44,750 SF	717	72,975 SF	901	117,725 SF
AVERAGE UNIT SIZE			243.21 SF		101.78 SF		130.66 SF

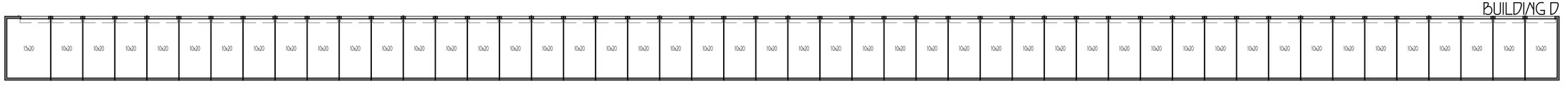
BUILDING B

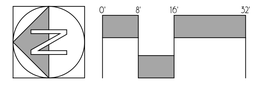
BUILDING A



BUILDING C

BUILDING D





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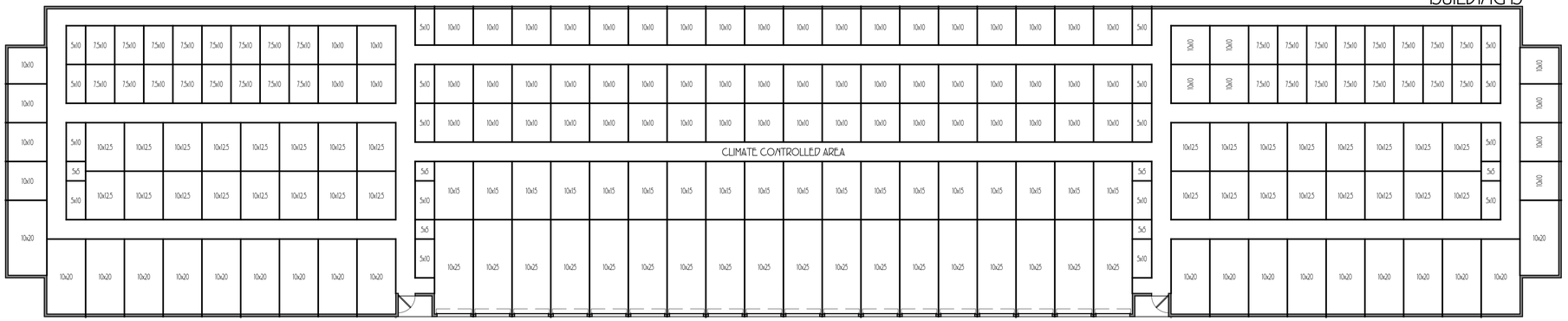
GROUND LEVEL FLOOR PLANS
EASTVALE SELF STORAGE
14555 CHANDLER STREET, EASTVALE, CALIFORNIA

2

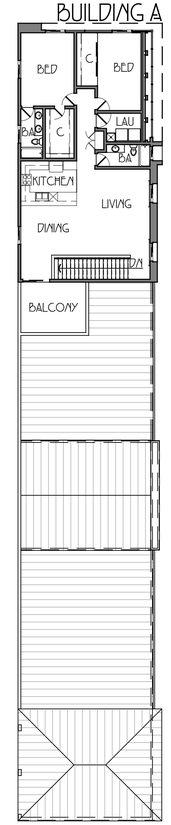
UNIT MIX - OVERALL

UNIT SIZE	UNIT SQ. FT.	EXTERIOR		INTERIOR		TOTAL	
		UNITS	UNIT SF	UNITS	UNIT SF	UNITS	UNIT SF
5x5	25 SF	0	0 SF	79	1,975 SF	79	1,975 SF
5x10	50 SF	0	0 SF	106	5,300 SF	106	5,300 SF
7.5x10	75 SF	0	0 SF	64	4,800 SF	64	4,800 SF
10x10	100 SF	0	0 SF	212	21,200 SF	212	21,200 SF
10x12.5	125 SF	0	0 SF	96	12,000 SF	96	12,000 SF
10x15	150 SF	2	300 SF	86	12,900 SF	88	13,200 SF
10x20	200 SF	81	16,200 SF	74	14,800 SF	155	31,000 SF
10x25	250 SF	53	13,250 SF	0	0 SF	53	13,250 SF
10x30	300 SF	35	10,500 SF	0	0 SF	35	10,500 SF
12x30	360 SF	10	3,600 SF	0	0 SF	10	3,600 SF
15x20	300 SF	3	900 SF	0	0 SF	3	900 SF
TOTAL		184	44,750 SF	717	72,975 SF	901	117,725 SF
AVERAGE UNIT SIZE			243.21 SF		101.78 SF		130.66 SF

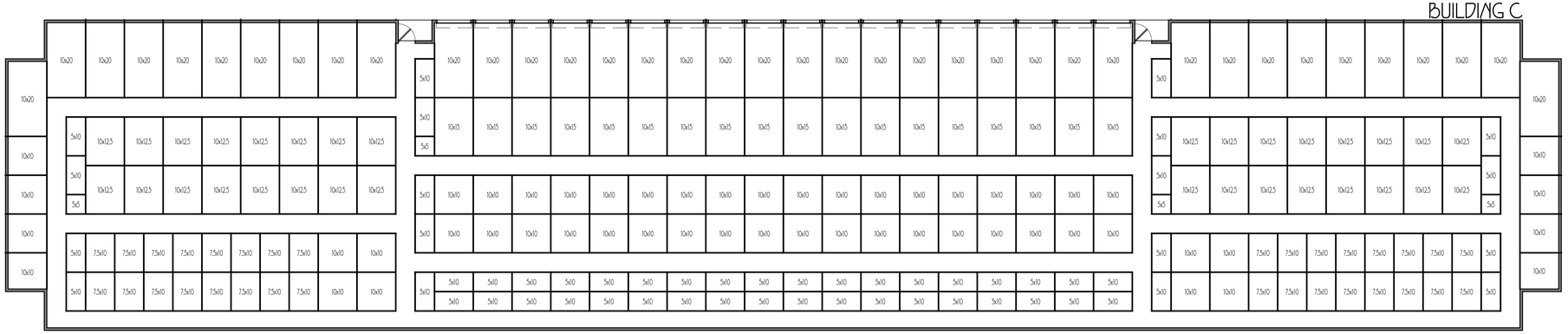
BUILDING B



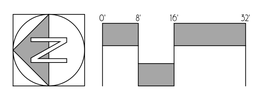
BUILDING A



BUILDING C



BUILDING D



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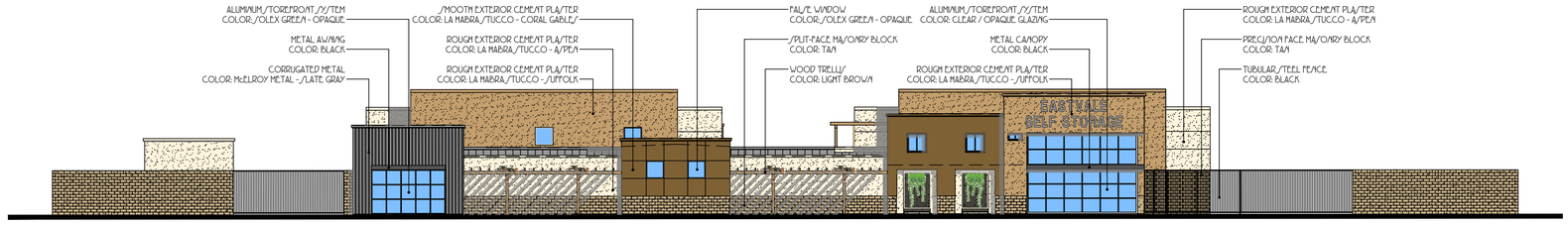
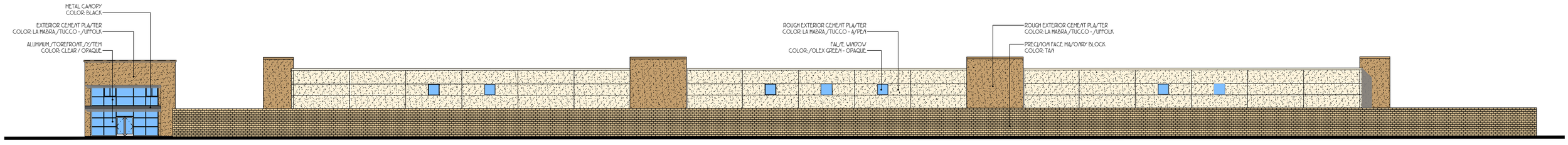
SECOND LEVEL FLOOR PLANS
EASTVALE SELF STORAGE
14555 CHANDLER STREET, EASTVALE, CALIFORNIA

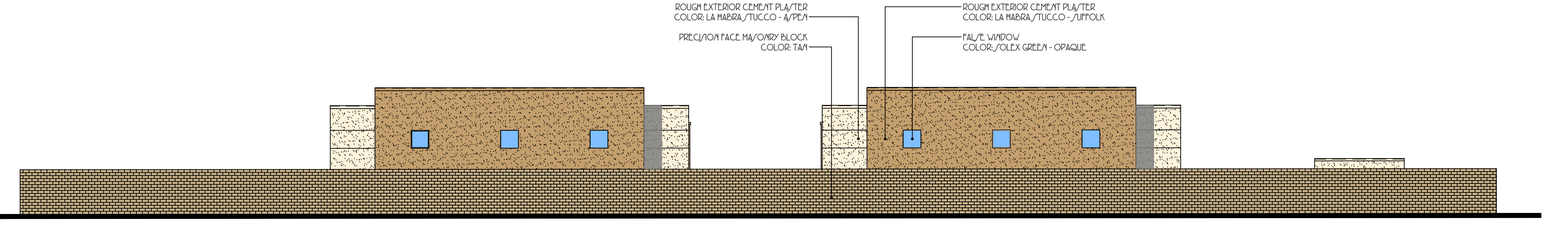
3



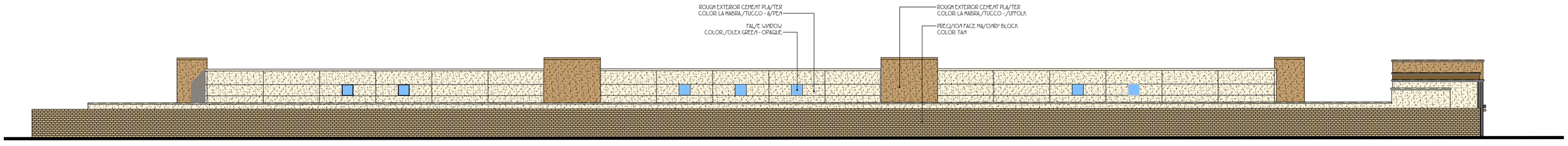
SOUTH ELEVATION (FACING CHANDLER STREET)



EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION

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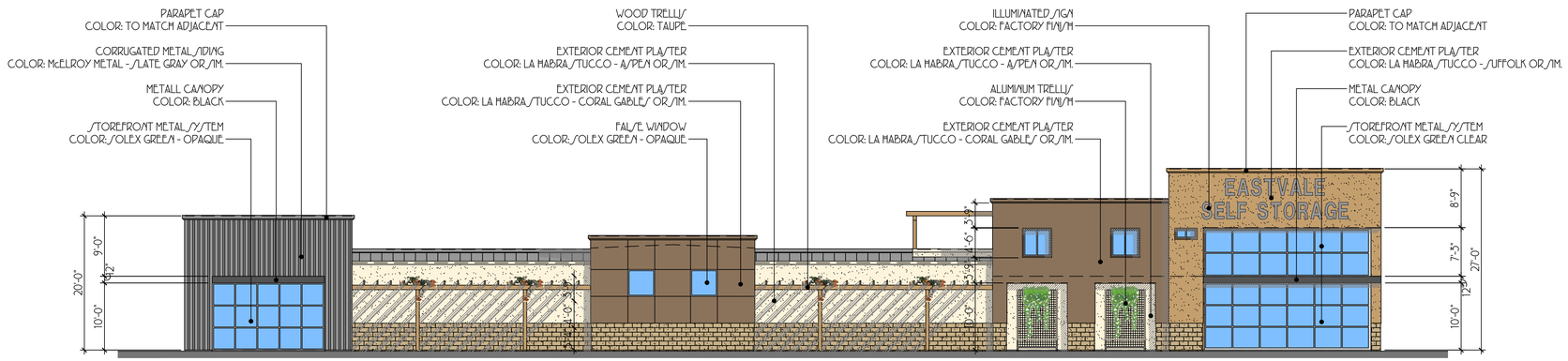
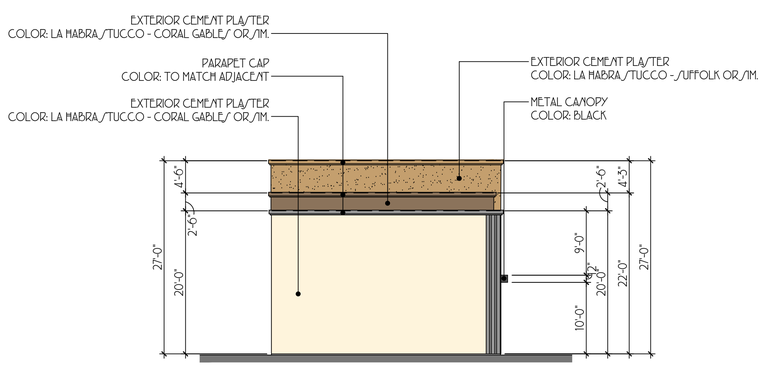
EXTERIOR ELEVATIONS
EASTVALE SELF STORAGE
14555 CHANDLER STREET, EASTVALE, CALIFORNIA

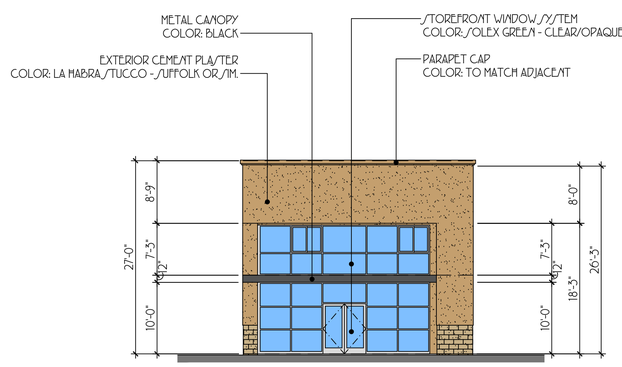
4



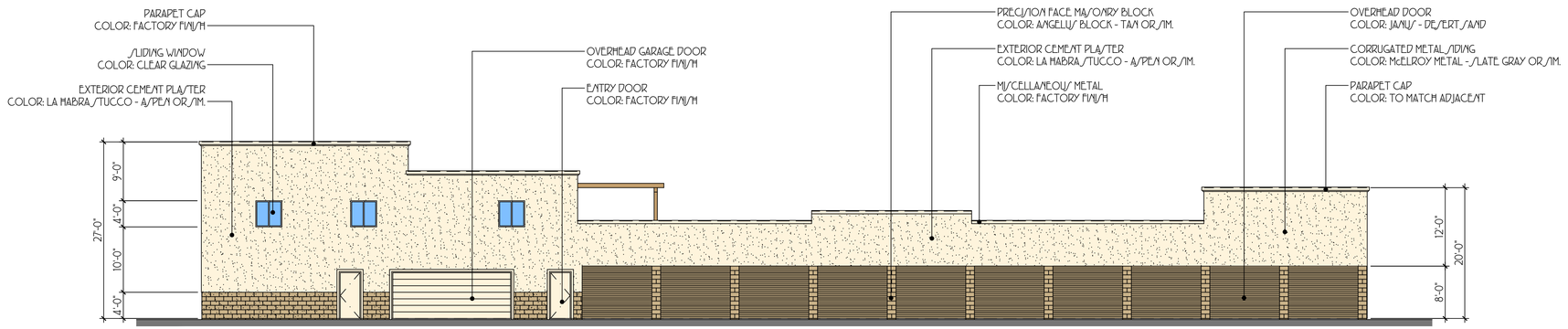
SOUTH ELEVATION (VIEW FROM CHANDLER STREET)



WEST ELEVATION



EAST ELEVATION



NORTH ELEVATION

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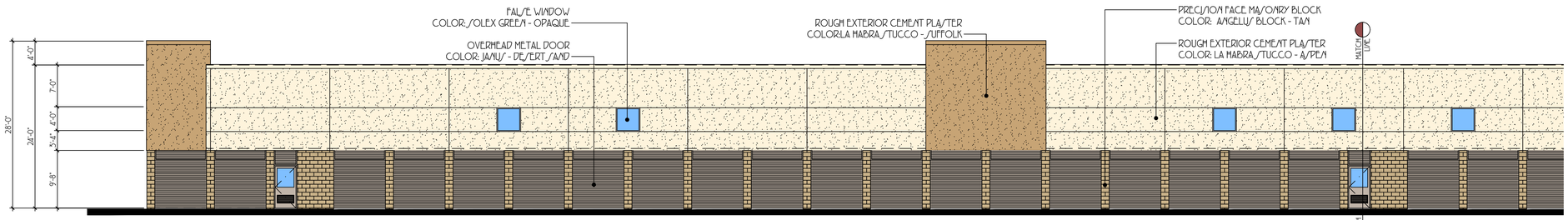
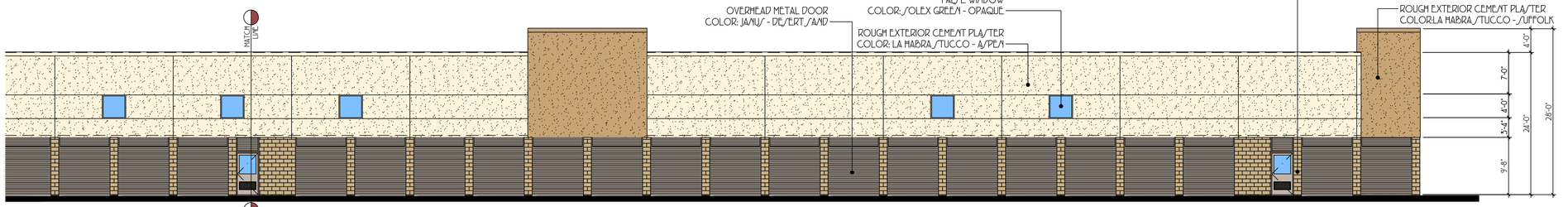
BUILDING A EXTERIOR ELEVATIONS
EASTVALE SELF STORAGE
14555 CHANDLER STREET, EASTVALE, CALIFORNIA

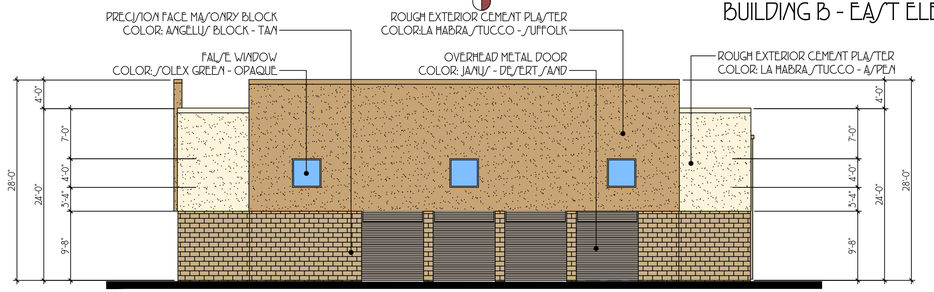
5



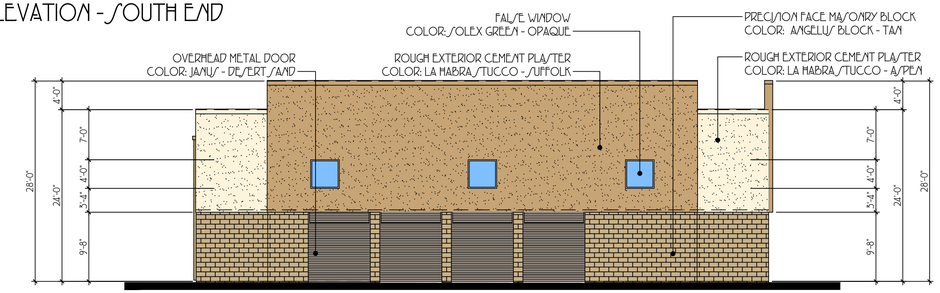
BUILDING B - EAST ELEVATION, BUILDING C - WEST ELEVATION - NORTH END



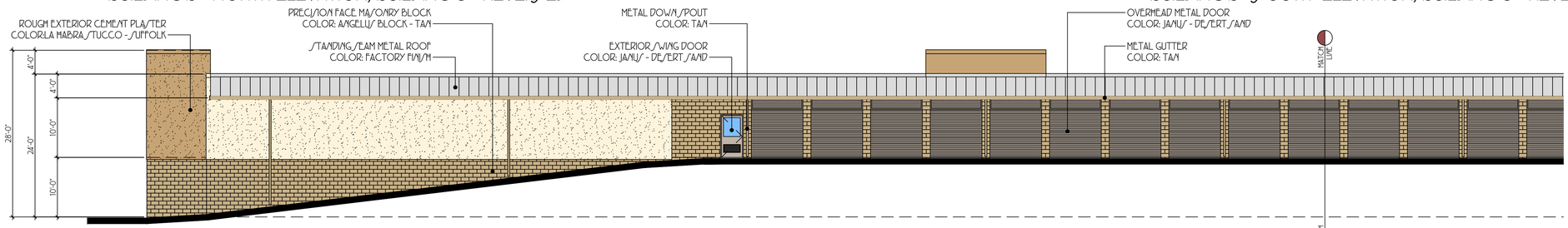
BUILDING B - EAST ELEVATION, BUILDING C - WEST ELEVATION - SOUTH END



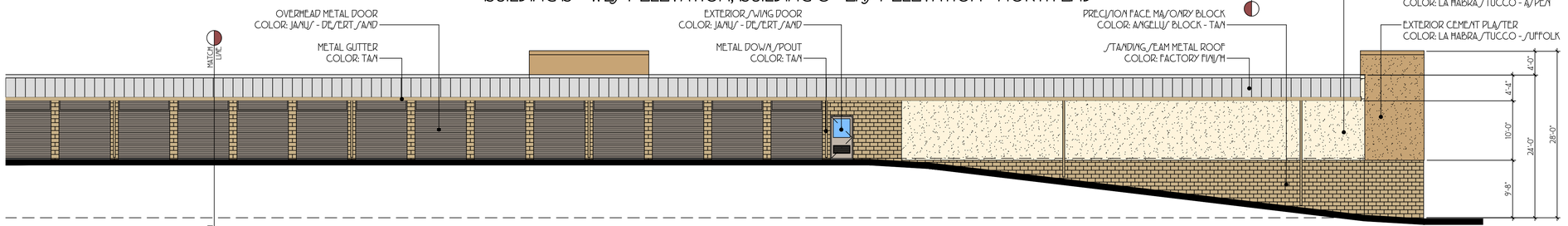
BUILDING B - NORTH ELEVATION, BUILDING C - REVERSED



BUILDING B - SOUTH ELEVATION, BUILDING C - REVERSED



BUILDING B - WEST ELEVATION, BUILDING C - EAST ELEVATION - NORTH END



BUILDING B - WEST ELEVATION, BUILDING C - EAST ELEVATION - SOUTH END

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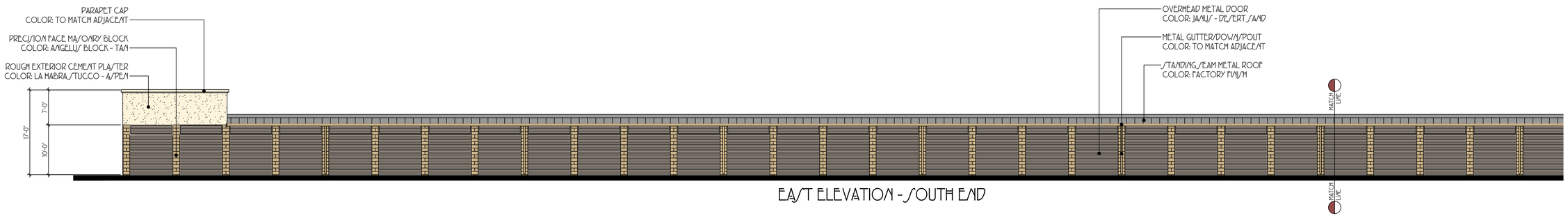
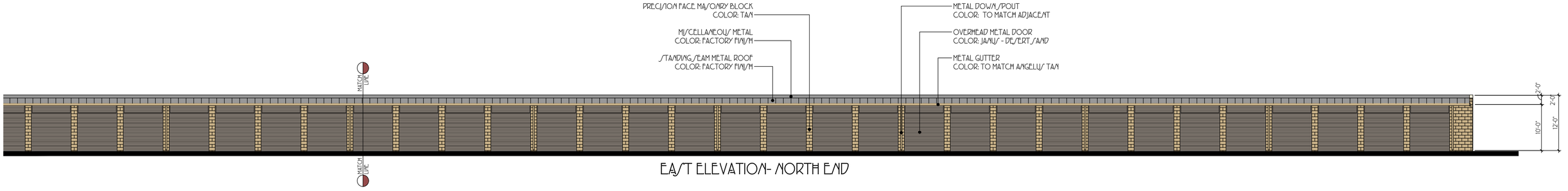
BUILDINGS B AND C - EXTERIOR ELEVATIONS
EASTVALE SELF STORAGE
14555 CHANDLER STREET, EASTVALE, CALIFORNIA

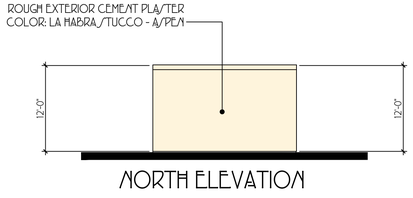
6



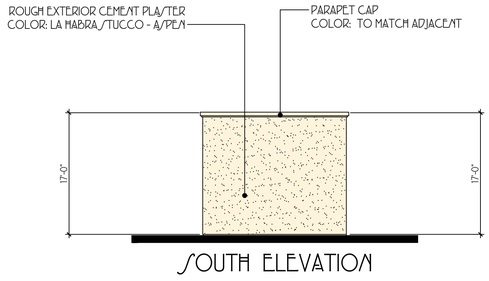
EAST ELEVATION - SOUTH END



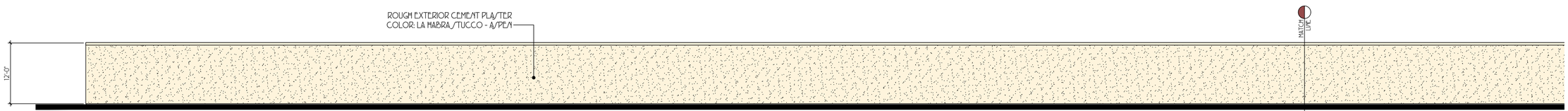
EAST ELEVATION- NORTH END



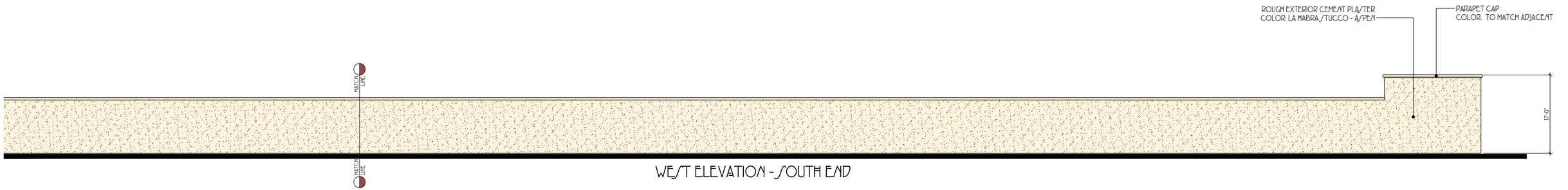
NORTH ELEVATION



SOUTH ELEVATION



WEST ELEVATION - NORTH END



WEST ELEVATION - SOUTH END

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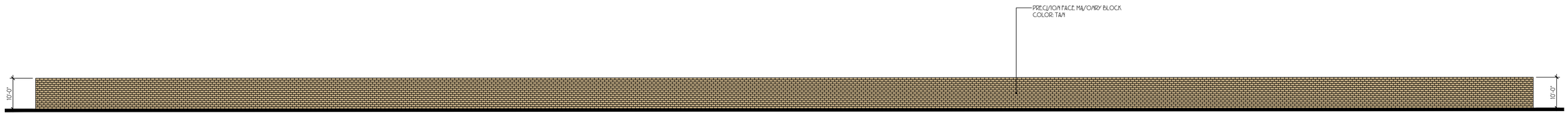
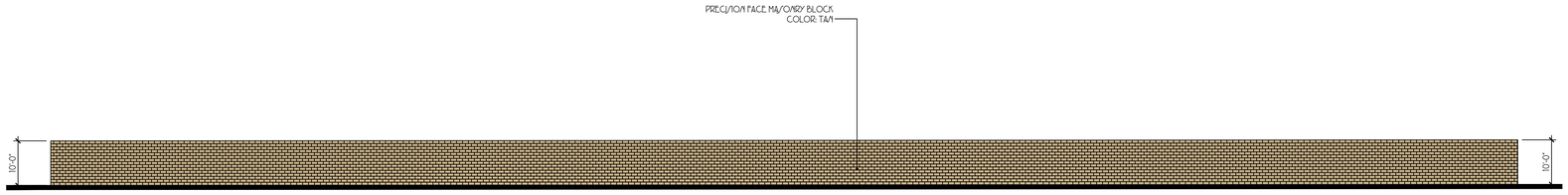
BUILDING D - EXTERIOR ELEVATIONS
EASTVALE SELF STORAGE
14555 CHANDLER STREET, EASTVALE, CALIFORNIA

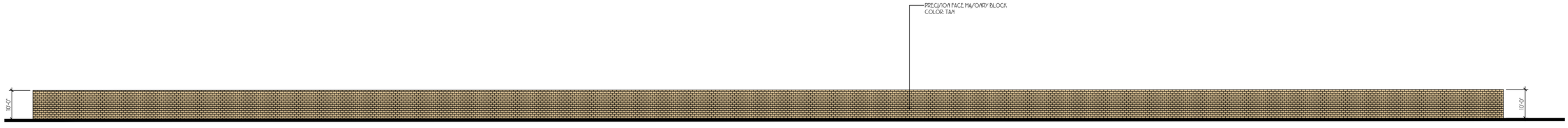
SOUTH ELEVATION (FACING CHANDLER STREET)



EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION

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FENCE ELEVATIONS
EASTVALE SELF STORAGE
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VIEW LOOKING NORTH-WEST
EASTVALE SELF STORAGE
14555 CHANDLER STREET, EASTVALE, CALIFORNIA

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25422 Trabuco Road
Lake Forest, California
v. 949.505.4752

Suite 105-A
92630-2796
ken@AREAssociates.com

STATE OF CALIFORNIA
Kenneth K. Carrell
No. C-23871
Exp. 10/31/21
LICENSED ARCHITECT

JOB NUMBER	19120
DRAWN BY	KKC
SCALE	NONE
DATE	19 NOV 06
REVISIONS	20 JAN 15

VIEW LOOKING NORTH-EAST 10
EASTVALE SELF STORAGE
14555 CHANDLER STREET, EASTVALE, CALIFORNIA

APPENDIX 2:
Photometric Plan

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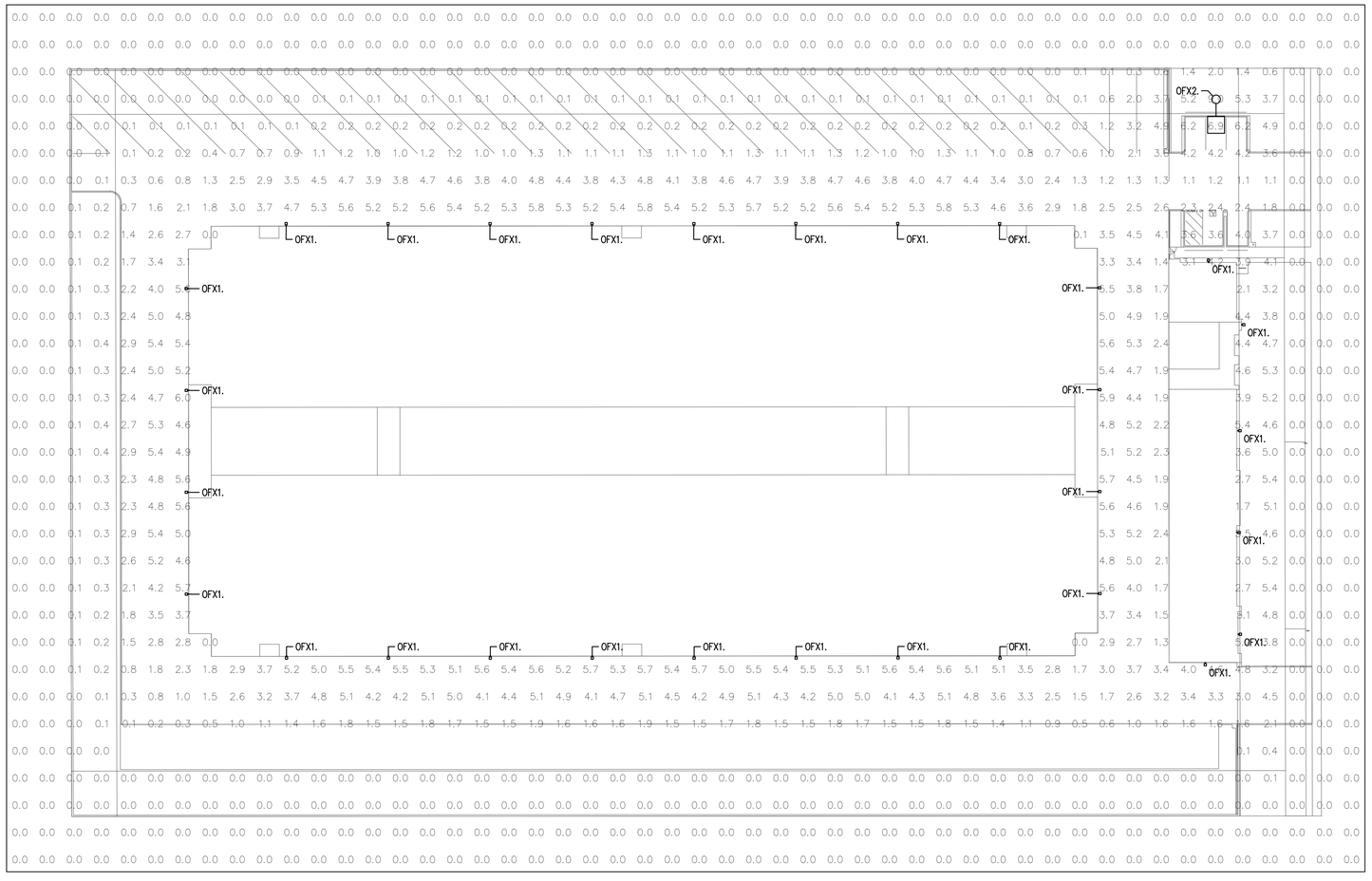
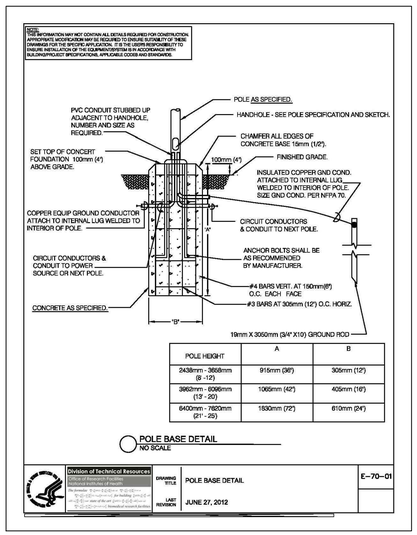


GENERAL PHOTOMETRIC SCHEDULE

AVERAGE FOOT-CANDLES	1.38
MAXIMUM FOOT-CANDLES	9.0
MINIMUM FOOT-CANDLES	.0

NOTE:
THE INFORMATION MAY NOT CONTAIN ALL DETAILS REQUIRED FOR CONSTRUCTION. APPROPRIATE MODIFICATION MAY BE REQUIRED TO ENSURE SUITABILITY OF THESE DRAWINGS FOR USE IN THE FIELD. THE CONTRACTOR IS RESPONSIBLE FOR MODIFICATIONS TO ENABLE INSTALLATION OF THE EQUIPMENT/SYSTEMS IN ACCORDANCE WITH BUILDING/PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS.



POLE HEIGHT	A	B
2438mm - 3658mm (8' -12')	915mm (36")	305mm (12')
3962mm - 6096mm (13' - 20')	1065mm (42")	405mm (16")
6400mm - 7620mm (21' - 25')	1830mm (72")	610mm (24')

POLE BASE DETAIL
NO SCALE

Division of Technical Resources
Subject to techs list of record.
No changes to equipment, fan testing, or TC-E-[illegible] without approval of Division of Technical Resources.

DRAWING TITLE: POLE BASE DETAIL
LAST REVISION: JUNE 27, 2012
E-70-01

CALL-OUT NOTES

1. ALL OUTDOOR LIGHTING TO BE CONNECTED VIA AUTOMATIC TIME SWITCH IN CONJUNCTION WITH PHOTOCELL. ALL OUTDOOR LIGHTING TO ALSO BE CONNECTED VIA DIMMABLE CONTROLLER IN CONJUNCTION WITH MOTION SENSOR THAT HAS AUTO-ON FUNCTIONALITY THAT AUTOMATICALLY REDUCES LIGHTING POWER BETWEEN 40-80 PERCENT PER T-24 REQUIREMENTS (TYP). (TS)(PC)(D)(MS)
2. CONTRACTOR TO VERIFY THAT PROPER SHIELDING AND CUT-OFF IS IN PLACE TO PREVENT LIGHT SPILL ONTO NEIGHBORING PROPERTY AS WELL AS LIGHT GLARE (TYP).

PHOTOMETRIC LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	DESCRIPTION	MOUNTING	MODEL	INPUT VA	VOLTS	QUANTITY
OFX1.		(1) 42W LED	EXTERIOR WALL PACK (MOUNTED @ 15' 0" A.F.F.)	WALL	NATURALED 7077 LED-FXTWP42/50K/DB | OR APPROVED EQUAL	42	120V 1P 2W	30
OFX2.		(1) 209W LED	EXTERIOR POLE MOUNT	CEILING	LITHONIA CSX1 LED 60C 700 50K T3M MVOLT | OR APPROVED EQUAL	209	120V 1P 2W	1

naturaled®
Turning Light into Savings

■ TRADITIONAL WALLPACK

Project
Schedule / Date
Notes
Catalog Number

TWP Semi-Cutoff

Product Description

naturaLED® TWP traditional wallpack comes in rugged cast-aluminum housing with excellent thermal design. DesignLights Consortium V4.1 qualified, our TWP product offers a popular classic appearance for your needs.

Delivering up to 10,000 lumens by replacing up to 575-watt metal halide luminaires, with energy saving up to 80%.The traditional shape maintains an aesthetic appearance and will replace any building's wall pack, or perimeter lighting.

Our TWP is ideal for outdoor applications such as carports, loading areas, driveways, parking area and pathways. Designed for wall mounting above four feet from ground.

Features & Benefits

- DLC Qualified
- IP 65 Rated
- Long life LED chips
- Uniform and consistent color
- Excellent thermal design
- 15-30 foot height performance
- 50,000 Hours rated life
- Photocell sensor compatible
- Material: Cast-aluminum housing
- Shatter resistent glass

Specifications

- Input line voltage: 120-277V
- Dimmable 0-10V
- Powerfactor >0.9
- Operating temperature: -4°F ~ 120°F

Applications

- Area Lighting
- Security Lighting
- Pathway Lighting
- Perimeter Lighting
- Entryway Lighting

0-10V Dimmable | 50,000 Rated Hours | 5 Year Warranty

Accessories

- Cut Off Shield

- Borosilicate Glass Lens Gasket

- Photocell

■ TRADITIONAL WALLPACK

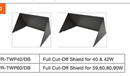
TWP Semi-Cutoff

Ordering Information

Code	Description	CCT	Watt	Lumen	Finish/ Material	Color	Voltage	Rated Life	Vision Protection		
7466	LED-FXTWP28/40K/DB	4000K	28	3,000	175W	D.Bronze	120-277	50,000	Yes	•	•
7467	LED-FXTWP28/50K/DB	5000K	28	3,519	175W	D.Bronze	120-277	50,000	Yes	•	•
7076	LED-FXTWP42/40K/DB	4000K	42	4,775	175-250W	D.Bronze	120-277	50,000	Sold Separately	•	•
7077	LED-FXTWP42/50K/DB	5000K	42	4,886	175-250W	D.Bronze	120-277	50,000	Sold Separately	•	•
7078	LED-FXTWP59/40K/DB	4000K	59	7,128	250-400W	D.Bronze	120-277	50,000	Sold Separately	•	•
7079	LED-FXTWP59/50K/DB	5000K	59	7,179	250-400W	D.Bronze	120-277	50,000	Sold Separately	•	•
7080	LED-FXTWP80/40K/DB	4000K	80	10,373	400-575W	D.Bronze	120-277	50,000	Sold Separately	•	•
7081	LED-FXTWP80/50K/DB	5000K	80	10,416	400-575W	D.Bronze	120-277	50,000	Sold Separately	•	•

Accessories (available for purchase)

Cut Off Shield



P10022	CVR-TWP40/DB	Full Cut-Off Shield for 40 & 42W
P10023	CVR-TWP60/DB	Full Cut-Off Shield for 59,60,80,80W

Lens

P10002	LENS-28TWP	Lens Gasket for 28W
P10000	LENS-40TWP	Lens Gasket for 40W & 42W
P10001	LENS-60TWP	Lens Gasket for 59,60,80,80W

Photocell

P10036	SEN-PHO-BT-MT/MV	Button Photocell 120-277V

SITE PHOTOMETRICS PLAN

SCALE: 1/30"=1'-0"

REGISTERED PROFESSIONAL ENGINEER
RAM N PARSI
E 18400
Exp.06-30-2020
ELECTRICAL
STATE OF CALIFORNIA

ARE Associates
Architecture Planning Design

25422 Trabuco Road
Lake Forest, California
v. 949.305.4752

Suite 105-A
92630-2796
ken@AREAssociates.com

JOB NUMBER	--
DRAWN BY	RP
SCALE	1/30"=1'-0"
DATE	01/24/2020
REVISIONS	--

Consultant:

PROENGINEERING
MEP CONSULTANTS
CONSULTING MECHANICAL, ELECTRICAL, & PLUMBING ENGINEERS
1057 SYCAMORE AVE
VISTA, CA. 92081
(949)-487-0440 (w)
(858)-240-4336 (w2)
(866)-936-5447 (f)
WWW.PROENGINEERINGCONSULTING.COM
INFO@PROENGINEERINGCONSULTING.COM

E0.1

APPENDIX 3:
Preliminary Grading Plan

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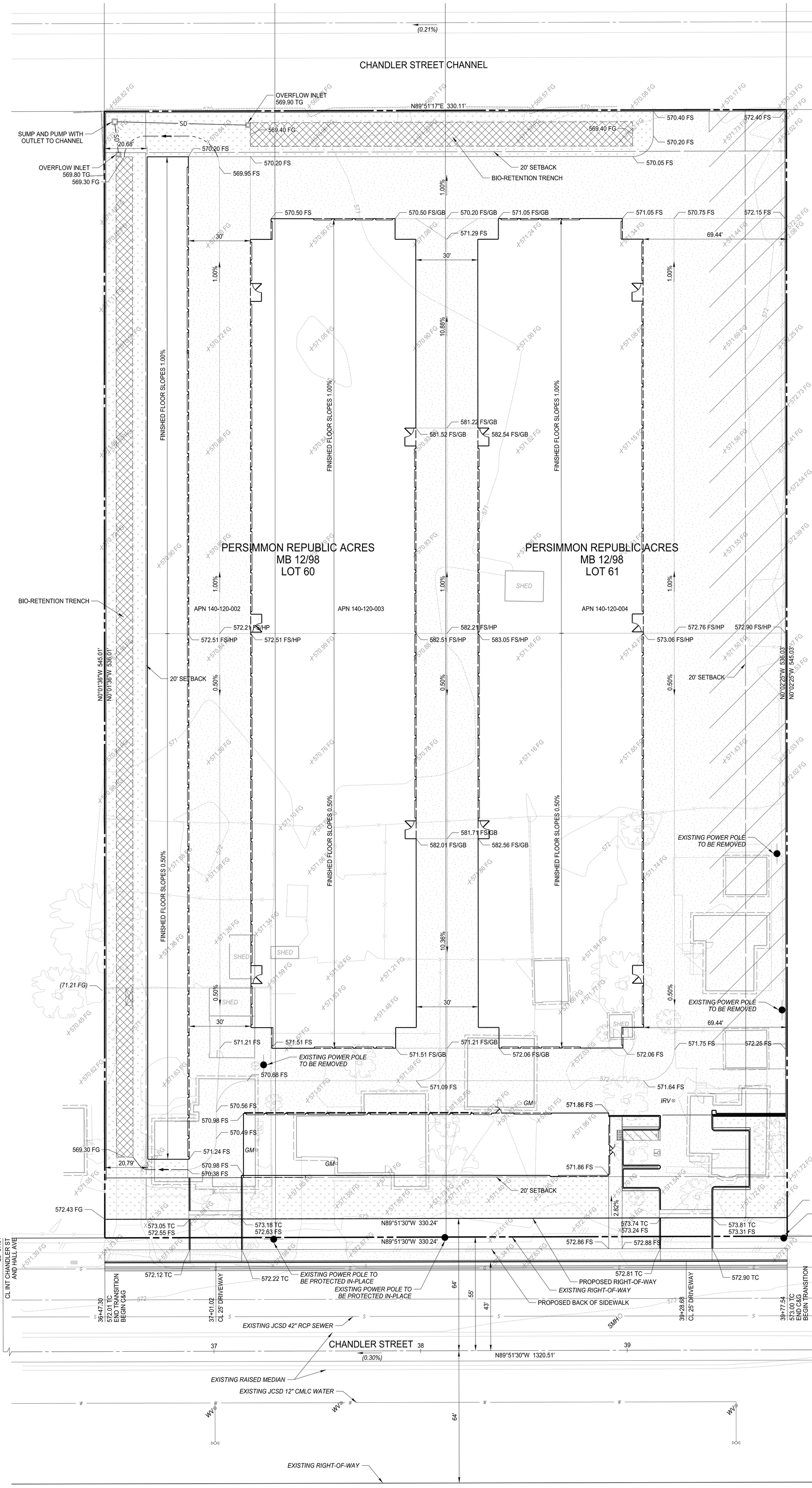
IN THE CITY OF EASTVALE

PRELIMINARY GRADING PLAN

GOSSETT DEVELOPMENT



ABBREVIATIONS

ASSESSOR'S PARCEL NUMBER	APN
FINISHED FLOOR ELEVATION	FFE
FINISHED GRADE	FG
FLOW LINE	FL
FINISHED SURFACE	FS
GRADE BREAK	GB
HEIGHT	HT
PAD ELEVATION	PE
TOP OF CURB	TC
TYPICAL	TYP

LEGEND

EXISTING PROPERTY BOUNDARY	
EXISTING LOT LINE	
EXISTING INDEX CONTOUR	800
EXISTING INTERMEDIATE CONTOUR	799
EXISTING STRUCTURE	
EXISTING CONCRETE	
EXISTING CURB	
EXISTING ELECTRIC	E
EXISTING SEWER	S
EXISTING STORM DRAIN	SD
EXISTING WATER	W
EXISTING FIRE HYDRANT	
EXISTING SEWER MANHOLE	SMH
EXISTING WATER VALVE	WV
EXISTING LIGHT POLE	
EXISTING POWER POLE	
PROPOSED CURB	
PROPOSED GUTTER	
PROPOSED BUILDING	
PROPOSED CAR PORT	
PROPOSED FENCE	
PROPOSED WALL	
PROPOSED STORM DRAIN	SD
GRADIENT AND DIRECTION	2.00%
EXISTING ELEVATION	27.50
PROPOSED ELEVATION	27.50
PROPOSED BIO-RETENTION TRENCH	
PROPOSED PC CONCRETE PAVEMENT	
PROPOSED LANDSCAPE AREA	

OWNER/APPLICANT/DEVELOPER

GOSSETT DEVELOPMENT, INC.
207 MONARCH BAY DRIVE
DANA POINT, CA 92629
CONTACT: GARRETT GOSSETT
(949)735-6041

ENGINEER/CONTACT PERSON

THIS PLAN WAS PREPARED UNDER THE DIRECTION OF MARTEN L. ANDERSON, A REGISTERED CIVIL ENGINEER IN THE STATE OF CALIFORNIA.

OCTOBER 23, 2019
DATE

MARTEN L. ANDERSON
RCE 51313, EXPIRES 6-30-20
MTH2 ENGINEERING, INC.
639 LAKEWOOD DRIVE
RIVERSIDE, CA 92506
(951) 850-2190

REGISTERED PROFESSIONAL ENGINEER
MARTEN L. ANDERSON
No. 51313
Exp. 6-30-20
CIVIL
STATE OF CALIFORNIA

SITE ADDRESS

14555, 14577, AND 14587 CHANDLER STREET
EASTVALE, CA 92880

ASSESSOR'S PARCEL NUMBERS

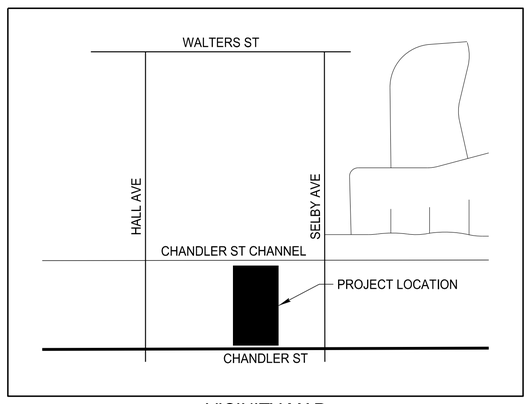
140-120-002, -003, AND -004

FEMA FLOOD ZONE

ZONE X - AREA OF MINIMAL FLOOD HAZARD
FLOOD MAP NO. 06065C0678G (NOT PRINTED)
DATED 8/28/2008

AREA SUMMARY

LOT 60 - APN 140-120-002:	45,002.2 SF (1.033 AC)
LOT 60 - APN 140-120-003:	44,981.0 SF (1.033 AC)
LOT 61 - APN 140-120-004:	89,968.7 SF (2.065 AC)
GROSS AREA:	179,951.9 SF (4.131 AC)
CHANDLER ST RIGHT-OF-WAY DEDICATION:	2972.2 SF (0.068 AC)
NET AREA:	176,979.7 SF (4.063 AC)



VICINITY MAP
NOT TO SCALE

SCALE: 1" = 20'
20 0 20 40

MTH2 engineering, inc
639 Lakewood Drive
Riverside, CA 92506
(951) 850-2190
www.mth2engineering.com
civil • water resources • storm water
urban design and planning

APPENDIX 4:
Preliminary Landscape Plan

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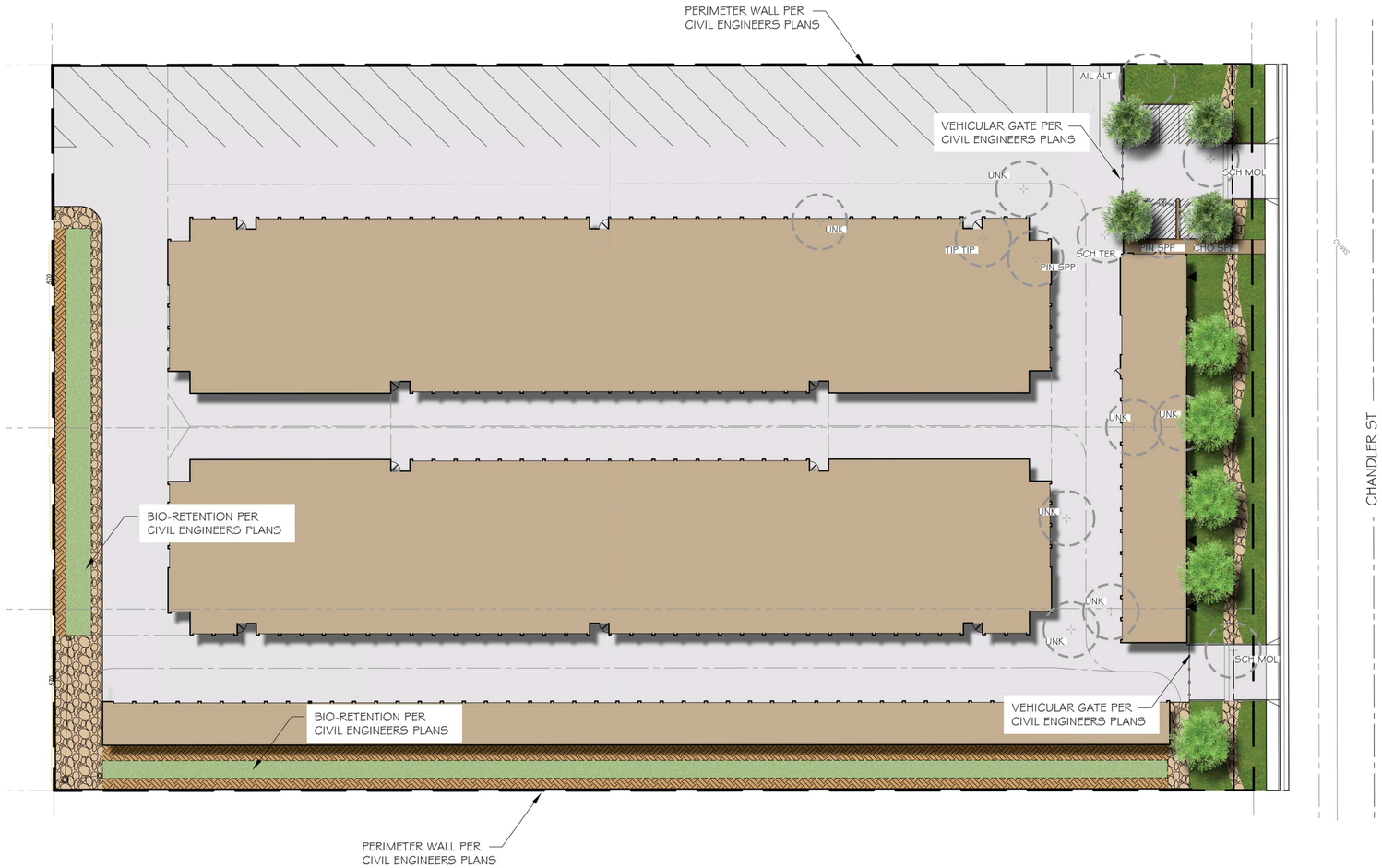

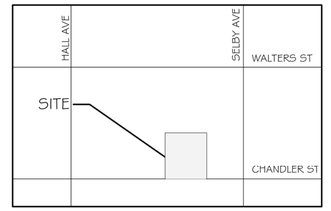

VICINITY MAP
N.T.S.

PROJECT DIRECTORY

OWNER:
GOSSETT DEVELOPMENT, INC
238 W. Mariposa Ave
San Clemente, A 92672
Contact:Mr. Garrett Gossett
(949) 735-6041

LANDSCAPE ARCHITECT:
KDLA, inc
7426 Cherry Ave #210-621
Fontana, CA 92336
Contact Michael Salazar
(909) 744-4376

PRELIMINARY PLANT PALETTE

May include the following plants:

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	WUCOLS
	Cercidium 'Desert Museum'	Desert Museum Palo Verde	15 Gal	L
	Lagerstroemia indica	Crape Myrtle	15 Gal	M
	Existing tree to be removed AIL ALT - Ailanthus altissima / Tree of Heaven CHO SPE - Chorisia speciosa / Silk Floss Tree PIN SPP - Pinus / Pine Tree SCH MOL - Schinus molle / California Pepper SCH TER - Schinus terebinthifolius / Brazilian Pepper TIP TIP - Tipuana tipu / Tipu Tree UNK - Unknown tree			
	SHRUB AND GROUNDCOVER			
	Bougainvillea	Bougainvillea	5 Gal	L
	Callistemon v. 'Little John'	Dwarf Weeping Bottle Brush	5 Gal	L
	Cistus purpureus	Orchid Rockrose	5 Gal	L
	Dasylinon wheelen	Desert Spoon	5 Gal	L
	Dianella r. 'Little Rev'	Little Rev Flax Lily	1 Gal	L
	Hesperaloe parviflora	Red Yucca	1 Gal	L
	Kniphofia uvaria	Red Hot Poker	5 Gal	L
	Lantana 'New Gold'	New Gold Lantana	5 Gal	L
	Lavandula 'Goodwin Creek'	Goodwin Creek Lavender	5 Gal	L
	Ligustrum 'Texanum'	Texas Privet	5 Gal	M
	Leucophyllum	Texas Sage	5 Gal	L
	Lonicera j. 'Halliana'	Hall's Honey Suckle	1 Gal	L
	Muhlenbergia capillans	Hairy Awn Muhly	5 Gal	L
	Myoporum parvifolium	Myoporum	1 Gal	L
	Nandina domestica	Heavenly Bamboo	1 Gal	M
	Pennisetum setaceum	Purple Fountain Grass	5 Gal	L
	Rosmannus	Rosemary	1 Gal	L
	Santolina	Lavender Cotton	1 Gal	L
	Salvia greggii	Spanish Sage	1 Gal	L
	Senecio serpens	Blue Chalksticks	1 Gal	L
	Strelitzia reginae	Bird of Paradise	5 Gal	L
	VINE			
	Macfadyena unguis-cati	Cat's Claw	1 Gal	L
	WATER QUALITY BASIN			
	Carex spissa	San Diego Sedge	1 Gal	L
	Ceanothus g. 'Santa Ana'	Santa Ana Ceanothus	1 Gal	L
	Juncus patens	California Gray Rush	1 Gal	L
	Justicia californica	Chuparosa	1 Gal	L
	Gravel			
	Mulch			

30 15 0 30 60
SCALE: 1"=30'

PROJECT NOTES

Irrigation design shall comply with AB1881 and Estimated Annual Water Use (EAWU) will not exceed Maximum Annual Water Use (MAWA) calculations.

Landscape work shall be in accordance with City of Eastvale Landscape Standards and Guidelines for Landscape Improvements.

Trees within 6 feet of hardscape shall be installed with approved root control barrier (16 feet length min. each tree)

All landscape areas will be served by an automatic irrigation system.

Planter areas will be irrigated by overhead spray irrigation. Trees will be irrigated by a deep root watering bubbler.

WATER BUDGET CALCULATIONS

(PRELIMINARY)

MAWA
MAWA (in gallons) = (ETo) (0.62) [(0.45 x LA) + (0.3 x SLA)]
MAWA (in gallons) = (49.7; (0.62) [(0.45 x 14,481) + (0.3 x 0)]
MAWA (in gallons) = (49.7; (0.62) [6,516]
MAWA (in gallons) = 200,784

EAWU (Spray / Low)
EAWU (in gallons) = (ETo) (0.62) [((PF x HA) / IE) + SLA]
EAWU (in gallons) = (49.7) (0.62) [((0.3 x 8,457) / 0.75) + 0]
EAWU (in gallons) = (49.7) (0.62) [(2,537 / 0.75) + 0]
EAWU (in gallons) = (49.7) (0.62) [3,383]
EAWU (in gallons) = 104,244

EAWU (Spray / Low) - Basin
EAWU (in gallons) = (ETo) (0.62) [((PF x HA) / IE) + SLA]
EAWU (in gallons) = (49.7) (0.62) [((0.3 x 6,024) / 0.75) + 0]
EAWU (in gallons) = (49.7) (0.62) [(1,807 / 0.75) + 0]
EAWU (in gallons) = (49.7) (0.62) [2,409]
EAWU (in gallons) = 74,231

TOTAL EAWU = 178,475

SHADE REQUIREMENTS

	PARKING LOT AREA:	956 sf
	REQUIRED SHADED AREA:	287 sf (30%)
	PROVIDED SHADED AREA:	320 sf (33%)

CLIENT / OWNER

Mr. Garrett Gossett
Gossett Development, Inc
238 W. Mariposa Ave
San Clemente, CA 92672
(949) 735-6041

LANDSCAPE ARCHITECT

KDLA, inc
Koriander Design
Landscape Architecture
7426 Cherry Ave
#210-621
Fontana, Ca 92336
909.744.4376

SEAL

LICENSED LANDSCAPE ARCHITECT
Michael S. Salazar - 5768
Signature
9-30-20
Renewal Date
10.14.19
Date
STATE OF CALIFORNIA

PROJECT INFORMATION

PROJECT NAME:
EASTVALE SELF STORAGE
14555 Chandler St
Eastvale, CA 92880

PROJECT DESCRIPTION:
Preliminary Landscape Plan

REVISIONS

DESIGNER

Project Manager: MS	Project Number: 19108
Drawn: MS	Date: 10.30.19
Checked By: MS	Scale: AS SHOWN

SHEET TITLE

PRELIMINARY LANDSCAPE PLAN

SHEET NUMBER

L-1

SHT. 1 **OF** 1

APPENDIX 5:
Air Quality, Global Climate Change, and Energy Impact Analysis

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EASTVALE SELF-STORAGE FACILITY (14555 CHANDLER STREET) AIR QUALITY, GLOBAL CLIMATE CHANGE, AND ENERGY IMPACT ANALYSIS

City of Eastvale

January 27, 2020

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

EASTVALE SELF-STORAGE FACILITY (14555 CHANDLER STREET) AIR QUALITY, GLOBAL CLIMATE CHANGE, AND ENERGY IMPACT ANALYSIS

City of Eastvale

January 27, 2020

prepared by
Katie Wilson, MS
Catherine Howe, MS

GANDDINI GROUP INC
550 Parkcenter Drive, Suite 202
Santa Ana, CA 92705
(714) 795-3100 | www.ganddini.com

19226

TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

The purpose of this air quality and global climate change impact analysis is to provide an assessment of the impacts resulting from development of the proposed Eastvale Self-Storage Facility (14555 Chandler Street) project and to identify measures that may be necessary to reduce potentially significant impacts.

CONSTRUCTION-SOURCE EMISSIONS

Project construction-source emissions would not exceed applicable regional thresholds of significance established by the South Coast Air Quality Management District (SCAQMD). For localized emissions, the project will not exceed applicable Localized Significance Thresholds (LSTs) established by the SCAQMD.

Project construction-source emissions would not conflict with the Basin Air Quality Management Plan (AQMP). As discussed herein, the project will comply with all applicable SCAQMD construction-source emission reduction rules and guidelines. Project construction source emissions would not cause or substantively contribute to violation of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less than significant.

OPERATIONAL-SOURCE EMISSIONS

The project operational-sourced emissions would not exceed applicable regional thresholds of significance established by the SCAQMD. Project operational-source emissions would not result in or cause a significant localized air quality impact as discussed in the Operations-Related Local Air Quality Impacts section of this report. Additionally, project-related trips will not cause or result in CO concentrations exceeding applicable state and/or federal standards (CO "hotspots). Project operational-source emissions would therefore not adversely affect sensitive receptors within the vicinity of the project.

Project operational-source emissions would not conflict with the Basin Air Quality Management Plan (AQMP). The project's emissions meet SCAQMD regional thresholds and will not result in a significant cumulative impact. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential operational-source odor impacts are therefore considered less than significant.

GREENHOUSE GASES

Project-related GHG emissions do not exceed the SCAQMD draft screening threshold of 3,000 MTCO2e per year for all land uses, and GHG emissions are considered to be less than significant.

Furthermore, as the project's GHG emissions do not exceed the SCAQMD draft screening threshold (based on EO S-3-05), the project would not conflict with the goals of SB-32, the CARB Scoping Plan, or the Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan; therefore, the project would not conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases and impacts are considered to be less than significant

1. INTRODUCTION

This section describes the purpose of this air quality, global climate change, and energy impact analysis, project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

PURPOSE AND OBJECTIVES

This study was performed to address the possibility of regional/local air quality impacts and global climate change impacts, from project related air emissions. The objectives of the study include:

- documentation of the atmospheric setting
- discussion of criteria pollutants and greenhouse gases
- discussion of the air quality and global climate change regulatory framework
- analysis of the construction related air quality and greenhouse gas emissions
- analysis of the operations related air quality and greenhouse gas emissions
- analysis of the conformity of the proposed project with the SCAQMD AQMP
- recommendations for mitigation measures

The City of Eastvale is the lead agency for this air quality, greenhouse gas, and energy analysis, in accordance with the California Environmental Quality Act authorizing legislation. Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with terms unique to air quality and global climate change, a definition of terms has been provided in Appendix A.

PROJECT LOCATION

The proposed project is located at 14555 Chandler Street, approximately 500 feet west of the intersection of Selby Avenue and Chandler Street, in the City of Eastvale. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

The approximately 4.08-acre project site is currently designated as Low Density Residential (LDR) on the City of Eastvale General Plan Land Use Map. The current zoning for the project site is Light Agriculture (A-1). The proposed project includes: a General Plan Amendment (GPA) from Low Density Residential (LDR) to Commercial Retail and a Change of Zone from Light Agriculture (A-1) to General Commercial (C-1/ C-P, the demolition of existing residential structures, and the construction of a 901-unit self-storage facility. The 142,839 square foot proposed development is to consist of four one to two-story buildings ranging in size from 6,775 square feet to 63,182 square feet. Vehicular project site access is proposed at Chandler Street. Figure 2 illustrates the proposed site plan.

PHASING AND TIMING

The proposed project is anticipated for opening in 2022. The project is anticipated to be built in one phase with project construction anticipated to start no sooner than December 2021 and being completed by the end of August 2022.

SENSITIVE RECEPTORS IN PROJECT VICINITY

Those who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. For purposes of CEQA, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours, such as residences, hospitals, or convalescent facilities

(South Coast Air Quality Management District 2008). Commercial and industrial facilities are not included in the definition because employees do not typically remain on-site for 24 hours.

The nearest sensitive receptors to the project site include the existing single-family detached residential dwelling units located adjacent to the east and west, approximately 80 feet north (across a drainage channel), and approximately 115 feet south (across Chandler Street) of the project site. Other air quality sensitive land uses are located further from the project site and would experience lower impacts.

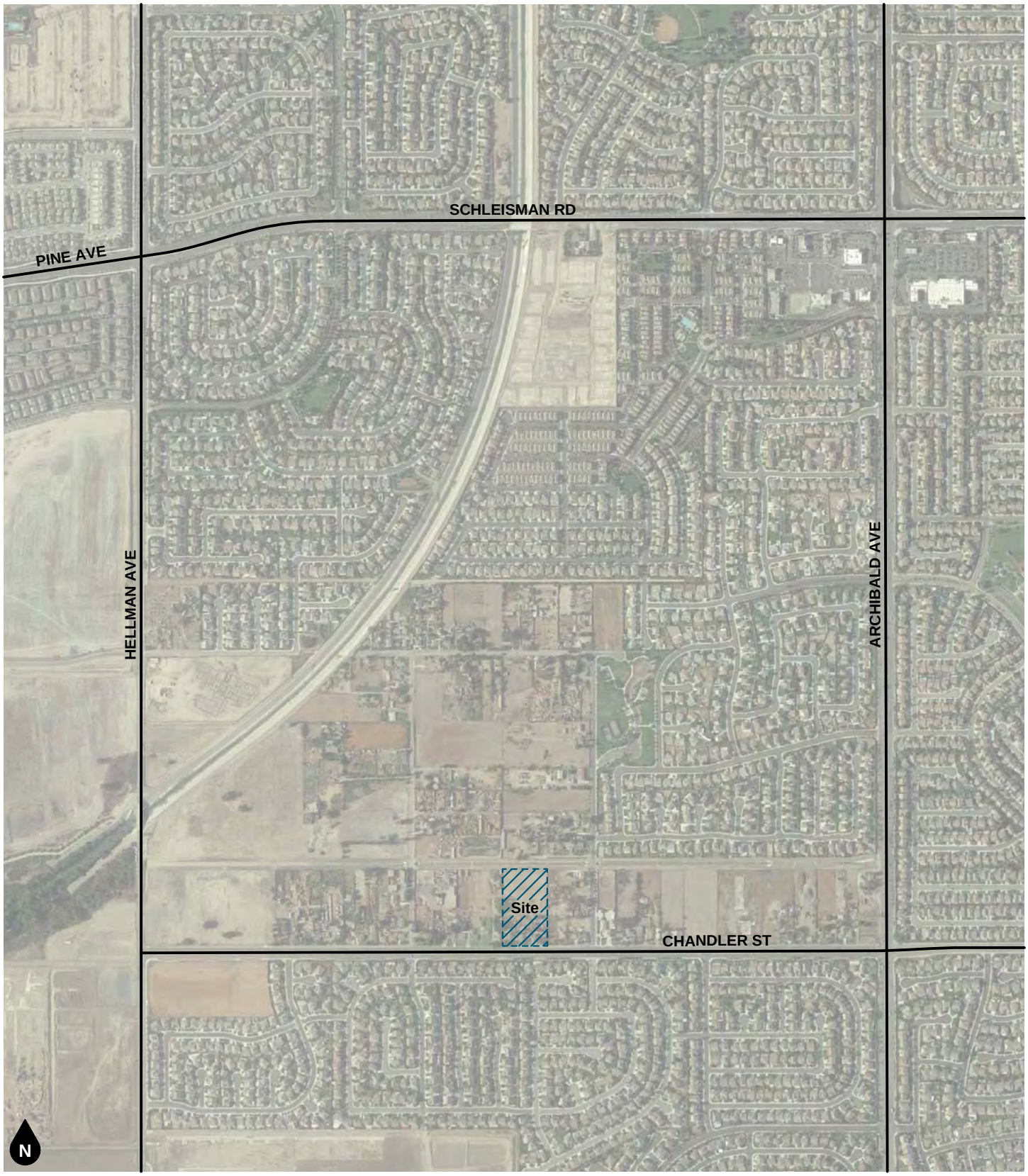

Figure 1
Project Location Map

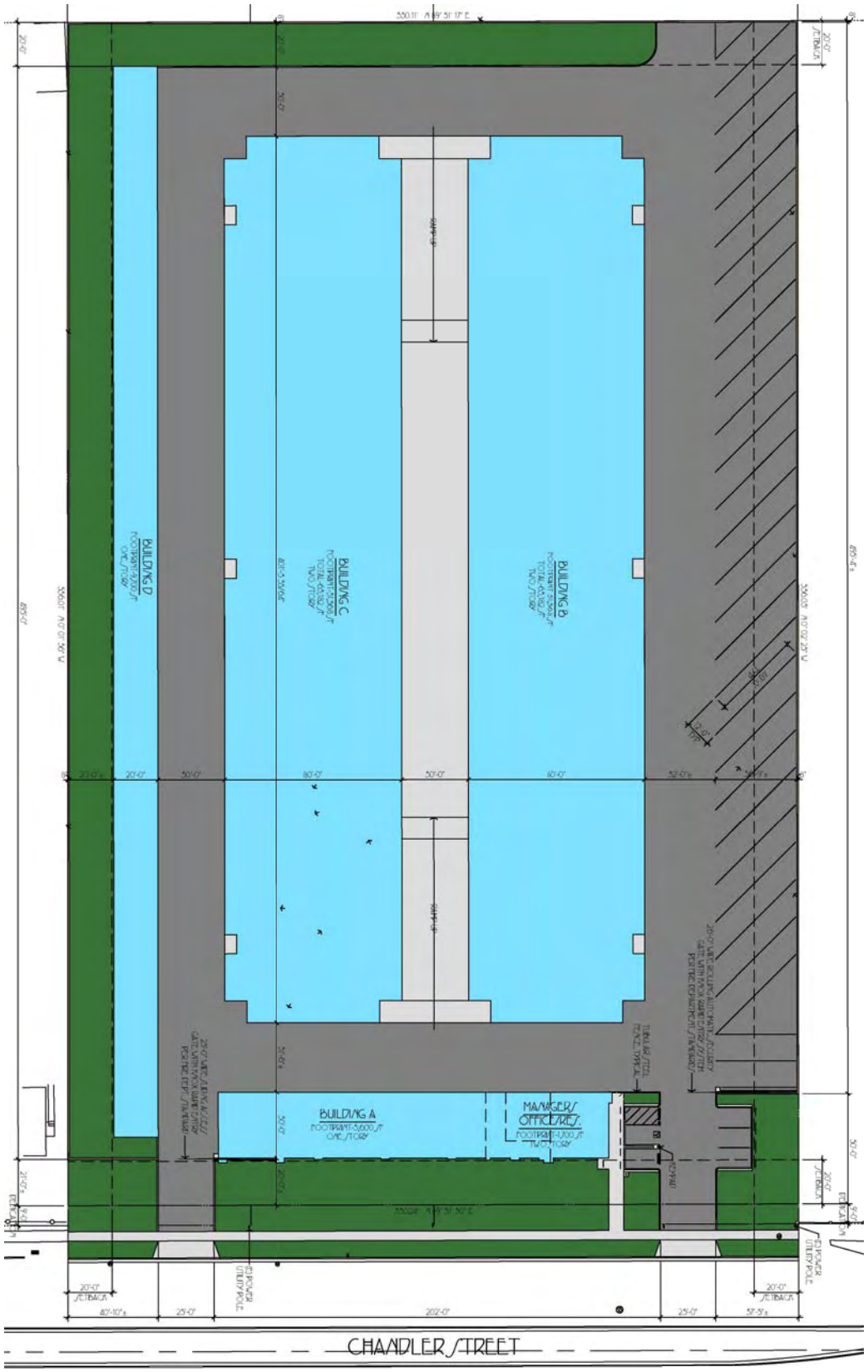

Figure 2
Site Plan

2. AIR QUALITY ANALYSIS

EXISTING AIR QUALITY CONDITIONS

Local Air Quality

The project site is located within the western portion of Riverside County, which is part of the South Coast Air Basin (Basin) that includes all of Orange County as well as the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The South Coast Air Basin is located on a coastal plain with connecting broad valleys and low hills to the east. Regionally, the South Coast Air Basin is bounded by the Pacific Ocean to the southwest and high mountains to the east forming the inland perimeter. The project site is located toward the northeast portion of the South Coast Air Basin near the foot of the San Bernardino Mountains, which define the eastern boundary of the South Coast Air Basin.

The climate of western Riverside County, technically called an interior valley subclimate of the Southern California's Mediterranean-type climate, is characterized by hot dry summers, mild moist winters with infrequent rainfall, moderate afternoon breezes, and generally fair weather. Occasional periods of strong Santa Ana winds and winter storms interrupt the otherwise mild weather pattern. The clouds and fog that form along the area's coastline rarely extend as far inland as western Riverside County. When morning clouds and fog form, they typically burn off quickly after sunrise. The most important weather pattern from an air quality perspective is associated with the warm season airflow across the populated areas of the Los Angeles Basin. This airflow brings polluted air into western Riverside County late in the afternoon. This transport pattern creates unhealthful air quality that may extend to the project site particularly during the summer months.

Winds are an important parameter in characterizing the air quality environment of a project site because they both determine the regional pattern of air pollution transport and control the rate of dispersion near a source. Daytime winds in western Riverside County are usually light breezes from off the coast as air moves regionally onshore from the cool Pacific Ocean to the warm Mojave Desert interior of Southern California. These winds allow for good local mixing, but as discussed above, these coastal winds carry significant amounts of industrial and automobile air pollutants from the densely urbanized western portion of the South Coast Air Basin into the interior valleys which become trapped by the mountains that border the eastern edge of the South Coast Air Basin.

In the summer, strong temperature inversions may occur that limit the vertical depth through which air pollution can be dispersed. Air pollutants concentrate because they cannot rise through the inversion layer and disperse. These inversions are more common and persistent during the summer months. Over time, sunlight produces photochemical reactions within this inversion layer that creates ozone, a particularly harmful air pollutant. Occasionally, strong thermal convections occur which allows the air pollutants to rise high enough to pass over the mountains and ultimately dilute the smog cloud.

In the winter, light nocturnal winds result mainly from the drainage of cool air off of the mountains toward the valley floor while the air aloft over the valley remains warm. This forms a type of inversion known as a radiation inversion. Such winds are characterized by stagnation and poor local mixing and trap pollutants such as automobile exhaust near their source. While these inversions may lead to air pollution "hot spots" in heavily developed coastal areas of the basin, there is not enough traffic volumes in inland valleys to cause any winter air pollution problems. Despite light wind conditions, especially at night and in the early morning, winter is generally a period of good air quality in the project vicinity.

The temperature and precipitation levels for the Corona area (in proximity to the site) are shown below in Table 1. Table 1 shows that July and August are typically the warmest months and December and January are typically the coolest months. Rainfall in the project area varies considerably in both time and space. Almost

all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

Table 1
Local Monthly Climate Data

Descriptor	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. Max. Temperature	65.3	67.7	70.5	74.9	79.3	85.5	92.3	92.2	89.1	81.6	73.5	66.8
Avg. Min. Temperature	39.7	41.2	42.8	45.7	49.9	53.7	57.7	58.3	55.6	50.2	44.3	40.4
Avg. Total Precipitation (in.)	2.61	2.62	2.00	0.98	0.26	0.04	0.02	0.09	0.25	0.55	1.14	2.15

Source: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca2031

Data from the Corona, CA station (042031).

Pollutants

Pollutants are generally classified as either criteria pollutants or non-criteria pollutants. Federal ambient air quality standards have been established for criteria pollutants, whereas no ambient standards have been established for non-criteria pollutants. For some criteria pollutants, separate standards have been set for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). A summary of federal and state ambient air quality standards is provided in the Regulatory Framework section.

Criteria Pollutants

The criteria pollutants consist of: ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, lead, and particulate matter. These pollutants can harm your health and the environment, and cause property damage. The Environmental Protection Agency (EPA) calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria for setting permissible levels. The following provides descriptions of each of the criteria pollutants.

Nitrogen Dioxides

Nitrogen Oxides (NOx) is the generic term for a group of highly reactive gases which contain nitrogen and oxygen. While most NOx are colorless and odorless, concentrations of nitrogen dioxide (NO_2) can often be seen as a reddish-brown layer over many urban areas. NOx form when fuel is burned at high temperatures, as in a combustion process. The primary manmade sources of NOx are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuel. NOx reacts with other pollutants to form, ground-level ozone, nitrate particles, acid aerosols, as well as NO_2, which cause respiratory problems. NOx and the pollutants formed from NOx can be transported over long distances, following the patterns of prevailing winds. Therefore controlling NOx is often most effective if done from a regional perspective, rather than focusing on the nearest sources.

Ozone

Ozone (O_3) is not usually emitted directly into the air but at ground-level is created by a chemical reaction between NOx and volatile organic compounds (VOC) in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline vapors, chemical solvents as well as natural sources emit NOx and VOC that help form ozone. Ground-level ozone is the primary constituent of smog. Sunlight and hot weather cause ground-level ozone to form with the greatest concentrations usually occurring downwind from urban areas. Ozone is subsequently considered a regional pollutant. Ground-level ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Because NOx and VOC are ozone precursors, the health effects associated with ozone are also indirect health effects associated with significant levels of NOx and VOC emissions.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential wood burning, and natural sources such as forest fires. Woodstoves, gas stoves, cigarette smoke, and unvented gas and kerosene space heaters are indoor sources of CO. The highest levels of CO in the outside air typically occur during the colder months of the year when inversion conditions are more frequent. The air pollution becomes trapped near the ground beneath a layer of warm air. CO is described as having only a local influence because it dissipates quickly. Since CO concentrations are strongly associated with motor vehicle emissions, high CO concentrations generally occur in the immediate vicinity of roadways with high

traffic volumes and traffic congestion, active parking lots, and in automobile tunnels. Areas adjacent to heavily traveled and congested intersections are particularly susceptible to high CO concentrations.

CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. The health threat from lower levels of CO is most serious for those who suffer from heart disease such as angina, clogged arteries, or congestive heart failure. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. High levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

Sulfur Dioxide

Sulfur Oxide (SOx) gases (including sulfur dioxide [SO2]) are formed when fuel containing sulfur, such as coal and oil is burned, and from the refining of gasoline. SOx dissolves easily in water vapor to form acid and interacts with other gases and particles in the air to form sulfates and other products that can be harmful to people and the environment.

Lead

Lead (Pb) is a metal found naturally in the environment as well as manufactured products. The major sources of lead emissions have historically been motor vehicles and industrial sources. Due to the phase out of leaded gasoline, metal processing is now the primary source of lead emissions to the air. High levels of lead in the air are typically only found near lead smelters, waste incinerators, utilities, and lead-acid battery manufacturers. Exposure of fetuses, infants and children to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure.

Particulate Matter

Particulate matter (PM) is the term for a mixture of solid particles and liquid droplets found in the air. Particulate matter is made up of a number of components including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. Particles that are less than 10 micrometers in diameter (PM10) are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Particles that are less than 2.5 micrometers in diameter (PM2.5) have been designated as a subset of PM10 due to their increased negative health impacts and its ability to remain suspended in the air longer and travel further.

Reactive Organic Gases (ROG)

Although not a criteria pollutant, reactive organic gases (ROGs), or volatile organic compounds (VOCs), are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROGs and VOCs, the two terms are often used interchangeably. Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM10 and lower visibility.

Other Pollutants of Concern

Toxic Air Contaminants

In addition to the above-listed criteria pollutants, toxic air contaminants (TACs) are another group of pollutants of concern. Sources of toxic air contaminants include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least forty different toxic air contaminants. The most important of these toxic air contaminants, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Public exposure to toxic air contaminants can result from emissions from normal operations as well as from accidental releases. Health effects of toxic air contaminants include cancer, birth defects, neurological damage, and death.

Toxic air contaminants are less pervasive in the urban atmosphere than criteria air pollutants, however they are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. There are hundreds of different types of toxic air contaminants with varying degrees of toxicity. Sources of toxic air contaminants include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and motor vehicle exhaust.

According to the 2013 California Almanac of Emissions and Air Quality, the majority of the estimated health risk from toxic air contaminants can be attributed to relatively few compounds, the most important of which is diesel particulate matter (DPM). Diesel particulate matter is a subset of PM2.5 because the size of diesel particles are typically 2.5 microns and smaller. The identification of diesel particulate matter as a toxic air contaminant in 1998 led the California Air Resources Board (CARB) to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles in September 2000. The plan's goals are a 75-percent reduction in diesel particulate matter by 2010 and an 85-percent reduction by 2020 from the 2000 baseline. Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are known as particulate matter or PM, which includes carbon particles or "soot". Diesel exhaust also contains a variety of harmful gases and over 40 other cancer-causing substances. California's identification of diesel particulate matter as a toxic air contaminant was based on its potential to cause cancer, premature deaths, and other health problems. Exposure to diesel particulate matter is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Overall, diesel engine emissions are responsible for the majority of California's potential airborne cancer risk from combustion sources.

Asbestos

Asbestos is listed as a TAC by the ARB and as a Hazardous Air Pollutant by the EPA. Asbestos occurs naturally in mineral formations and crushing or breaking these rocks, through construction or other means, can release asbestiform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. Naturally occurring asbestos is not present in Riverside County. The nearest likely locations of naturally occurring asbestos, as identified in the General Location Guide for Ultramafic Rocks in California prepared by the California Division of Mines and Geology, is located in Santa Barbara County. Due to the distance to the nearest natural occurrences of asbestos, the project site is not likely to contain asbestos.

REGULATORY SETTING

The proposed project is addressed through the efforts of various international, federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality are discussed below.

Federal – United States Environmental Protection Agency

The United States Environmental Protection Agency (EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The National Ambient Air Quality Standards (NAAQS) pollutants were identified using medical evidence and are shown below in Table 2.

The EPA and the California Air Resource Board (CARB) designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the Federal annual PM2.5 standard is met if the three-year average of the annual average PM2.5 concentration is less than or equal to the standard. Attainment status is shown in Table 3.

As part of its enforcement responsibilities, the EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national standards. The State Implementation Plan (SIP) must integrate federal, state, and local components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the State Implementation Plan (SIP).

As indicated below in Table 3, the Basin has been designated by the EPA as a non-attainment area for ozone (O_3) and suspended particulates (PM10 and PM2.5). Currently, the Basin is in attainment with the ambient air quality standards for carbon monoxide (CO), lead, sulfur dioxide (SO_2), suspended particulate matter (PM-2.5), and nitrogen dioxide (NO_2).

State – California Air Resources Board

The California Air Resources Board (CARB), which is a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the State Implementation Plan (SIP). The California Ambient Air Quality Standards (CAAQS) for criteria pollutants are shown in Table 2. In addition, the CARB establishes emission standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbeque lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

The South Coast Air Basin has been designated by the CARB as a nonattainment area for ozone, PM10 and PM2.5. Currently, the South Coast Air Basin is in attainment with the ambient air quality standards for CO, lead, SO2, NO2, and sulfates and is unclassified for visibility reducing particles and Hydrogen Sulfide.

On June 20, 2002, the CARB revised the PM10 annual average standard to 20 µg/m3 and established an annual average standard for PM2.5 of 12 µg/m3. These standards were approved by the Office of Administrative Law in June 2003 and are now effective. On September 27, 2007 CARB approved the South Coast Air Basin and the Coachella Valley 2007 Air Quality Management Plan for Attaining the Federal 8-hour Ozone and PM2.5 Standards. The plan projected attainment for the 8-hour Ozone standard by 2024 and the PM2.5 standard by 2015.

On December 12, 2008 the CARB adopted Resolution 08-43, which limits NOx, PM10 and PM2.5 emissions from on-road diesel truck fleets that operate in California. On October 12, 2009 Executive Order R-09-010 was adopted that codified Resolution 08-43 into Section 2025, Title 13 of the California Code of Regulations. This regulation requires that by the year 2023 all commercial diesel trucks that operate in California shall meet model year 2010 (Tier 4) or latter emission standards. In the interim period, this regulation provides annual interim targets for fleet owners to meet. This regulation also provides a few exemptions including a onetime per year 3-day pass for trucks registered outside of California.

The CARB is also responsible for regulations pertaining to toxic air contaminants. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release into the South Coast Air Basin. The data is ranked by high, intermediate, and low categories, which are determined by: the potency, toxicity, quantity, volume, and proximity of the facility to nearby receptors.

AB 617 Nonvehicular air pollution: criteria air pollutants and toxic air contaminants

This bill requires the state board to develop a uniform statewide system of annual reporting of emissions of criteria air pollutants and toxic air contaminants for use by certain categories of stationary sources. The bill requires those stationary sources to report their annual emissions of criteria air pollutants and toxic air contaminants, as specified. This bill required the state board, by October 1, 2018, to prepare a monitoring plan regarding technologies for monitoring criteria air pollutants and toxic air contaminants and the need for and benefits of additional community air monitoring systems, as defined. The bill requires the state board to select, based on the monitoring plan, the highest priority locations in the state for the deployment of community air monitoring systems. The bill requires an air district containing a selected location, by July 1, 2019, to deploy a system in the selected location. The bill would authorize the air district to require a stationary source that emits air pollutants in, or that materially affect, the selected location to deploy a fence-line monitoring system, as defined, or other specified real-time, on-site monitoring. The bill authorizes the state board, by January 1, 2020, and annually thereafter, to select additional locations for the deployment of the systems. The bill would require air districts that have deployed a system to provide to the state board air quality data produced by the system. By increasing the duties of air districts, this bill would impose a state-mandated local program. The bill requires the state board to publish the data on its Internet Web site.

Regional

The SCAQMD is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin. To that end, as a regional agency, the SCAQMD works directly with the Southern California Association of Governments (SCAG), county transportation commissions, and local governments and cooperates actively with all federal and state agencies.

South Coast Air Quality Management District

The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. The SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect sources. It has responded to this requirement by preparing a sequence of AQMPs. On June 30, 2016, the SCAQMD released its Draft 2016 AQMP. The 2016 AQMP is a regional blueprint for achieving the federal air quality standards and healthful air.

Air Quality Management Plan

The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the Plan is not approved or if the NAAQS are not met on

time. As with every AQMP, a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures is updated with the latest data and methods. The most significant air quality challenge in the Basin is to reduce nitrogen oxide (NOx) emissions sufficiently to meet the upcoming ozone standard deadlines. On March 23, 2017 the CARB approved the 2016 AQMP. The primary goal of this Air Quality Management Plan is to meet clean air standards and protect public health, including ensuring benefits to environmental justice and disadvantaged communities. Now that the Plan has been approved by the CARB, it has been forwarded to the U.S. EPA for its review. The Plan was approved by the EPA on June 15, 2017.

SCAQMD Rules and Regulations

During construction and operation, the project must comply with applicable rules and regulations. The following are rules the project may be required to comply with, either directly, or indirectly:

SCAQMD Rule 402

Prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

SCAQMD Rule 403

Governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through application of standard Best Management Practices, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors. Rule 403 measures may include but are not limited to the following:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least three times daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 0.6 meters (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code section 23114.
- Reduce traffic speeds on all unpaved roads to 15 miles per hour (mph) or less.
- Suspension of all grading activities when wind speeds (including instantaneous wind gusts) exceed 25 mph.
- Bumper strips or similar best management practices shall be provided where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.
- Replanting disturbed areas as soon as practical.
- During all construction activities, construction contractors shall sweep on-site and off-site streets if silt is carried to adjacent public thoroughfares, to reduce the amount of particulate matter on public streets. All sweepers shall be compliant with SCAQMD Rule 1186.1, Less Polluting Sweepers.

SCAQMD Rule 445

Prohibits permanently installed wood burning devices into any new development. A wood burning device means any fireplace, wood burning heater, or pellet-fueled wood heater, or any similarly enclosed, permanently installed, indoor or outdoor device burning any solid fuel for aesthetic or space-heating purposes, which has a heat input of less than one million British thermal units per hour.

SCAQMD Rule 481

Applies to all spray painting and spray coating operations and equipment. The rule states that a person shall not use or operate any spray painting or spray coating equipment unless one of the following conditions is met:

(1) The spray coating equipment is operated inside a control enclosure, which is approved by the Executive Officer. Any control enclosure for which an application for permit for new construction, alteration, or change of ownership or location is submitted after the date of adoption of this rule shall be exhausted only through filters at a design face velocity not less than 100 feet per minute nor greater than 300 feet per minute, or through a water wash system designed to be equally effective for the purpose of air pollution control.
(2) Coatings are applied with high-volume low-pressure, electrostatic and/or airless spray equipment.
(3) An alternative method of coating application or control is used which has effectiveness equal to or greater than the equipment specified in the rule.

SCAQMD Rule 1108

Governs the sale, use, and manufacturing of asphalt and limits the volatile organic compound (VOC) content in asphalt used in the South Coast Air Basin. This rule would regulate the VOC content of asphalt used during construction. Therefore, all asphalt used during construction of the project must comply with SCAQMD Rule 1108.

SCAQMD Rule 1113

Governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction. Therefore, all paints and solvents used during construction and operation of the project must comply with SCAQMD Rule 1113.

SCAQMD Rule 1143

Governs the manufacture, sale, and use of paint thinners and solvents used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations by limiting their VOC content. This rule regulates the VOC content of solvents used during construction. Solvents used during the construction phase must comply with this rule.

SCAQMD Rule 1186

Limits the presence of fugitive dust on paved and unpaved roads and sets certification protocols and requirements for street sweepers that are under contract to provide sweeping services to any federal, state, county, agency or special district such as water, air, sanitation, transit, or school district.

SCAQMD Rule 1303

Governs the permitting of re-located or new major emission sources, requiring Best Available Control Measures and setting significance limits for PM_{10} among other pollutants.

SCAQMD Rule 1401

New Source Review of Toxic Air Contaminants, specifies limits for maximum individual cancer risk, cancer burden, and non-cancer acute and chronic hazard index from new permit units, relocations, or modifications to existing permit units, which emit toxic air contaminants.

SCAQMD Rule 1403

Asbestos Emissions from Demolition/Renovation Activities, specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM).

SCAQMD Rule 2202

On-Road Motor Vehicle Mitigation Options, is to provide employers with a menu of options to reduce mobile source emissions generated from employee commutes, to comply with federal and state Clean Air Act requirements, Health & Safety Code Section 40458, and Section 182(d)(1)(B) of the federal Clean Air Act. It applies to any employer who employs 250 or more employees on a full or part-time basis at a worksite for a consecutive six-month period calculated as a monthly average.

In order to assist local agencies with direction on GHG emissions, the SCAQMD organized a working group and adopted Rules 2700, 2701, 2702, and 3002 which are described below.

SCAQMD Rules 2700 and 2701

The SCAQMD adopted Rules 2700 and 2701 on December 5, 2008, which establishes the administrative structure for a voluntary program designed to quantify GHG emission reductions. Rule 2700 establishes definitions for the various terms used in Regulation XXVII – Global Climate Change. Rule 2701 provides specific protocols for private parties to follow to generate certified GHG emission reductions for projects within the district. Approved protocols include forest projects, urban tree planting, and manure management. The SCAQMD is currently developing additional protocols for other reduction measures. For a GHG emission reduction project to qualify, it must be verified and certified by the SCAQMD Executive Officer, who has 60 days to approve or deny the Plan to reduce GHG emissions. Upon approval of the Plan, the Executive Officer issues required to issue a certified receipt of the GHG emission reductions within 90 days.

SCAQMD Rule 2702

The SCAQMD adopted Rule 2702 on February 6, 2009, which establishes a voluntary air quality investment program from which SCAQMD can collect funds from parties that desire certified GHG emission reductions, pool those funds, and use them to purchase or fund GHG emission reduction projects within two years, unless extended by the Governing Board. Priority will be given to projects that result in co-benefit emission reductions of GHG emissions and criteria or toxic air pollutants within environmental justice areas. Further, this voluntary program may compete with the cap-and-trade program identified for implementation in CARB's Scoping Plan, or a Federal cap and trade program.

SCAQMD Rule 3002

The SCAQMD amended Rule 3002 on November 5, 2010 to include facilities that emit greater than 100,000 tons per year of CO_2e are required to apply for a Title V permit by July 1, 2011. A Title V permit is for facilities that are considered major sources of emissions.

Air Quality Guidance Documents

SCAQMD CEQA Handbook

Although the SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate air quality issues associated with plans and new development projects throughout the South Coast Air Basin. Instead, this is controlled through local jurisdictions in accordance with the California Environmental Quality Act (CEQA). In order to assist local jurisdictions with air quality compliance issues the CEQA Air Quality Handbook (SCAQMD CEQA Handbook) prepared by the SCAQMD (1993) with the most current updates found at http://www.aqmd.gov/ceqa/hdbk.html, was developed in accordance with the projections and programs of the AQMP. The purpose of the SCAQMD CEQA Handbook is to assist Lead Agencies, as well as consultants, project proponents, and other interested parties in evaluating a proposed project's potential air quality impacts. Specifically, the SCAQMD CEQA Handbook explains the procedures that the SCAQMD recommends be followed for the environmental review process required by CEQA. The SCAQMD CEQA Handbook provides direction on how to evaluate potential air quality impacts, how to determine whether these impacts are significant, and how to mitigate these impacts. SCAQMD is in the process of developing an "Air Quality Analysis Guidance Handbook" to replace the CEQA Air Quality Handbook approved by the AQMD Governing Board in 1993. The 1993 CEQA Air Quality Handbook is still available but not online. In addition, there are sections of the 1993 Handbook that are obsolete. In order to assist the CEQA practitioner in conducting an air quality analysis while the new Handbook is being prepared, supplemental information regarding: significance thresholds and analysis, emissions factors, cumulative impacts emissions analysis, and other useful subjects, are available at the SCAQMD website[1]. The SCAQMD CEQA Handbook and supplemental information is used in this analysis.

Southern California Association of Governments

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the Federally designated MPO for the majority of the southern California region and is the largest MPO in the nation. With respect to air quality planning, SCAG has prepared the Regional Transportation Plan and Regional Transportation Improvement Plan (RTIP), which addresses regional development and growth forecasts. These plans form the basis for the land use and transportation components of the AQMP, which are utilized in the preparation of air quality forecasts and in the consistency analysis included in the AQMP. The Regional Transportation Plan, Regional Transportation Improvement Plan, and AQMP are based on projections originating within the City and County General Plans.

On April 7, 2016, SCAG's Regional Council adopted the 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy (2016 RTP/SCS or Plan). The Plan is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. The Plan charts a course for closely integrating land use and transportation – so that the region can grow smartly and sustainably. It outlines more than $556.5 billion in transportation system investments through 2040. The Plan was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura. In June 2016, SCAG received its conformity determination from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) indicating that all air quality conformity requirements for the 2016 RTP/SCS and associated 2015 FTIP Consistency Amendment through Amendment 15-12 have been met.

Local – City of Eastvale

Local jurisdictions, such as the City of Eastvale, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the City is responsible for the assessment

[1] http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook.

and mitigation of air emissions resulting from its land use decisions. The City is also responsible for the implementation of transportation control measures as outlined in the 2016 AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

The City relies on the expertise of the SCAQMD and utilizes the SCAQMD CEQA Air Quality Handbook as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

The City of Eastvale General Plan contains the following air quality-related goals and policies that are applicable to the proposed project:

Goal AQ-1 Air quality that meets or exceeds all state and federal standards.

Goal AQ-2 Meet or exceed all current and future state-mandated targets for reducing emissions of greenhouse gases.

Goal AQ-3 Water supply and quality that is maintained and improved for the health of all city residents and visitors and for natural communities.

Goal AQ-4 Safe and reliable energy including energy from renewable sources to meet Eastvale's needs and enable continued economic growth.

Policies

AQ-1 Promote and participate with regional and local agencies, both public and private, to protect and improve air quality.

AQ-4 Attain performance goals and/or VMT reductions which are consistent with SCAG's Growth Management Plan.

AQ-5 Sensitive receptors should be separated and protected from polluting point sources to the greatest extent possible.

AQ-6 Require site plan designs to protect people and land uses sensitive to air pollution.

AQ-7 The City encourages the use of pollution control measures such as landscaping, vegetation, and other materials, which trap particulate matter or control pollution.

AQ-8 The City encourages the planting of urban trees to remove pollutants from the air, provide shade, and decrease the negative impacts of heat on the air.

AQ-10 The City encourages new cooperative relationships between employers and employees to reduce vehicle miles traveled.

AQ-13 The City encourages the use of building materials and methods which reduce emissions and energy use.

AQ-14 The City encourages the use of energy-efficient heating equipment and other appliances, such as water heaters, swimming pool heaters, cooking equipment, refrigerators, furnaces, and boiler units.

AQ-15 The City encourages centrally heated facilities to use automated time clocks or occupant sensors to control heating.

AQ-16 Require stationary pollution sources to minimize the release of toxic pollutants through:

- Design features
- Operating procedures
- Preventative maintenance
- Operator training
- Emergency response planning

AQ-17 To the greatest extent possible, require every project to mitigate any of its anticipated emissions which exceed allowable emissions as established by the SCAQMD, the Environmental Protection Agency, and the California Air Resources Board.

AQ-22 The City encourages the decrease of stormwater runoff by reducing pavement in development areas, and by design practices such as permeable parking bays and porous parking lots with bermed storage areas for rainwater detention.

AQ-23 The City encourages native, drought-resistant landscape planting.

AQ-25 Minimize pollutant discharge into storm drainage systems, natural drainages, and aquifers.

AQ-32 Utilize source reduction, recycling, and other appropriate measures to reduce the amount of solid waste disposed of in landfills.

AQ-37 The City will work with the SCAQMD and implement all applicable rules and regulations to reduce particulate matter from agriculture, construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way, and off-road vehicles, as well as wind storms, to the extent possible.

Table 2
State and Federal Criteria Pollutant Standards

Air Pollutant	Concentration / Averaging Time		Most Relevant Effects
	California Standards	Federal Primary Standards	
Ozone (O_3)	0.09 ppm/1-hour 0.07 ppm/8-hour	0.070 ppm/8-hour	(a) Decline in pulmonary function and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage.
Carbon Monoxide (CO)	20.0 ppm/1-hour 9.0 ppm/8-hour	35.0 ppm/1-hour 9.0 ppm/8-hour	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses.
Nitrogen Dioxide (NO_2)	0.18 ppm/1-hour 0.03 ppm/annual	100 ppb/1-hour 0.053 ppm/annual	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration.
Sulfur Dioxide (SO_2)	0.25 ppm/1-hour 0.04 ppm/24-hour	75 ppb/1-hour 0.14 ppm/annual	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
Suspended Particulate Matter (PM_{10})	50 µg/m^3/24-hour 20 µg/m^3/annual	150 µg/m^3/24-hour	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; (c) Increased risk of premature death from heart or lung diseases in elderly.
Suspended Particulate Matter ($PM_{2.5}$)	12 µg/m^3 / annual	35 µg/m^3/24-hour 12 µg/m^3/annual	
Sulfates	25 µg/m^3/24-hour	No Federal Standards	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) property damage.
Lead	1.5 µg/m^3/30-day	0.15 µg/m^3/3-month rolling	(a) Learning disabilities; (b) Impairment of blood formation and nerve conduction.
Visibility Reducing Particles	Extinction coefficient of 0.23 per kilometer-visibility of 10 miles or more due to particles when humidity is less than 70 percent.	No Federal Standards	Visibility impairment on days when relative humidity is less than 70 percent.

Source: http://www3.epa.gov/climatechange/ghgemissions/gases.html

Table 3
South Coast Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone	Nonattainment	Nonattainment (Extreme)
Carbon monoxide	Attainment	Attainment/Unclassified
Nitrogen dioxide	Attainment	Attainment/Unclassified
Sulfur dioxide	Attainment	Attainment/Unclassified
PM10	Nonattainment	Attainment (Maintenance)
PM2.5	Nonattainment	Nonattainment (Moderate)

Source: (Federal and State Status): California Air Resources Board, October 2018.

MONITORED AIR QUALITY

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates of the existing emissions in the Basin provided in the Final 2016 Air Quality Management Plan prepared by SCAQMD (March 2017) indicate that collectively, mobile sources account for 60 percent of the VOC, 90 percent of the NOx emissions, 95 percent of the CO emissions and 34 percent of directly emitted PM2.5, with another 13 percent of PM2.5 from road dust.

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified". National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the Federal annual PM2.5 standard is met if the three-year average of the annual average PM2.5 concentration is less than or equal to the standard. Attainment status is shown in Table 3.

The SCAQMD has divided the South Coast Air Basin into 38 air-monitoring areas with a designated ambient air monitoring station representative of each area. The project site is located in the Corona-Norco Air Monitoring Area (Area 22), which is located in Riverside County and covers from the Temescal Valley on the south, Mira Loma on the east, Eastvale on the north, and the Orange and Riverside county line on the west. The nearest air monitoring station to the project site is the Mira Loma Van Buren Monitoring Station (Mira Loma Station). The Mira Loma Station is located approximately 7.07 miles northeast of the project site at 5130 Poinsetta Place, Riverside. Table 4 presents the monitored pollutant levels from the Mira Loma Station. However, it should be noted that due to the air monitoring stations distances from the project site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the project site.

Table 4 summarizes 2016 through 2018 published monitoring data, which is the most recent 3-year period available. The data shows that during the past few years, the project area has exceeded the ozone standards.

Ozone

During the 2016 to 2018 monitoring period, the State 1-hour concentration standard for ozone was exceeded between one and two days each year at the Mira Loma Station. The State 8-hour ozone standard has been exceeded between 32 and 48 days each year over the past three years at the Mira Loma Station. The Federal 8-hour ozone standard was exceeded between 57 and 65 days each year over the past three years at the Mira Loma Station.

Ozone is a secondary pollutant as it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of the SCAQMD contribute to the ozone levels experienced at the monitoring station, with the more significant areas being those directly upwind.

Carbon Monoxide

CO is another important pollutant that is due mainly to motor vehicles. The Mira Loma Station did not record an exceedance of the state or federal 8-hour CO standard for the last three years.

Nitrogen Dioxide

The Mira Loma Station did not record an exceedance of the State or Federal NO_2 standards for the last three years.

Particulate Matter

Over the past three years, the State 24-hour concentration standards for PM10 were exceeded between 22 and 28 days each year at the Mira Loma Station. Over the past three years, the Mira Loma Station did not record an exceedance of the Federal 24-hour standards for PM10.

The Federal 24 hour standard for PM2.5 was exceeded between six and ten days each year over the past three years at the Winchester Station.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10 and PM2.5). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

Table 4
Air Quality Monitoring Summary

Pollutant (Standard)[1]		Year		
		2016	2017	2018
Ozone:	Maximum 1-Hour Concentration (ppm)	0.140	0.144	0.129
	Days > CAAQS (0.09 ppm)	1	2	1
	Maximum 8-Hour Concentration (ppm)	0.106	0.111	0.107
	Days > NAAQS (0.070 ppm)	65	64	57
	Days > CAAQS (0.070 ppm)	43	48	32
Carbon Monoxide:[2]	Maximum 8-Hour Concentration (ppm)	*	*	*
	Days > CAAQS (9 ppm)	0	0	0
	Days > NAAQS (9 ppm)	0	0	0
Nitrogen Dioxide:[2]	Maximum 1-Hour Concentration (ppm)	0.065	0.065	0.055
	Days > CAAQS (0.18 ppm)	0	0	0
Inhalable Particulates (PM10):[2]	Maximum 24-Hour Concentration (µg/m^3)	116.3	111.6	98.9
	Days > NAAQS (150 µg/m3)	0	0	0
	Days > CAAQS (50 µg/m3)	25	28	22
	Annual Average (µg/m3)	45.4	42.7	44.5
Ultra-Fine Particulates (PM2.5):	Maximum 24-Hour Concentration (µg/m3)	50.9	63.9	89.1
	Days > NAAQS (35 µg/m3)	7	10	6
	Annual Average (µg/m3)	14	13.5	14.1

Notes:
Source: http://www.arb.ca.gov/adam/topfour/topfour1.php. Data from the Mira Loma Van Buren Monitoring Station, unless otherwise noted.

(1) CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million

* Means there was insufficient data available to determine value.

AIR QUALITY STANDARDS

Significance Thresholds

Appendix G of the State CEQA Guidelines

Appendix G of the State CEQA Guidelines states that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make a significance determination. Pursuant to Appendix G, the project would result in a significant impact related to air quality if it would:

- Conflict with or obstruct the implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The CEQA Guidelines Section 15064.7 provides the significance criteria established by the applicable air quality management district or air pollution control district, when available, may be relied upon to make determinations of significance. The potential air quality impacts of the project are, therefore, evaluated according to thresholds developed by SCAQMD in their CEQA Air Quality Handbook, Air Quality Analysis Guidance Handbook, and subsequent guidance, which are listed below.[2] Therefore, the project would result in a potentially significant impact to air quality if it would:

AIR-1: Conflict with or obstruct the implementation of the applicable air quality plan;

AIR-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation as a result of:

- Criteria pollutant emissions during construction (direct and indirect) in excess of the SCAQMD's regional significance thresholds,
- Criteria pollutant emissions during operation (direct and indirect) in excess of the SCAQMD's regional significance thresholds.

AIR-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

AIR-4: Expose sensitive receptors to substantial pollutant concentrations that would:

- Exceed SCAQMD's localized significance thresholds,
- Cause or contribute to the formation of CO hotspots.

AIR-5: Create objectionable odors affecting a substantial number of people.

The SCAQMD is in the process of developing an Air Quality Analysis Guidance Handbook to replace the CEQA Air Quality Handbook. In the interim, supplemental guidance has been adopted by the SCAQMD. The

[2] While the SCAQMD CEQA Air Quality Handbook contains significance thresholds for lead, Project construction and operation would not include sources of lead emissions and would not exceed the established thresholds for lead. Unleaded fuel and unleaded paints have virtually eliminated lead emissions from industrial land use projects such as the Project. As a result, lead emissions are not further evaluated herein.

potential air quality impacts of the project are, therefore, evaluated according to numeric indicators developed by the SCAQMD in the CEQA Air Quality Handbook and supplemental guidance from the SCAQMD.[3]

Regional Air Quality

Many air quality impacts that derive from dispersed mobile sources, which are the dominate pollution generators in the basin, often occurs hours later and miles away after photochemical processes have converted primary exhaust pollutants into secondary contaminants such as ozone. The incremental regional air quality impact of an individual project is generally very small and difficult to measure. Therefore, the SCAQMD has developed significance thresholds based on the volume of pollution emitted rather than on actual ambient air quality because the direct air quality impact of a project is not quantifiable on a regional scale. The SCAQMD CEQA Handbook states that any project in the South Coast Air Basin with daily emissions that exceed any of the identified significance thresholds should be considered as having an individually and cumulatively significant air quality impact. For the purposes to this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SCAQMD significance thresholds identified in Table 5.

Local Air Quality

Project-related construction air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. In order to assess local air quality impacts the SCAQMD has developed Localized Significant Thresholds (LSTs) to assess the project-related air emissions in the project vicinity. The SCAQMD has also provided Final Localized Significant Threshold Methodology (LST Methodology), June 2003, which details the methodology to analyze local air emission impacts. The Localized Significant Threshold Methodology found that the primary emissions of concern are NO_2, CO, PM10, and PM2.5.

The significance thresholds for the local emissions of NO_2 and CO are determined by subtracting the highest background concentration from the last three years of these pollutants from Table 4 above, from the most restrictive ambient air quality standards for these pollutants that are outlined in the Localized Significant Thresholds. Table 5 shows the ambient air quality standards for NO_2, CO, and PM10 and PM2.5.

Toxic Air Contaminants

Construction

Temporary TAC emissions associated with DPM emissions from heavy construction equipment would occur during the construction phase of the Project. According to the Office of Environmental Health Hazard Assessment (OEHHA)[4] and the SCAQMD *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (August 2003),[5] health effects from TACs are described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of TACs over a 30-year lifetime will contract cancer based on the use of standard risk-assessment methodology. Additionally, the SCAQMD CEQA guidance does not require a HRA for short-term construction emissions. Construction activities associated with the project would be sporadic, transitory, and

[3] While the SCAQMD CEQA Air Quality Handbook contains significance thresholds for lead, Project construction and operation would not include sources of lead emissions and would not exceed the established thresholds for lead. Unleaded fuel and unleaded paints have virtually eliminated lead emissions from residential land use projects such as the Project. As a result, lead emissions are not further evaluated herein.

[4] Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessment, February 2015, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

[5] South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, August 2003,http://www.aqmd.gov/docs/default-source/ceqa/handbook/mobile-source-toxics-analysis.doc?sfvrsn=2.

short-term in nature (approximately 9 months). Thus, construction of the project would not result in a substantial, long-term (i.e., 30-year) source of TAC emissions. Nonetheless, a qualitative assessment of TAC emissions associated with short-term construction emissions is provided in the analysis section below.

Operation

The project proposes to develop the site with a self-storage facility. Therefore, the project is not anticipated be a significant source of stationary or mobile source toxic air contaminants and sensitive receptors would not be exposed to toxic sources of air pollution.

Odor Impacts

The SCAQMD CEQA Handbook states that an odor impact would occur if the proposed project creates an odor nuisance pursuant to SCAQMD Rule 402, which states:

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

If the proposed project results in a violation of Rule 402 with regards to odor impacts, then the proposed project would create a significant odor impact.

Table 5
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	Construction (lbs/day)	Operation (lbs/day)
NOx	100	55
VOC	75	55
PM10	150	150
PM2.5	55	55
SOx	150	150
CO	550	550
Lead	3	3

Toxic Air Contaminants, Odor and GHG Thresholds	
TACs	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index > 1.0 (project increment)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402
GHG	10,000 MT/yr CO2e for industrial projects

Ambient Air Quality Standards	
Pollutant	SCAQMD Standards
NO2 -1-hour average	0.18 ppm (338 µg/m^3)
PM10 -24-hour average Construction Operations	 10.4 µg/m^3 2.5 ug/m^3
PM2.5 -24-hour average Construction Operations	 10.4 µg/m^3 2.5 µg/m^3
SO2 1-hour average 24-hour average	 0.25 ppm 0.04 ppm
CO 1-hour average 8-hour average	 20 ppm (23,000 µg/m^3) 9 ppm (10,000 µg/m^3)
Lead 30-day average Rolling 3-month average Quarterly average	 1.5 µg/m^3 0.15 µg/m^3 1.5 µg/m^3

Source: http://www.aqmd.gov/ceqa/handbook/signthres.pdf

SHORT-TERM CONSTRUCTION EMISSIONS

Construction activities associated with the proposed project would have the potential to generate air emissions, toxic air contaminant emissions, and odor impacts. Assumptions for the phasing, duration, and required equipment for the construction of the proposed project were obtained from the project applicant. The construction activities for the proposed project are anticipated to include: demolition of approximately 5,000 square feet of existing residential buildings; site preparation of approximately 10 percent of the site (~0.4 acres) to remove existing vegetation/hardscape; grading of approximately 4.08 acres; construction of 142,839 square feet of self-storage use (78,136 square foot building footprint) and landscaping of approximately 22,300 square feet; paving of 76,544 square feet (includes a parking lot with 7 parking spaces); and application of architectural coatings. See Appendix B for more details.

The proposed project is anticipated to start construction no sooner than December 2021 and being completed by the end of August 2022. The project will be operational in 2022.

Methodology

The following provides a discussion of the methodology used to calculate regional construction air emissions and an analysis of the proposed project's short-term construction emissions for the criteria pollutants. The construction-related regional air quality impacts have been analyzed for both criteria pollutants and GHGs.

Emissions are estimated using the CalEEMod (Version 2016.3.2) software, which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California and is recommended by the SCAQMD.[6]

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. The input values used in this analysis were adjusted to be project-specific for the construction schedule and the equipment used was based on CalEEMod defaults. The CalEEMod program uses the EMFAC2014 computer program to calculate the emission rates specific for the western portion of Riverside County for construction-related employee vehicle trips and the OFFROAD2011 computer program to calculate emission rates for heavy truck operations. EMFAC2014 and OFFROAD2011 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Daily truck trips and CalEEMod default trip length data were used to assess roadway emissions from truck exhaust. The maximum daily emissions are estimated values for the worst case day and do not represent the emissions that would occur for every day of project construction. The maximum daily emissions are compared to the SCAQMD daily regional numeric indicators. Detailed construction equipment lists, construction scheduling, and emission calculations are provided in Appendix B.

The project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 acres or more of soil or move

[6] South Coast Air Quality Management District, California Emissions Estimator Model, http://www.aqmd.gov/ caleemod/.

5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size of the Project area (approximately 4.08 acres) a Fugitive Dust Control Plan or Large Operation Notification would not be required.

SCAQMD's Rule 403 minimum requirements require that the application of the best available dust control measures are used for all grading operations and include the application of water or other soil stabilizers in sufficient quantity to prevent the generation of visible dust plumes. Compliance with Rule 403 would require the use of water trucks during all phases where earth moving operations would occur. Compliance with Rule 403 has been include in the CalEEMod modeling for the proposed project.

Per SCAQMD Rule 1113 as amended on June 3, 2011, the architectural coatings that would be applied after January 1, 2014 will be limited to an average of 50 grams per liter or less. CalEEMod defaults have been adjusted accordingly.

The phases of the construction activities which have been analyzed below for each phase are: (1) demolition, (2) site preparation, (3) grading, (4) building construction, (5) paving, and (6) application of architectural coatings. Details pertaining to the project's construction timing and the type of equipment modeled for each construction phase are available in the CalEEMod output in Appendix B.

Construction-Related Regional Impacts

The construction-related criteria pollutant emissions for each phase are shown below in Table 6. Table 6 shows that none of the project's emissions will exceed regional thresholds. Therefore, a less than significant regional air quality impact would occur from construction of the proposed project.

Construction-Related Local Impacts

Construction-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. The proposed project has been analyzed for the potential local air quality impacts created from: construction-related fugitive dust and diesel emissions; from toxic air contaminants; and from construction-related odor impacts.

Local Air Quality Impacts from Construction

The SCAQMD has published a "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (South Coast Air Quality Management District 2011b). CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. In order to compare CalEEMod reported emissions against the localized significance threshold lookup tables, the CEQA document should contain the following parameters:

(1) The off-road equipment list (including type of equipment, horsepower, and hours of operation) assumed for the day of construction activity with maximum emissions.
(2) The maximum number of acres disturbed on the peak day.
(3) Any emission control devices added onto off-road equipment.
(4) Specific dust suppression techniques used on the day of construction activity with maximum emissions.

The CalEEMod output in Appendix B show the equipment used for this analysis.

As shown in Table 7, the maximum number of acres disturbed in a day would be 2.5 acres during grading**.** The local air quality emissions from construction were analyzed using the SCAQMD's Mass Rate Localized Significant Threshold Look-up Tables and the methodology described in Localized Significance Threshold Methodology prepared by SCAQMD (revised July 2008). The Look-up Tables were developed by the

SCAQMD in order to readily determine if the daily emissions of CO, NOx, PM10, and PM2.5 from the proposed project could result in a significant impact to the local air quality. The emission thresholds were calculated based on the Corona-Norco source receptor area (SRA) 22 and a disturbance value of two acres per day, to be conservative. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25 meter thresholds. The nearest sensitive receptors to the project site are the existing single-family detached residential dwelling units located adjacent to the east and west, approximately 80 feet north (across a drainage channel), and approximately 115 feet south (across Chandler Street) of the project site; therefore, the SCAQMD Look-up Tables for 25 meters was used. Table 8 shows the on-site emissions from the CalEEMod model for the different construction phases and the LST emissions thresholds.

The data provided in Table 8 shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds at the nearest sensitive receptors. Therefore, a less than significant local air quality impact would occur from construction of the proposed project.

Construction-Related Toxic Air Contaminant Impacts

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. According to the Office of Environmental Health Hazard Assessment (OEHHA)[7] and the SCAQMD *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (August 2003),[8] health effects from TACs are described in terms of individual cancer risk based on a lifetime (i.e., 30-year) resident exposure duration. Given the temporary and short-term construction schedule (approximately 9 months), the project would not result in a long-term (i.e., lifetime or 30-year) exposure as a result of project construction.

The project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction. The project would also comply with the requirements of SCAQMD Rule 1403 if asbestos is found during the renovation and construction activities. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project and impacts from TACs during construction would be less than significant.

Construction-Related Odor Impacts

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected to cease upon the drying or hardening of the odor producing materials. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed project. Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors.

[7] Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessment, February 2015, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[8] South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, August 2003,http://www.aqmd.gov/docs/default-source/ceqa/handbook/mobile-source-toxics-analysis.doc?sfvrsn=2.

Table 6
Construction-Related Regional Pollutant Emissions

Activity		Pollutant Emissions (pounds/day)					
		ROG	NOx	CO	SO_2	PM10	PM2.5
Demolition	On-Site[1]	3.17	31.44	21.57	0.04	1.65	1.46
	Off-Site[2]	0.08	0.29	0.59	0.00	0.19	0.05
	Subtotal	3.24	31.73	22.15	0.04	1.84	1.51
Site Preparation	On-Site[1]	0.19	1.90	2.26	0.00	0.14	0.11
	Off-Site[2]	0.09	0.05	0.67	0.00	0.20	0.05
	Subtotal	0.27	1.95	2.93	0.01	0.35	0.16
Grading	On-Site[1]	1.95	20.86	15.27	0.03	3.51	2.18
	Off-Site[2]	0.22	6.25	1.42	0.02	0.73	0.21
	Subtotal	2.16	27.11	16.69	0.05	4.24	2.39
Building Construction	On-Site[1]	2.38	21.07	23.13	0.04	1.10	1.03
	Off-Site[2]	0.54	3.74	4.09	0.02	1.41	0.39
	Subtotal	2.92	24.81	27.22	0.06	2.51	1.42
Paving	On-Site[1]	1.23	9.52	12.19	0.02	0.49	0.45
	Off-Site[2]	0.09	0.05	0.68	0.00	0.22	0.06
	Subtotal	1.32	9.57	12.88	0.02	0.71	0.51
Architectural Coating	On-Site[1]	38.51	1.41	1.81	0.00	0.08	0.08
	Off-Site[2]	0.09	0.05	0.68	0.00	0.22	0.06
	Subtotal	38.60	1.46	2.50	0.01	0.31	0.14
Total for overlapping phases[3]		42.85	35.84	42.59	0.08	3.53	2.08
SCAQMD Thresholds		75	100	550	150	150	55
Exceeds Thresholds?		No	No	No	No	No	No

Notes:
Source: CalEEMod Version 2016.3.2

(1) On-site emissions from equipment operated on-site that is not operated on public roads. On-site site preparation and grading PM-10 and PM-2.5 emissions show mitigated values for fugitive dust for compliance with SCAQMD Rule 403.

(2) Off-site emissions from equipment operated on public roads.

(3) Construction, painting and paving phases may overlap.

Table 7
Maximum Number of Acres Disturbed Per Day

Activity	Equipment	Number	Acres/8hr-day	Total Acres
Demolition	Rubber Tired Dozers	2	0.5	1
Total for phase		-	-	1
Site Preparation	Crawler Tractors[1]	1	0.5	0.5
Total for phase		-	-	0.5
Grading	Rubber Tired Dozers	1	0.5	0.5
	Graders	1	0.5	0.5
	Crawler Tractors[1]	3	0.5	1.5
Total for phase		-	-	2.5

Notes:
Source: South Coast AQMD, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds, 2011b.

(1) Tractor/loader/backhoe is a suitable surrogate for a crawler tractor per SCAQMD staff.

Table 8
Local Construction Emissions at the Nearest Receptors

Activity	On-Site Pollutant Emissions (pounds/day)			
	NOx	CO	PM10	PM2.5
Demolition	31.44	21.57	1.65	1.46
Site Preparation	1.90	2.26	0.14	0.11
Grading	20.86	15.27	3.51	2.18
Building Construction	21.07	23.13	1.10	1.03
Paving	9.52	12.19	0.49	0.45
Architectural Coating	1.41	1.81	0.08	0.08
SCAQMD Thresholds [1]	170	1,007	6	5
Exceeds Threshold?	No	No	No	No

Notes:
Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for 2 acres, to be conservative, at a distance of 25 m in SRA 22 Corona-Norco.

(1) The nearest sensitive receptors are the existing single-family detached residential dwelling units located adjacent to the east and west of the project site; therefore, the 25 meter threshold was used.

Note: The project will disturb up to a maximum of 2.5 acres a day during grading (see Table 8).

LONG-TERM OPERATIONAL EMISSIONS

The on-going operation of the proposed project would result in a long-term increase in air quality emissions. This increase would be due to emissions from the project-generated vehicle trips and through operational emissions from the on-going use of the proposed project. The following section provides an analysis of potential long-term air quality impacts due to: regional air quality and local air quality impacts with the on-going operations of the proposed project.

Operations-Related Regional Air Quality Impacts

The potential operations-related air emissions have been analyzed below for the criteria pollutants and cumulative impacts.

Operations-Related Criteria Pollutants Analysis

The operations-related criteria air quality impacts created by the proposed project have been analyzed through the use of the CalEEMod model. The operating emissions were based on the year 2022, which is the anticipated opening year for the proposed project. The operations daily emissions printouts from the CalEEMod model are provided in Appendix B. The CalEEMod analyzes operational emissions from area sources, energy usage, and mobile sources, which are discussed below.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project have been analyzed by inputting the project-generated vehicular trips (trip generation rate) from the Eastvale Self-Storage Facility (14555 Chandler Street) Trip Generation Analysis (Trip Generation Analysis) prepared by Ganddini Group, Inc. (January 2020) into the CalEEMod Model. The Trip Generation Analysis found that the proposed project will generate approximately 157 total trips per day with a trip generation rate of 1.10 trips per thousand square foot per day for the self-storage use. As the land use "mini warehouse" is not available in CalEEMod, the project was modeled as an unrefrigerated warehouse - no rail. The program then applies the emission factors for each trip which is provided by the EMFAC2014 model to determine the vehicular traffic pollutant emissions.

Area Sources

Per the CAPCOA Appendix A Calculation Details for CalEEMod, area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment. No changes were made to the default area source parameters.

Energy Usage

Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.

Project Impacts

The worst-case summer or winter criteria pollutant emissions created from the proposed project's long-term operations have been calculated and are shown below in Table 9. The results show that none of the SCAQMD regional thresholds would be exceeded. Therefore, a less than significant regional air quality impact would occur from operation of the proposed project.

Operations-Related Local Air Quality Impacts

Project-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. The proposed project has been analyzed for the potential local CO emission impacts from the project-generated vehicular trips and from the potential local air quality impacts from on-site operations. The following analysis analyzes the vehicular CO emissions, local impacts from on-site operations per SCAQMD LST methodology, and odor impacts.

Local CO Emission Impacts from Project-Generated Vehicular Trips

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with project CO levels to the State and Federal CO standards which were presented above in Section 2.

To determine if the proposed project could cause emission levels in excess of the CO standards discussed above in Section 2, a sensitivity analysis is typically conducted to determine the potential for CO "hot spots" at a number of intersections in the general project vicinity. Because of reduced speeds and vehicle queuing, "hot spots" potentially can occur at high traffic volume intersections with a Level of Service E or worse.

The analysis prepared for CO attainment in the South Coast Air Basin by the SCAQMD can be used to assist in evaluating the potential for CO exceedances in the South Coast Air Basin. CO attainment was thoroughly analyzed as part of the SCAQMD's 2003 Air Quality Management Plan (2003 AQMP) and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan). As discussed in the 1992 CO Plan, peak carbon monoxide concentrations in the South Coast Air Basin are due to unusual meteorological and topographical conditions, and not due to the impact of particular intersections. Considering the region's unique meteorological conditions and the increasingly stringent CO emissions standards, CO modeling was performed as part of 1992 CO Plan and subsequent plan updates and air quality management plans. In the 1992 CO Plan, a CO hot spot analysis was conducted for four busy intersections in Los Angeles at the peak morning and afternoon time periods. The intersections evaluated included: South Long Beach Boulevard and Imperial Highway (Lynwood); Wilshire Boulevard and Veteran Avenue (Westwood); Sunset Boulevard and Highland Avenue (Hollywood); and La Cienega Boulevard and Century Boulevard (Inglewood). These analyses did not predict a violation of CO standards. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority evaluated the Level of Service in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be Level of Service E during the morning peak hour and Level of Service F during the afternoon peak hour.

The Trip Generation Analysis showed that the project would generate a maximum of approximately 157 daily vehicle trips. The 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan) showed that an intersection which has a daily traffic volume of approximately 100,000 vehicles per day would not violate the CO standard. Therefore, as the project is anticipated to only generate a maximum of 157 daily vehicle trips, no CO "hot spot" modeling was performed and no significant long-term air quality impact is anticipated to local air quality with the on-going use of the proposed project.

Local Air Quality Impacts from On-Site Operations

Project-related air emissions from on-site sources such as architectural coatings, landscaping equipment, on-site usage of natural gas appliances as well as the operation of vehicles on-site may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. The nearest sensitive receptor that may be impacted by the proposed project are the existing single-family detached

residential dwelling units located adjacent to the east and west, approximately 80 feet north (across a drainage channel), and approximately 115 feet south (across Chandler Street) of the project site.

According to SCAQMD LST methodology, LSTs would apply to the operational phase of a project, if the project includes stationary sources, or attracts mobile sources (such as heavy-duty trucks) that may spend long periods queuing and idling at the site; such as industrial warehouse/transfer facilities. The proposed project consists of a self-storage facility, and does not include such uses. Therefore, due the lack of stationary source emissions, no long-term localized significance threshold analysis is warranted.

Operations-Related Odor Impacts

Potential sources that may emit odors during the on-going operations of the proposed project would include odor emissions from the intermittent diesel delivery truck emissions and trash storage areas. Due to the distance of the nearest receptors from the project site and through compliance with SCAQMD's Rule 402 no significant impact related to odors would occur during the on-going operations of the proposed project.

Table 9
Regional Operational Pollutant Emissions

Activity	Pollutant Emissions (pounds/day)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Area Sources[1]	3.24	0.00	0.02	0.00	0.00	0.00
Energy Usage[2]	0.01	0.08	0.07	0.00	0.01	0.01
Mobile Sources[3]	0.32	2.36	4.28	0.02	1.45	0.40
Total Emissions	**3.56**	**2.44**	**4.37**	**0.02**	**1.45**	**0.40**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Threshold?	No	No	No	No	No	No

Notes:
Source: CalEEMod Version 2016.3.2; the higher of either summer or winter emissions.

(1) Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.

(2) Energy usage consists of emissions from generation of electricity and on-site natural gas usage.

(3) Mobile sources consist of emissions from vehicles and road dust.

CUMULATIVE AIR QUALITY IMPACTS

There are a number of cumulative projects in the project area that have not yet been built or are currently under construction. Since the timing or sequencing of the cumulative projects is unknown, any quantitative analysis to ascertain daily construction emissions that assumes multiple, concurrent construction projects would be speculative. Further, cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered would cover an even larger area. The SCAQMD recommends using two different methodologies: (1) that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality;[9] and (2) that a project's consistency with the current AQMP be used to determine its potential cumulative impacts.

Project Specific Impacts

The project area is out of attainment for ozone and in 2018 was out of attainment for PM10. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality of the South Coast Air Basin. The greatest cumulative impact on the quality of regional air cell will be the incremental addition of pollutants mainly from increased traffic volumes from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, in accordance with the SCAQMD methodology, projects that do not exceed the SCAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant.

Project operations would generate emissions of NOx, ROG, CO, PM10, and PM2.5, which would not exceed the SCAQMD regional or local thresholds and would not be expected to result in ground level concentrations that exceed the NAAQS or CAAQS. Since the project would not introduce any substantial stationary sources of emissions, CO is the benchmark pollutant for assessing local area air quality impacts from post-construction motor vehicle operations. As indicated earlier, no violations of the state and federal CO standards are projected to occur for the project, based on the magnitude of traffic the project is anticipated to create. Therefore, operation of the project would not result in a cumulatively considerable net increase for non-attainment of criteria pollutants or ozone precursors. As a result, the project would result in a less than significant cumulative impact for operational emissions.

Air Quality Compliance

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). The regional plan that applies to the proposed project includes the SCAQMD Air Quality Management Plan (AQMP). Therefore, this section discusses any potential inconsistencies of the proposed project with the AQMP.

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the proposed project would interfere with the region's ability to comply with Federal and State air quality standards. If the decision-makers determine that the proposed project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

[9] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution White Paper, 1993, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook.

The SCAQMD CEQA Handbook states that "New or amended General Plan Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP". Strict consistency with all aspects of the plan is usually not required A proposed project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

(1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
(2) Whether the project will exceed the assumptions in the AQMP in 2016 or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

Criteria 1 – Increase in the Frequency or Severity of Violations

Based on the air quality modeling analysis contained in this Air Analysis, short-term construction impacts will not result in significant impacts based on the SCAQMD regional and local thresholds of significance. This Air Analysis also found that long-term operations impacts will not result in significant impacts based on the SCAQMD local and regional thresholds of significance.

Therefore, the proposed project is not projected to contribute to the exceedance of any air pollutant concentration standards and is found to be consistent with the AQMP for the first criterion.

Criteria 2 – Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the proposed project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the proposed project are based on the same forecasts as the AQMP. The 2016-2040 Regional Transportation/Sustainable Communities Strategy prepared by SCAG (2016) includes chapters on: the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA. For this project, the City of Eastvale General Plan Land Use Plan defines the assumptions that are represented in the AQMP.

The project site is currently designated as Low Density Residential (LDR) on the City of Eastvale General Plan Land Use Map. The current zoning for the project site is Light Agriculture (A-1). The proposed project includes a General Plan Amendment (GPA) from Low Density Residential (LDR) to Commercial Retail and a Change of Zone from Light Agriculture (A-1) to General Commercial (C-1/ C-P). As the proposed self-storage facility is a commercial use, it is not currently consistent with the existing land use and zoning. However, once the GPA and zone change are approved, the project would be consistent with the General Plan Land Use. Although the project and GPA may initially result in an inconsistency with the AQMP on paper, the inconsistency would not necessarily constitute a conflict with the AQMP. Because the parcels in question would be changed from residential/agriculture to commercial, the project would not be expected to result in population growth beyond that assumed in the AQMP assumptions. The SCAQMD acknowledges that strict consistency with all aspects of the AQMP is not required in order to make a finding of no conflict. Rather, a project is considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The project would implement contemporary energy-efficient technologies and regulatory/operational programs required per Title 24, CalGreen and City standards. Generally, compliance with SCAQMD emissions reductions and control requirements also act to reduce project air pollutant emissions. In combination, project emissions-reducing design features and regulatory/operational programs are consistent with and support overarching AQMP air pollution reduction strategies. Project support of these strategies promotes timely attainment of AQMP air quality standards and would bring the project into conformance with the AQMP.

Therefore, the proposed project is not anticipated to exceed the AQMP assumptions for the project site and is found to be consistent with the AQMP for the second criterion.

Based on the analysis above, the proposed project will not result in an inconsistency with the SCAQMD AQMP. Therefore, a less than significant impact will occur.

3. GLOBAL CLIMATE CHANGE ANALYSIS

EXISTING GREENHOUSE GAS ENVIRONMENT

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO_2), methane (CH_4), ozone, water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation. Emissions of CO_2 and nitrous oxide (NOx) are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of CO_2, where CO_2 is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. The following provides a description of each of the greenhouse gases and their global warming potential.

Water Vapor

Water vapor is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to "hold" more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop". The extent to which this positive feedback loop will continue is unknown as there is also dynamics that put the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up).

Carbon Dioxide (CO_2)

The natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean. However, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700s. Each of these activities has increased in scale and distribution. CO_2 was the first GHG demonstrated to be increasing in atmospheric concentration with the first conclusive measurements being made in the last half of the 20th century. Prior to the industrial revolution, concentrations were fairly stable at 280 parts per million (ppm). The International Panel on Climate Change (IPCC Fifth Assessment Report, 2014) Emissions of CO_2 from fossil fuel combustion and industrial processes contributed about 78% of the total GHG emissions increase from 1970 to 2010, with a similar percentage contribution for the increase during the period 2000 to 2010. Globally, economic and population growth continued to be the most important drivers of increases in CO_2 emissions from fossil fuel combustion. The contribution of population growth between 2000 and 2010 remained roughly identical to the previous three decades, while the contribution of economic growth has risen sharply.

Methane (CH_4)

CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than that of CO_2. Its lifetime in the atmosphere is brief (10 to 12 years), compared to some other GHGs (such as CO_2, N_2O, and Chlorofluorocarbons (CFCs). CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide (N_2O)

Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration of this GHG was documented at 314 parts per billion (ppb). N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is also commonly used as an aerosol spray propellant, (i.e., in whipped cream bottles, in potato chip bags to keep chips fresh, and in rocket engines and in race cars).

Chlorofluorocarbons (CFC)

CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source, but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and in 1989 the European Community agreed to ban CFCs by 2000 and subsequent treaties banned CFCs worldwide by 2010. This effort was extremely successful, and the levels of the major CFCs are now remaining level or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons (HFC)

HFCs are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a in the atmosphere are now about 10 parts per trillion (ppt) each. Concentrations of HFC-152a are about 1 ppt. HFCs are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons (PFC)

PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). Concentrations of CF_4 in the atmosphere are over 70 ppt. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

Sulfur Hexafluoride (SF_6)

SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 has the highest global warming potential of any gas evaluated; 23,900 times that of CO_2. Concentrations in the 1990s were about 4 ppt. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Aerosols

Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel containing sulfur is burned. Black carbon (or soot) is emitted during biomass burning due to the incomplete combustion of fossil fuels. Particulate matter regulation has been lowering aerosol concentrations in the United States; however, global concentrations are likely increasing.

Global Warming Potential

The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO_2). The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that time period. The time period usually used for GWPs is 100 years. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases (e.g., to compile a national GHG inventory), and allows policymakers to compare emissions reduction opportunities across sectors and gases. A summary of the atmospheric lifetime and the global warming potential of selected gases are summarized in Table 10. As shown in Table 10, the global warming potential of GHGs ranges from 1 to 22,800.

Table 10
Global Warming Potentials and Atmospheric Lifetimes

Gas	Atmospheric Lifetime	Global Warming Potential[1] (100 Year Horizon)
Carbon Dioxide (CO_2)	–[2]	1
Methane (CH_4)	12	28-36
Nitrous Oxide (NO)	114	298
Hydrofluorocarbons (HFCs)	1-270	12-14,800
Perfluorocarbons (PFCs)	2,600-50,000	7,390-12,200
Nitrogen trifluoride (NF_3)	740	17,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Notes:
Source: http://www3.epa.gov/climatechange/ghgemissions/gases.html

(1) Compared to the same quantity of CO_2 emissions.

(2) Carbon dioxide's lifetime is poorly defined because the gas is not destroyed over time, but instead moves among different parts of the ocean–atmosphere–land system. Some of the excess carbon dioxide will be absorbed quickly (for example, by the ocean surface), but some will remain in the atmosphere for thousands of years, due in part to the very slow process by which carbon is transferred to ocean sediments.

GREENHOUSE GAS STANDARDS AND REGULATION

International

Montreal Protocol

In 1988, the United Nations established the Intergovernmental Panel on Climate Change (IPCC) to evaluate the impacts of global climate change and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling GHG emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs.

Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere—CFCs, halons, carbon tetrachloride, and methyl chloroform—were to be phased out, with the first three by the year 2000 and methyl chloroform by 2005.

The Paris Agreement

The Paris Agreement became effective on November 4, 2016. Thirty days after this date at least 55 Parties to the United Nations Framework Convention on Climate Change (Convention), accounting in total for at least an estimated 55 % of the total global greenhouse gas emissions, had deposited their instruments of ratification, acceptance, approval or accession with the Depositary.

The Paris Agreement built upon the Convention and – for the first time – attempted to bring all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework. The Trump administration has recently indicated the United States federal government will no longer participate in the Paris agreement. However, the U.S. cannot technically withdraw from the Agreement until 2020.

Federal

The United States Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), argued November 29, 2006 and decided April 2, 2007, the U.S. Supreme Court held that not only did the EPA have authority to regulate greenhouse gases, but the EPA's reasons for not regulating this area did not fit the statutory requirements. As such, the U.S. Supreme Court ruled that the EPA should be required to regulate CO_2 and other greenhouse gases as pollutants under the federal Clean Air Act (CAA).

In response to the FY2008 Consolidations Appropriations Act (H.R. 2764; Public Law 110-161), EPA proposed a rule on March 10, 2009 that requires mandatory reporting of GHG emissions from large sources in the United States. On September 22, 2009, the Final Mandatory Reporting of GHG Rule was signed and published in the Federal Register on October 30, 2009. The rule became effective on December 29, 2009. This rule requires suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to EPA.

On December 7, 2009, the EPA Administrator signed two distinct findings under section 202(a) of the Clean Air Act. One is an endangerment finding that finds concentrations of the six GHGs in the atmosphere threaten the public health and welfare of current and future generations. The other is a cause or contribute finding, that finds emissions from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare. These actions will not themselves impose any requirements on industry or other entities. However, it is a prerequisite to finalizing the EPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by the EPA and Department of Transportation on September 15, 2009.

Clean Air Act

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), the U.S. Supreme Court held in April of 2007 that the USEPA has statutory authority under Section 202 of the federal Clean Air Act (CAA) to regulate GHGs. The court did not hold that the USEPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA. The USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO2, CH4, N2O, HFCs, PFCs, and SF6) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the CAA consistently with the United States Supreme Court decision. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not, by themselves, impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

Energy Independence Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and

- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs.[10]

Executive Order 13432

In response to the Massachusetts v. Environmental Protection Agency ruling, the President signed Executive Order 13432 on May 14, 2007, directing the USEPA, along with the Departments of Transportation, Energy, and Agriculture, to initiate a regulatory process that responds to the Supreme Court's decision. Executive Order 13432 was codified into law by the 2009 Omnibus Appropriations Law signed on February 17, 2009. The order sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation. Light-Duty Vehicle Greenhouse Gas and Corporate Average Fuel Economy Standards.

On May 19, 2009, President Obama announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards (CAFE)[11] and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO2 per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle.[12] In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022-2025.

In August 2018, the USEPA and NHTSA proposed the Safer Affordable Fuel-Efficient Vehicles Rule that would, if adopted, maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. The proposal, if adopted, would also exclude CO2- equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020.[13]

[10] A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.
[11] The Corporate Average Fuel Economy standards are regulations in the United States, first enacted by Congress in 1975, to improve the average fuel economy of cars and light trucks. The U.S Department of Transportation has delegated the National Highway Traffic Safety Administration as the regulatory agency for the Corporate Average Fuel Economy standards.
[12] United States Environmental Protection Agency, EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks, August 2012, https://nepis.epa.gov/ Exe/ZyPDF.cgi/P100EZ7C.PDF?Dockey=P100EZ7C.PDF.
[13] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.gpo.gov/fdsys/pkg/FR-2018-08-24/pdf/2018-16820.pdf.

State of California

California Air Resources Board

CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards [CAAQS]), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In 2004, the California Air Resources Board (CARB) adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure generally does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location with certain exemptions for equipment in which idling is a necessary function such as concrete trucks. While this measure primarily targets diesel particulate matter emissions, it has co-benefits of minimizing GHG emissions from unnecessary truck idling.

In 2008, CARB approved the Truck and Bus regulation to reduce particulate matter and nitrogen oxide emissions from existing diesel vehicles operating in California (13 CCR, Section 2025, subsection (h)). CARB has also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation, adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission controlled models. Refer to Section IV.B, *Air Quality*, of this Draft EIR for additional details regarding these regulations. While these regulations primarily target reductions in criteria air pollutant emission, they have co-benefits of minimizing GHG emissions due to improved engine efficiencies.

The State currently has no regulations that establish ambient air quality standards for GHGs. However, the State has passed laws directing CARB to develop actions to reduce GHG emissions, which are listed below.

Assembly Bill 1493

California Assembly Bill 1493 enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a "waiver" request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for CO_2 and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the "waiver" request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State's request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009.

Executive Order S-3-05

The California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels;
- By 2020, California shall reduce GHG emissions to 1990 levels; and
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentive and regulatory programs.

Assembly Bill 32 (California Health and Safety Code, Division 25.5 – California Global Warming Solutions Act of 2006)

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO2, CH4, N2O, HFCs, PFCs, and SF6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

Senate Bill 32 and Assembly Bill 197

In 2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 and AB 197 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

Climate Change Scoping Plan (2008)

A specific requirement of AB 32 was to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (Health and Safety Code section 38561 (h)). CARB developed an AB 32 Scoping Plan that contains strategies to achieve the 2020 emissions cap. The initial Scoping Plan was approved in 2008, and contains a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives.

As required by HSC Division 25.5, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was originally set at 427 MMTCO2e using the GWP values from the IPCC SAR. CARB also projected the state's 2020 GHG emissions under no-action-taken (NAT) conditions – that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB originally used an average of the state's GHG emissions from 2002 through 2004 and projected the 2020 levels at approximately 596 MMTCO2e (using GWP values from the IPCC SAR). Therefore, under the original projections, the state must reduce its 2020 NAT emissions by 28.4 percent in order to meet the 1990 target of 427 MMTCO2e.

First Update to the Climate Change Scoping Plan (2014)

The First Update to the Scoping Plan was approved by CARB in May 2014 and builds upon the initial Scoping Plan with new strategies and recommendations. In 2014, CARB revised the target using the GWP values from the IPCC AR4 and determined that the 1990 GHG emissions inventory and 2020 GHG emissions limit is 431 MMTCO2e. CARB also updated the State's 2020 NAT emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions

required by regulation that were recently adopted for motor vehicles and renewable energy. CARB's projected statewide 2020 emissions estimate using the GWP values from the IPCC AR4 is 509.4 MMTCO2e.

2017 Climate Change Scoping Plan

In response to the 2030 GHG reduction target, CARB adopted the 2017 Climate Change Scoping Plan at a public meeting held in December 2017. The 2017 Scoping Plan outlines the strategies the State will implement to achieve the 2030 GHG reduction target of 40 percent below 1990 levels. The 2017 Scoping Plan also addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors. The 2017 Scoping Plan considered the Scoping Plan Scenario and four alternatives for achieving the required GHG reductions but ultimately selected the Scoping Plan Scenario.

CARB states that the Scoping Plan Scenario "is the best choice to achieve the State's climate and clean air goals."[14] Under the Scoping Plan Scenario, the majority of the reductions would result from the continuation of the Cap-and-Trade regulation. Additional reductions are achieved from electricity sector standards (i.e., utility providers to supply at least 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived GHG strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan. The alternatives were designed to consider various combinations of these programs, as well as consideration of a carbon tax in the event the Cap-and-Trade regulation is not continued. However, in July 2017, the California Legislature voted to extend the Cap-and-Trade regulation to 2030. Implementing this Scoping Plan will ensure that California's climate actions continue to promote innovation, drive the generation of new jobs, and achieve continued reductions of smog and air toxics. The ambitious approach draws on a decade of successful programs that address the major sources of climate-changing gases in every sector of the economy:

- More Clean Cars and Trucks: The plan sets out far-reaching programs to incentivize the sale of millions of zero-emission vehicles, drive the deployment of zero-emission trucks, and shift to a cleaner system of handling freight statewide.
- Increased Renewable Energy: California's electric utilities are ahead of schedule meeting the requirement that 33 percent of electricity come from renewable sources by 2020. The Scoping Plan guides utilities to 50 percent renewables, as required under SB 350.
- Slashing Super-Pollutants: The plan calls for a significant cut in super-pollutants such as methane and HFC refrigerants, which are responsible for as much as 40 percent of global warming.
- Cleaner Industry and Electricity: California's renewed cap-and-trade program extends the declining cap on emissions from utilities and industries and the carbon allowance auctions. The auctions will continue to fund investments in clean energy and efficiency, particularly in disadvantaged communities.
- Cleaner Fuels: The Low Carbon Fuel Standard will drive further development of cleaner, renewable transportation fuels to replace fossil fuels.
- Smart Community Planning: Local communities will continue developing plans which will further link transportation and housing policies to create sustainable communities.
- Improved Agriculture and Forests: The Scoping Plan also outlines innovative programs to account for and reduce emissions from agriculture, as well as forests and other natural lands.

The 2017 Scoping Plan also evaluates reductions of smog-causing pollutants through California's climate programs.

SB 32, Pavley. California Global Warming Solutions Act of 2006

(1) The California Global Warming Solutions Act of 2006 designates the State Air Resources Board as the state agency charged with monitoring and regulating sources of emissions of greenhouse gases. The state

[14] California Air Resources Board, California's 2017 Climate Change Scoping Plan, November 2017, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

board is required to approve a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions level in 1990 to be achieved by 2020 and to adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective greenhouse gas emissions reductions. This bill would require the state board to ensure that statewide greenhouse gas emissions are reduced to 40% below the 1990 level by 2030.

(2) This bill would become operative only if AB 197 of the 2015–16 Regular Session is enacted and becomes effective on or before January 1, 2017. AB 197 requires that the California Air Resources Board, which directs implementation of emission-reduction programs, should target direct reductions at both stationary and mobile sources. AB 197 of the 2015-2016 Regular Session was approved on September 8, 2016.

Executive Order S-1-07

Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs the CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009, the CARB approved the proposed regulation to implement the low carbon fuel standard. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. The low carbon fuel standard is designed to provide a framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

Senate Bill 97

Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to the CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Natural Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009, the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporate GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance were provided and no specific mitigation measures were identified. The GHG emission reduction amendments went into effect on March 18, 2010, and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation".
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

Senate Bills 1078, 107, and X1-2 and Executive Orders S-14-08 and S-21-09

Senate Bill 1078 (SB 1078) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) changed the target date to 2010. Executive Order S-14-08 was signed on November 2008 and expands the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 375

Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). The CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. The CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG) jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, the targets set by the CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. These reduction targets became effective October 2018.

Senate Bill X7-7

Senate Bill X7-7 (SB X7-7), enacted on November 9, 2009, mandates water conservation targets and efficiency improvements for urban and agricultural water suppliers. SB X7-7 requires the Department of Water Resources (DWR) to develop a task force and technical panel to develop alternative best management practices for the water sector. In addition SB X7-7 required the DWR to develop criteria for baseline uses for

residential, commercial, and industrial uses for both indoor and landscaped area uses. The DWR was also required to develop targets and regulations that achieve a statewide 20 percent reduction in water usage.

Assembly Bill 939 and Senate Bill 1374

Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004, suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

California Code of Regulations (CCR) Title 24, Part 6

CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008, and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. CalEEMod modeling defaults to 2008 standards. 2013 Standards have been approved and were effective July 1, 2014.

California Code of Regulations (CCR) Title 24, Part 11

CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008, and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. 2013 Standards have been approved and were effective July 1, 2014. 2016 Standards were adopted January 1, 2017.

All buildings for which an application for a building permit is submitted on or after January 1, 2017 must follow the 2016 standards. The 2016 residential standards are estimated to be approximately 28 percent more efficient than the 2013 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

California Green Building Standards

On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011.

2016 CALGreen Code: During the 2016-2017 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2015 Triennial Code Adoption Cycle. HCD adopted three new definitions related to electric vehicle charging regulations. These definitions provided clarity to the code user as to the differences between an electric vehicle charging space and an electric vehicle charging station. HCD replaced the term "electric vehicle charging stations" with "electric vehicle charging spaces" since

the term "electric vehicle charging space" better describes a space available for future installation of electric vehicle supply equipment, but with no electric vehicle charger installed.

HCD also increased the required construction waste reduction from 50 percent to 65 percent of the total building site waste. This increase aids in meeting CalRecycle's statewide solid waste recycling goal of 75 percent for 2020 as stated in Chapter 476, Statutes of 2011 (AB 341). HCD adopted new regulations requiring recycling areas for multifamily projects of five or more dwelling units. This regulation requires developers to provide readily accessible areas adequate in size to accommodate containers for depositing, storage and collection of non-hazardous materials (including organic waste) for recycling. This requirement assists businesses that were required as of April 1, 2016, to meet the requirements of Chapter 727, Statutes of 2014 (AB 1826).

HCD adopted new regulations to require information on photovoltaic systems and electric vehicle chargers to be included in operation and maintenance manuals. Currently, CALGreen section 4.410.1 Item 2(a) requires operation and maintenance instructions for equipment and appliances. Photovoltaic systems and electric vehicle chargers are systems that play an important role in many households in California, and their importance is increasing every day. HCD incorporated these two terms in the existing language in order to provide clarity to code users as to additional systems requiring operation and maintenance instructions.

HCD updated the reference to Clean Air Standards of the United States Environmental Protection Agency applicable to woodstoves and pellet stoves. HCD also adopted a new requirement for woodstoves and pellet stoves to have a permanent label indicating they are certified to meet the emission limits. This requirement provides clarity to the code user and is consistent with the United States Environmental Protection Agency's New Source Performance Standards. HCD updated the list of standards which can be used for verification of compliance for exterior grade composite wood products. This list now includes four standards from the Canadian Standards Association (CSA): CSA O121, CSA O151, CSA O153 and CSA O325. HCD updated heating and air-conditioning system design references to the ANSI/ACCA 2 Manual J, ANSI/ACCA 1 Manual D, and ANSI/ACCA 3 Manual S to the most recent versions approved by ANSI. HCD adopted a new elective measure for hot water recirculation systems for water conservation. The United States Department of Energy estimates that 3,600 to 12,000 gallons of water per year can be saved by the typical household (with four points of hot water use) if a hot water recirculation system is installed.

Executive Order B-30-15

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

Executive Order B-29-15

Executive Order B-29-15, mandates a statewide 25 percent reduction in potable water usage. EO B-29-15 was signed into law on April 1, 2015.

Executive Order B-37-16

Executive Order B-37-16, continuing the State's adopted water reductions, was signed into law on May 9, 2016. The water reductions build off the mandatory 25 percent reduction called for in EO B-29-15.

SBX1 2

Signed into law in April 2011, SBX1 2, requires one-third of the State's electricity to come from renewable sources. The legislation increases California's current 20 percent renewables portfolio standard target in 2010 to a 33 percent renewables portfolio standard by December 31, 2020.

Senate Bill 350

Signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

Energy Sector and CEQA Guidelines Appendix F

The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically (typically every three years) to allow for the consideration and inclusion of new energy efficiency technologies and methods. The 2016 update to the Energy Efficiency Standards for Residential and Nonresidential Buildings focuses on several key areas to improve the energy efficiency of renovations and addition to existing buildings as well as newly constructed buildings and renovations and additions to existing buildings. The major efficiency improvements to the residential Standards involve improvements for attics, walls, water heating, and lighting, whereas the major efficiency improvements to the nonresidential Standards include alignment with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2013 national standards. Furthermore, the 2016 update requires that enforcement agencies determine compliance with CCR, Title 24, Part 6 before issuing building permits for any construction.[15]

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."16 As of January 1, 2011, the CALGreen Code is mandatory for all new buildings constructed in the state. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code was most recently updated in 2016 to include new mandatory measures for residential and nonresidential uses; the new measures took effect on January 1, 2017.

[15] California Energy Commission, 2016 Building Energy Efficiency Standards, June 2015, http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf
[16] California Building Standards Commission, 2010 California Green Building Standards Code, (2010).

Regional – South Coast Air Quality Management District

The project is within the South Coast Air Basin, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

SCAQMD Regulation XXVII, Climate Change

SCAQMD Regulation XXVII currently includes three rules:

- The purpose of Rule 2700 is to define terms and post global warming potentials.
- The purpose of Rule 2701, SoCal Climate Solutions Exchange, is to establish a voluntary program to encourage, quantify, and certify voluntary, high quality certified greenhouse gas emission reductions in the SCAQMD.
- Rule 2702, Greenhouse Gas Reduction Program, was adopted on February 6, 2009. The purpose of this rule is to create a Greenhouse Gas Reduction Program for greenhouse gas emission reductions in the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

A variety of agencies have developed greenhouse gas emission thresholds and/or have made recommendations for how to identify a threshold. However, the thresholds for projects in the jurisdiction of the SCAQMD remain in flux. The California Air Pollution Control Officers Association explored a variety of threshold approaches, but did not recommend one approach (2008). The ARB recommended approaches for setting interim significance thresholds (California Air Resources Board 2008b), in which a draft industrial project threshold suggests that non-transportation related emissions under 7,000 MTCO2e per year would be less than significant; however, the ARB has not approved those thresholds and has not published anything since then. The SCAQMD is in the process of developing thresholds, as discussed below.

SCAQMD Threshold Development

On December 5, 2008, the SCAQMD Governing Board adopted an interim greenhouse gas significance threshold for stationary sources, rules, and plans where the SCAQMD is lead agency (SCAQMD permit threshold). The SCAQMD permit threshold consists of five tiers. However, the SCAQMD is not the lead agency for this project. Therefore, the five permit threshold tiers do not apply to the proposed project.

The SCAQMD is in the process of preparing recommended significance thresholds for greenhouse gases for local lead agency consideration ("SCAQMD draft local agency threshold"); however, the SCAQMD Board has not approved the thresholds as of the date of the Notice of Preparation. The current draft thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to a project's operational emissions. If a project's emissions are under one of the following screening thresholds, then the project is less than significant:
  - All land use types: 3,000 MTCO2e per year
  - Based on land use type: residential: 3,500 MTCO2e per year; commercial: 1,400 MTCO2e per year; or mixed use: 3,000 MTCO2e per year.
  - Based on land type: Industrial (where SCAQMD is the lead agency), 10,000 MTCO2e per year.
- Tier 4 has the following options:

- Option 1: Reduce emissions from business as usual (BAU) by a certain percentage; this percentage is currently undefined.
- Option 2: Early implementation of applicable AB 32 Scoping Plan measures.
- Option 3, 2020 target for service populations (SP), which includes residents and employees: 4.8 MTCO2e/SP/year for projects and 6.6 MTCO2e/SP/year for plans;
- Option 3, 2035 target: 3.0 MTCO2e/SP/year for projects and 4.1 MTCO2e/SP/year for plans.

- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's draft threshold uses the Executive Order S-3-05 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap carbon dioxide concentrations at 450 ppm, thus stabilizing global climate. Specifically, the Tier 3 screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects. A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to a CEQA analysis, including a negative declaration, a mitigated negative declaration, or an environmental impact report, which includes analyzing feasible alternatives and imposing feasible mitigation measures. A GHG significance threshold based on a 90 percent emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that staff estimates that these GHG emissions would account for slightly less than one percent of future 2050 statewide GHG emissions target (85 MMTCO2eq/year). In addition, these small projects may be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory. Finally, these small sources are already subject to BACT for criteria pollutants and are more likely to be single-permit facilities, so they are more likely to have few opportunities readily available to reduce GHG emissions from other parts of their facility.

SCAQMD Working Group

Since neither the CARB nor the OPR has developed GHG emissions threshold, the SCAQMD formed a Working Group to develop significance thresholds related to GHG emissions. At the September 28, 2010 Working Group meeting, the SCAQMD released its most current version of the draft GHG emissions thresholds, which recommends a tiered approach that provides a quantitative annual thresholds of 10,000 MTCO2e for industrial uses.

Local – City of Eastvale

The City of Eastvale is part of the Western Riverside Council of Government (WRCOG). The WRCOG adopted the WRCOG Subregional Climate Action Plan (CAP) in September 2014. The Subregional CAP, which sets forth a subregional emissions reduction target, emissions reduction measures, and action steps to assist each community to demonstrate consistency with California's Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32).

The CAP consists of a community-wide emissions reduction target of 15% below 2010 levels by 2020, and 49% below 2010 levels by 2035. As indicated in the CAP, the emission reduction target of 15% from 2010 levels equates to a GHG emissions reduction of nearly 2,330,647 metric tons below business-as-usual (BAU) conditions by 2020. In order to reach these goals, the CAP provides feasible strategies, while affording its communities other economic and environmental benefits.

Emissions reductions are achieved through the efforts of federal, State, and regional programs, in addition to local measures that jurisdictions will implement in their community. State and federal emissions reductions are

primarily achieved through regulations, such as efficiency standards for passenger vehicles (e.g., the Corporate Average Fuel Economy standards), reduction in carbon content of transportation fuels (e.g., the Low Carbon Fuel Standard), and minimum renewable energy supply requirements for utilities (e.g., the Renewables Portfolio Standard). While federal, state, and regional measures are critical to meet emission reduction goals, choices made by each local government, resident, and business owner will determine the subregion's ability to achieve the overall emissions reduction target. Through outreach campaigns, incentives, zoning changes, and ordinances, local communities can achieve additional reductions identified in the CAP.

In addition, the City of Eastvale General Plan Air Quality and Conservation Element has the following policies related to greenhouse gases.

AQ-18 Support local, regional, and statewide efforts to reduce emissions of greenhouse gases linked to climate change.

AQ-19 Analyze and mitigate, to the extent feasible, potentially significant increases in greenhouse gas emissions during project review, pursuant to the California Environmental Quality Act.

AQ-20 Continue to support the planting and maintenance of trees in the community to increase carbon sequestration.

SIGNIFICANCE THRESHOLDS

Appendix G of State CEQA Guidelines

The CEQA Guidelines recommend that a lead agency consider the following when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the project may increase (or reduce) GHG emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;
- The extent to which the project complies with regulations or requirements adopted to implement an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions[17].

Thresholds of Significance for this Project

To determine whether the project's GHG emissions are significant, this analysis uses the SCAQMD draft local agency tier 3 screening threshold of 3,000 MTCO2e per year for all land uses.

METHODOLOGY

The proposed project is anticipated to generate GHG emissions from area sources, energy usage, mobile sources, waste, water, and construction equipment. The following provides the methodology used to calculate the project-related GHG emissions and the project impacts.

CalEEMod Version 2016.3.2 was used to calculate the GHG emissions from the proposed project. The CalEEMod Annual Output for year 2022 is available in Appendix C. Each source of GHG emissions is described in greater detail below.

[17] The Governor's Office of Planning and Research recommendations include a requirement that such a plan must be adopted through a public review process and include specific requirements that reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable, notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. No changes were made to the default area source emissions.

Energy Usage

Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project have been analyzed by inputting the project-generated vehicular trips from the Trip Generation Analysis into the CalEEMod Model. The program then applies the emission factors for each trip which is provided by the EMFAC2014 model to determine the vehicular traffic pollutant emissions. See Section 2 for details.

Waste

Waste includes the GHG emissions generated from the processing of waste from the proposed project as well as the GHG emissions from the waste once it is interred into a landfill. AB 341 requires that 75 percent of waste be diverted from landfills by 2020, reductions for this are shown in the mitigated CalEEMod output values. No other changes were made to the default waste parameters.

Water

Water includes the water used for the interior of the building as well as for landscaping and is based on the GHG emissions associated with the energy used to transport and filter the water. No changes were made to the default water usage parameters.

Construction

The construction-related GHG emissions were also included in the analysis and were based on a 30 year amortization rate as recommended in the SCAQMD GHG Working Group meeting on November 19, 2009. The construction-related GHG emissions were calculated by CalEEMod and detailed above in Section 2.

PROJECT GREENHOUSE GAS EMISSIONS

The GHG emissions have been calculated based on the parameters described above. A summary of the results are shown below in Table 11 and the CalEEMod Model run for the proposed project is provided in Appendix C. Table 11 shows that the total for the proposed project's emissions would be 686.04 MTCO2e per year. According to the thresholds of significance established above, a cumulative global climate change impact would occur if the GHG emissions created from the on-going operations of the proposed project would exceed the SCAQMD draft threshold of 3,000 $MTCO_2e$ per year for all land uses. Therefore, the proposed project would not exceed the draft screening threshold of 3,000 MTCO2e per year for all land uses and operation of the proposed project would not create a significant cumulative impact to global climate change.

Table 11
Project-Related Greenhouse Gas Emissions

Category	Greenhouse Gas Emissions (Metric Tons/Year)					
	Bio-CO2	NonBio-CO_2	CO_2	CH_4	N_2O	CO_2e
Area Sources[1]	0.00	0.01	0.01	0.00	0.00	0.01
Energy Usage[2]	0.00	122.88	122.88	0.00	0.00	123.36
Mobile Sources[3]	0.00	299.19	299.19	0.01	0.00	299.53
Waste[4]	27.26	0.00	27.26	1.61	0.00	67.52
Water[5]	10.48	137.04	147.52	1.08	0.03	182.49
Construction[6]	0.00	13.07	13.07	0.00	0.00	13.13
Total Emissions	37.74	572.19	609.92	2.71	0.03	686.04
SCAQMD Draft Screening Threshold						**3,000**
Exceeds Threshold?						No

Notes:
Source: CalEEMod Version 2016.3.2 for Opening Year 2022.

(1) Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.

(2) Energy usage consist of GHG emissions from electricity and natural gas usage.

(3) Mobile sources consist of GHG emissions from vehicles.

(4) Solid waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.

(5) Water includes GHG emissions from electricity used for transport of water and processing of wastewater.

(6) Construction GHG emissions CO2e based on a 30 year amortization rate.

CONSISTENCY WITH APPLICABLE GREENHOUSE GAS REDUCTION PLANS AND POLICIES

The proposed project could have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. As stated previously, the applicable plan for the proposed project is the WRCOG Subregional Climate Action Plan (CAP).

As stated previously, the SCAQMD's tier 3 thresholds used Executive Order S-3-05 goal as the basis for deriving the screening level. The California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following reduction targets:

- 2010: Reduce greenhouse gas emissions to 2000 levels
- 2020: Reduce greenhouse gas emissions to 1990 levels
- 2050: Reduce greenhouse gas emissions to 80 percent below 1990 levels.

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which was phased in starting in 2012.

Therefore as the project's emissions meet the threshold for compliance with Executive Order S-3-05, the project's emissions also comply with the goals of AB 32 and the WRCOG CAP. Additionally, as the project meets the current interim emissions targets/thresholds established by SCAQMD, the project would also be on track to meet the reduction target of 40 percent below 1990 levels by 2030 mandated by SB-32. Furthermore, the majority of the post 2020 reductions in GHG emissions are addressed via regulatory requirements at the State level, and the project will be required to comply with these regulations as they come into effect.

At a level of 686.04 MTCO2e per year, the project's GHG emissions do not exceed the SCAQMD draft threshold of 3,000 $MTCO_2e$ per year and is in compliance with overall community-wide reduction goals of the WRCOG CAP, AB-32 and SB-32. Furthermore, the project will comply with applicable Green Building Standards and City of Eastvale's policies regarding sustainability (as dictated by the City's General Plan). Impacts are considered to be less than significant.

CUMULATIVE GREENHOUSE GAS IMPACTS

Although the project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. Therefore, in the case of global climate change, the proximity of the project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective."[18] The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change.

The state has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce are predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce statewide GHG emissions. Consistent with CEQA Guidelines Section 15064h(3),[19] the City, as lead agency, has determined that the project's contribution to cumulative GHG emissions and global climate change would be less than significant if the project is consistent with the applicable regulatory plans and policies to reduce GHG emissions.

As discussed above, the project is consistent with the goals and objectives of the WRCOG CAP. Thus, given the project's consistency with the WRCOG CAP and SCAQMD's 3,000 MTCO2e per year threshold, the project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. Given this consistency, it is concluded that the project's incremental contribution to greenhouse gas emissions and their effects on climate change would not be cumulatively considerable.

[18] Source: California Air Pollution Control Officers Association, CEQA & Climate change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, (2008).

[19] The State CEQA Guidelines were amended in response to SB 97. In particular, the State CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction program renders a cumulative impact insignificant. Per State CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions."

4. ENERGY ANALYSIS

EXISTING CONDITIONS

This section provides an overview of the existing energy conditions in the project area and region.

Overview

California's estimated annual energy use as of 2018 included:

- Approximately 194,842 gigawatt hours of electricity;[20]
- Approximately 2,110,829 million cubic feet of natural gas per year[21]; and
- Approximately 23.2 billion gallons of transportation fuel (for the year 2015)[22]

As of 2016, the year of most recent data currently available by the United States Energy Information Administration (EIA), energy use in California by demand sector was:

- Approximately 39.8 percent transportation;
- Approximately 23.7 percent industrial;
- Approximately 17.7 percent residential; and
- Approximately 18.9 percent commercial.[23]

California's electricity in-state generation system generates approximately 194,842 gigawatt-hours each year. In 2018, California produced approximately 68 percent of the electricity it uses; the rest was imported from the Pacific Northwest (approximately 14 percent) and the U.S. Southwest (approximately 18 percent). Natural gas is the main source for electricity generation at approximately 46.54 percent of the total in-state electric generation system power as shown in Table 12.

A summary of and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- Excluding federal offshore areas, California was the fourth-largest producer of crude oil among the 50 states in 2017, after Texas, North Dakota, and Alaska, and, as of January 2018, third in oil refining capacity after Texas and Louisiana.
- In 2016, California accounted for one-fifth of the nation's jet fuel consumption.
- California's total energy consumption is the second-highest in the nation, but, in 2016, the State's per capita energy consumption ranked 48th, due in part to its mild climate and its energy efficiency programs.
- In 2017, California ranked second in the nation in conventional hydroelectric generation and first as a producer of electricity from solar, geothermal, and biomass resources.
- In 2017, solar PV and solar thermal installations provided about 16 percent of California's net electricity generation[24].

[20] California Energy Commission. Energy Almanac. Total Electric Generation. [Online] June 24, 2019. http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html.
[21] Natural Gas Consumption by End Use . U.S. Energy Information Administration. [Online] March 29, 2019. https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm.
[22] California Energy Commission. Revised Transportation Energy Demand Forecast 2018-2030. [Online] April 19, 2018. https://www.energy.ca.gov/assessments/
[23] U.S. Energy Information Administration. California Energy Consumption by End-Use Sector. California State Profile and Energy Estimates.[Online] November 15, 2018 https://www.eia.gov/state/?sid=CA#tabs-2
[24] State Profile and Energy Estimates. Independent Statistics and Analysis. [Online] [Cited: November 15, 2018.] http://www.eia.gov/state/?sid=CA#tabs2.

As indicated above, California is one of the nation's leading energy-producing states, and California per capita energy use is among the nation's most efficient. Given the nature of the proposed project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity and natural gas for shelter uses, and transportation fuel for vehicle trips associated with the proposed project.

Electricity

Electricity would be provided to the project by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons, within a service area encompassing approximately 50,000 square miles.[25] SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers.[26]

Table 13 identifies SCE's specific proportional shares of electricity sources in 2017. As shown in Table 13, the 2017 SCE Power Mix has renewable energy at 29 percent of the overall energy resources, of which biomass and waste is at 2 percent, geothermal is at 4 percent, small hydroelectric is at 3 percent, solar energy is at 10 percent, and wind power is at 10 percent; other energy sources include coal at 4 percent, large hydroelectric at 15 percent, natural gas at 34 percent, nuclear at 9 percent and unspecified sources at 9 percent.

Natural Gas

Natural gas would be provided to the project by Southern California Gas (SoCalGas). The following summary of natural gas resources and service providers, delivery systems, and associated regulation is excerpted from information provided by the California Public Utilities Commission (CPUC).

The CPUC regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller investor-owned natural gas utilities. The CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.

The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers, who accounted for approximately 32 percent of the natural gas delivered by California utilities in 2012. Large consumers, like electric generators and industrial customers, referred to as "noncore" customers, accounted for approximately 68 percent of the natural gas delivered by California utilities in 2012.

The PUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing.

Most of the natural gas used in California comes from out-of-state natural gas basins. In 2012, California customers received 35 percent of their natural gas supply from basins located in the Southwest, 16 percent from Canada, 40 percent from the Rocky Mountains, and 9 percent from basins located within California. California gas utilities may soon also begin receiving biogas into their pipeline systems."[27]

[25] https://www.sce.com/about-us/who-we-are/leadership/our-service-territory
[26] California Energy Commission. Utility Energy Supply plans from 2015. https://www.energy.ca.gov/almanac/electricity_data/supply_forms.html
[27] California Public Utilities Commission. Natural Gas and California. http://www.cpuc.ca.gov/natural_gas/

Transportation Energy Resources

The project would attract additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. Gasoline (and other vehicle fuels) are commercially-provided commodities and would be available to the project patrons and employees via commercial outlets.

The most recent data available (2016) shows the transportation sector emits 41 percent of the total greenhouse gases in the state and about 84 percent of smog-forming oxides of nitrogen (NOx).[28,29] Petroleum comprises about 92 percent of all transportation energy use, excluding fuel consumed for aviation and most marine vessels.[30]

REGULATORY BACKGROUND

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the PUC and the California Energy Commissions (CEC) are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

Federal Regulations

Corporate Average Fuel Economy (CAFE) Standards

First established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.[31]

Intermodal Surface transportation Efficiency Act of 1991 (ISTEA)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

The Transportation Equity Act of the 21st Century (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance

[28] CARB. California Greenhouse Gas Emissions Inventory – 2018 Edition. https://www.arb.ca.gov/cc/inventory/data/data.htm
[29] CARB. 2016 SIP Emission Projection Data. https://www.arb.ca.gov/app/emsinv/2017/emseic1_query.php?F_DIV=-4&F_YR=2012&F_SEASON=A&SP=SIP105ADJ&F_AREA=CA
[30] US Energy Information Administration. Use of Energy in the United States Explained: Energy Use for Transportation. https://www.eia.gov/energyexplained/?page=us_energy_transportation
[31] https://www.nhtsa.gov/lawsregulations/corporate-average-fuel-economy.

of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

State Regulations

Integrated Energy Policy Report (IEPR)

Senate Bill 1389 requires the California Energy Commission (CEC) to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the State's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The recently-approved 2017 Integrated Energy Policy Report Updated (2017 IEPR) was published in April 2018, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2016 IEPR focuses on a variety of topics such as implementation of Senate Bill 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to Senate Bill 1383), updates on Southern California electricity reliability, natural gas outlook, and climate adaptation and resiliency.[32]

State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

California Building Standards Code (Title 24)

The California Building Standards Code Title 24 was previously discussed in Section 4 Air Quality Management of this report.

California Building Energy Efficiency Standards (Title 24, Part 6)

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were adopted to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The current California Building Energy Efficiency Standards (Title 24 standards) are the 2016 Title 24 standards, which became effective on January 1, 2017. The 2016 Title 24 standards include efficiency improvements to the residential standards for attics, walls, water heating, and lighting and efficiency improvements to the non-residential standards include alignment with the American Society of Heating and Air-Conditioning Engineers.

[32] California Energy Commission. Final 2017 Integrated Energy Policy Report. April 16, 2018. https://www.energy.ca.gov/2017_energypolicy/

California Building Energy Efficiency Standards (Title 24, Part 11)

The 2016 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, went into effect on January 1, 2017. The 2016 CALGreen Code includes mandatory measures for non-residential development related to site development; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. Most mandatory measure changes, when compared to the previously applicable 2013 CALGreen Code, were related to the definitions and to the clarification or addition of referenced manuals, handbooks, and standards. For example, several definitions related to energy that were added or revised affect electric vehicle (EV) chargers and charging and hot water recirculation systems. For new multi-family dwelling units, the residential mandatory measures were revised to provide additional EV charging requirements, including quantity, location, size, single EV space, multiple EV spaces, and identification. For nonresidential mandatory measures, the CALGreen table (Table 5.106.5.3.3) identifying the number of required EV charging spaces has been revised in its entirety.

Senate Bill 350

As previously discussed in Section 4 of this report, Senate Bill 350 (SB 350) was signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

Assembly Bill 32

As discussed in Section 4 of this report, in 2006 the California State Legislature adopted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which will be phased in starting in 2012. Emission reductions shall include carbon sequestration projects that would remove carbon from the atmosphere and best management practices that are technologically feasible and cost effective. Please see Section 4 for further detail on AB 32.

Assembly Bill 1493/Pavley Regulations

As discussed Section 4 of this report, California Assembly Bill 1493 enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a "waiver" request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for CO_2 and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the "waiver" request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State's request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009.

Executive Order S-1-07/Low Carbon Fuel Standard

As discussed Section 4 of this report, Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. The low carbon fuel standard is designed to provide a framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

California Air Resources Board

CARB's Advanced Clean Cars Program

Closely associated with the Pavley regulations, the Advanced Clean Cars emissions control program was approved by CARB in 2012. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles for model years 2015–2025.15 The components of the Advanced Clean Cars program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.[33]

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

The Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (Title 13, California Code of Regulations, Division 3, Chapter 10, Section 2435) was adopted to reduce public exposure to diesel particulate matter and other air contaminants by limiting the idling of diesel-fueled commercial motor vehicles. This section applies to diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. Reducing idling of diesel-fueled commercial motor vehicles reduces the amount of petroleum-based fuel used by the vehicle.

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen, and other Criteria Pollutants, form In-Use Heavy-Duty Diesel-Fueled Vehicles

The Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles (Title 13, California Code of Regulations, Division 3, Chapter 1, Section 2025) was adopted to reduce emissions of diesel particulate matter, oxides of nitrogen (NOX) and other criteria pollutants from in-use diesel-fueled vehicles. This regulation is phased, with full implementation by 2023. The regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. The newer emission controlled models would use petroleum-based fuel in a more efficient manner.

[33] California Air Resources Board, California's Advanced Clean Cars Program, January 18, 2017. www.arb.ca.gov/msprog/acc/acc.htm.

Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act of 2008, or Senate Bill 375 (SB 375), coordinates land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction mandates established in AB 32.

As previously stated in Section 3 of this report, Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG) jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, the targets set by CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. These reduction targets became effective October 2018.

PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

Evaluation Criteria

In compliance with Appendix G of the State CEQA Guidelines, this report analyzes the project's anticipated energy use to determine if the project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In addition, Appendix F of the State CEQA Guidelines states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

Methodology

Information from the CalEEMod 2016.3.2 Daily and Annual Outputs contained in Appendix B and C, utilized for air quality and greenhouse gas analyses in Sections 2 and 3 of this report, were also utilized for this analysis. The CalEEMod outputs detail project related construction equipment, transportation energy demands, and facility energy demands.

Construction Energy Demands

The construction schedule is anticipated to occur between the beginning of December 2021 and the end of August 2022 and be completed in one phase. Staging of construction vehicles and equipment will occur on-site. The approximately nine-month schedule is relatively short and the project site is approximately 4 acres.

Construction Equipment Electricity Usage Estimates

As stated previously, Electrical service will be provided by Southern California Edison. The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed project. Based on the 2017 National Construction Estimator, Richard Pray (2017)[34], the typical power cost per 1,000 square feet of building construction per month is estimated to be $2.32. The project plans to develop the site with a 142,839 square feet of self-storage facility use. Based on Table 14, the total power cost of the on-site electricity usage during the construction of the proposed project is estimated to be approximately $2,982.48.

Construction Equipment Fuel Estimates

Fuel consumed by construction equipment would be the primary energy resource expended over the course of project construction. Fuel consumed by construction equipment was evaluated with the following assumptions:

- Construction schedule of 9 months
- All construction equipment was assumed to run on diesel fuel
- Typical daily use of 8 hours, with some equipment operating from ~6-7 hours
- Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp-hr/day (from CARB's 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: (https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf).
- Diesel fuel would be the responsibility of the equipment operators/contractors and would be sources within the region.
- Project construction represents a "single-event" for diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources during long term operation.

Using the CalEEMod data input for the air quality and greenhouse gas analyses (Sections 2 and 3 of this report), the project's construction phase would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB's 2014 Emissions Factors Tables show that on average aggregate fuel consumption (gasoline and diesel fuel) would be approximately 18.5 hp-hr-gal. Table 15 shows the results of the analysis of construction equipment.

As presented in Table 15, project construction activities would consume an estimated 28,375 gallons of diesel fuel. As stated previously, project construction would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

Construction Worker Fuel Estimates

It is assumed that all construction worker trips are from light duty autos (LDA) along area roadways. With respect to estimated VMT, the construction worker trips would generate an estimated 208,505 VMT. Data regarding project related construction worker trips were based on CalEEMod 2016.3.2 model defaults.

Vehicle fuel efficiencies for construction workers were estimated in the air quality and greenhouse gas analyses (Sections 2 and 3 of this report) using information generated using CARB's EMFAC model. An aggregate fuel efficiency of 28.57 miles per gallon (mpg) was used to calculate vehicle miles traveled for construction worker trips. Table 16 shows that an estimated 7,298 gallons of fuel would be consumed for construction worker trips.

[34] Pray, Richard. 2017 National Construction Estimator. Carlsbad : Craftsman Book Company, 2017.

Construction Vendor/Hauling Fuel Estimates

Tables 17 and 18 show the estimated fuel consumption for vendor and hauling during building construction and architectural coating. With respect to estimated VMT, the vendor and hauling trips would generate an estimated 84,252 VMT. Data regarding project related construction worker trips were based on CalEEMod 2016.3.2 model defaults.

For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles. Therefore, vendors delivering construction material or hauling debris from the site during grading would use medium to heavy duty vehicles with an average fuel consumption of 8.5 mpg. Tables 17 and 18 show that an estimated 9,912 gallons of fuel would be consumed for vendor and hauling trips.

Construction Energy Efficiency/Conservation Measures

Construction equipment used over the approximately nine-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

The project would utilize construction contractors which practice compliance with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with these measures would result in a more efficient use of construction-related energy and would minimize or eliminate wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additionally, as required by California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby minimizing or eliminating unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Operational Energy Demands

Energy consumption in support of or related to project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

Transportation Fuel Consumption

Using the CalEEMod output from the air quality and greenhouse gas analyses (Sections 2 and 3 of this report), it is assumed that an average trip for autos and light trucks was assumed to be 16.6 miles and 3- 4-axle trucks were assumed to travel an average of 6.9 miles[35]. To present a worst-case scenario, it was assumed that vehicles would operate 365 days per year rather than the more likely 253 days (excluding weekends and up to 8 holidays). Table 19 shows the estimated annual fuel consumption for all classes of vehicles from autos to heavy-heavy trucks.

[35] CalEEMod default distance for H-W (home-work) or C-W (commercial-work) is 16.6 miles; 6.9 miles for H-O (home-other) or C-O (commercial-other).

The proposed project would generate 157 trips per day. The vehicle fleet mix was used from the CalEEMod output. Table 19 shows that an estimated 45,549 gallons of fuel would be consumed per year for the operation of the proposed project.

Facility Energy Demands (Electricity and Natural Gas)

Building operation and site maintenance (including landscape maintenance) would result in the consumption of electricity (provided by Southern California Edison) and natural gas (provided by Southern California Gas Company). The annual natural gas and electricity demands were provided per the CalEEMod output from the air quality and greenhouse gas analyses (Sections 2 and 3 of this report) and are provided in Table 20.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use, or "plug-in" energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.).

RENEWABLE ENERGY AND ENERGY EFFICIENCY PLAN CONSISTENCY

Regarding federal transportation regulations, the project site is located in an already developed area. Access to/from the project site is from existing roads. These roads are already in place so the project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be proposed pursuant to the ISTEA because SCAG is not planning for intermodal facilities in the project area.

Regarding the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by Southern California Edison and Southern California Gas Company.

Regarding Pavley (AB 1493) regulations, an individual project does not have the ability to comply or conflict with these regulations because they are intended for agencies and their adoption of procedures and protocols for reporting and certifying GHG emission reductions from mobile sources.

Regarding the State's Renewable Energy Portfolio Standards, the project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CalGreen Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

As shown in Section 3 above, the proposed project is consistent with the applicable strategies of the WRCOG CAP.

CONCLUSIONS

As supported by the preceding analyses, project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy. Further, the energy demands of the project can be accommodated within the context of available resources and energy delivery systems. The project would therefore not cause or result in the need for additional energy producing or transmission facilities. The project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California. Notwithstanding, the project proposes self-storage facility uses and will not have any long-term effects on an energy provider's future energy development or future energy conservation strategies.

Table 12
Total Electricity System Power (California 2018)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	California Power Mix (GWh)	Percent California Power Mix
Coal	294	0.15%	399	8,740	9,433	3.30%
Large Hydro	22,096	11.34%	7,418	985	30,499	10.68%
Natural Gas	90,691	46.54%	49	8,904	99,644	34.91%
Nuclear	18,268	9.38%	0	7,573	25,841	9.05%
Oil	35	0.02%	0	0	35	0.01%
Other (Petroleum Coke/Waste Heat)	430	0.22%	0	9	439	0.15%
Renewables	63,028	32.35%	14,074	12,400	89,502	31.36%
Biomass	5,909	3.03%	772	26	6,707	2.35%
Geothermal	11,528	5.92%	171	1269	12,968	4.54%
Small Hydro	4,248	2.18%	334	1	4,583	1.61%
Solar	27,265	13.99%	174	5,094	32,533	11.40%
Wind	14,078	7.23%	12,623	6,010	32,711	11.46%
Unspecified Sources of Power	N/A	N/A	17,576	12,519	30,095	10.54%
Total	194,842	100.00%	39,517	51,130	285,488	100.00%

Notes:

(1) Source: California Energy Commission. Total System electric Generation, June 24, 2019. https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html

Table 13
SCE 2017 Power Content Mix

Energy Resources	2017 SCE Power Mix
Eligible Renewable	29%
Biomass & Waste	2%
Geothermal	4%
Small Hydroelectric	3%
Solar	10%
Wind	10%
Coal	4%
Large Hydroelectric	15%
Natural Gas	34%
Nuclear	9%
Other	<1%
Unspecified Sources of power*	9%
Total	100%

Notes:

(1) https://www.sce.com/sites/default/files/inline-files/2017PCL_0.pdf

* Unspecified sources of power means electricity from transactions that are not traceable to specific generation sources.

Table 14
Project Construction Power Cost and Electricity Usage

Power Cost (per 1,000 square foot of building per month of construction)	Total Building Size (1,000 Square Foot)	Construction Duration (months)	Total Project Construction Power Cost
$2.32	142.839	9	$2,982.48

Table 15
Construction Equipment Fuel Consumption Estimates

Phase	Number of Days	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	HP hrs/day	Total Fuel Consumption (gal diesel fuel)[1]
Demolition	20	Concrete/Industrial Saws	1	8	81	0.73	473	511
	20	Excavators	3	8	158	0.38	1,441	1,558
	20	Rubber Tired Dozers	2	8	247	0.4	1,581	1,709
Site Preparation	5	Tractors/Loaders/Backhoes	1	8	97	0.37	287	78
Grading	8	Excavators	1	8	158	0.38	480	208
	8	Graders	1	8	187	0.41	613	265
	8	Rubber Tired Dozers	1	8	247	0.4	790	342
	8	Tractors/Loaders/Backhoes	3	8	97	0.37	861	372
Building Construction	127	Cranes	1	7	231	0.29	469	3,219
	127	Forklifts	4	8	89	0.2	570	3,910
	127	Generator Sets	1	8	84	0.74	497	3,414
	127	Tractors/Loaders/Backhoes	5	7	97	0.37	1,256	8,623
	127	Welders	2	8	46	0.45	331	2,274
Paving	18	Cement and Mortar Mixers	2	6	9	0.56	60	59
	18	Pavers	1	8	130	0.42	437	425
	18	Paving Equipment	2	6	132	0.36	570	555
	18	Rollers	2	6	80	0.38	365	355
	18	Tractors/Loaders/Backhoes	1	8	97	0.37	287	279
Architectural Coating	18	Air Compressors	1	6	78	0.48	225	219
CONSTRUCTION FUEL DEMAND (gallons of diesel fuel)								28,375

Notes:

(1) Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp. (Source: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)

Table 16
Construction Worker Fuel Consumption Estimates

Phase	Number of Days	Worker Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Demolition	20	15	14.7	4,410	28.57	154
Site Preparation	5	18	14.7	1,323	28.57	46
Grading	8	15	14.7	1,764	28.57	62
Building Construction	127	102	14.7	190,424	28.57	6,665
Paving	18	20	14.7	5,292	28.57	185
Architectural Coating	18	20	14.7	5,292	28.57	185
Total Construction Worker Fuel Consumption						7,298

Notes:

(1) Assumptions for the worker trip length and vehicle miles traveled are consistent with CalEEMod 2016.3.2 defaults.

Table 17
Construction Vendor Fuel Consumption Estimates (MHD Trucks)[1]

Phase	Number of Days	Vendor Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Demolition	20	0	6.9	0	8.5	0
Site Preparation	5	0	6.9	0	8.5	0
Grading	8	0	6.9	0	8.5	0
Building Construction	127	40	6.9	35,052	8.5	4,124
Paving	18	0	6.9	0	8.5	0
Architectural Coating	18	0	6.9	0	8.5	0
Total Construction Worker Fuel Consumption						4,124

Notes:

(1) Assumptions for the vendor trip length and vehicle miles traveled are consistent with CalEEMod 2016.3.2 defaults.

Table 18
Construction Hauling Fuel Consumption Estimates (HHD Trucks)[1]

Phase	Number of Days	Hauling Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Demolition	20	23	20	9,200	8.5	1,082
Site Preparation	5	0	20	0	8.5	0
Grading	8	250	20	40,000	8.5	4,706
Building Construction	127	0	20	0	8.5	0
Paving	18	0	20	0	8.5	0
Architectural Coating	18	0	20	0	8.5	0
Total Construction Worker Fuel Consumption						5,788

Notes:

(1) Assumptions for the hauling trip length and vehicle miles traveled are consistent with CalEEMod 2016.3.2 defaults.

Table 19
Estimated Vehicle Operations Fuel Consumption

Vehicle Type	Vehicle Mix	Number of Vehicles	Average Trip (miles)[1]	Daily VMT	Average Fuel Economy (mpg)	Total Gallons per Day	Total Annual Fuel Consumption (gallons)
Light Auto	Automobile	86	16.6	1,428	28.57	49.97	18,239
Light Truck	Automobile	6	16.6	100	14.08	7.07	2,582
Light Truck	Automobile	29	16.6	481	14.08	34.19	12,479
Medium Truck	Automobile	18	6.9	124	8.5	14.61	5,333
Light Heavy Truck	2-Axle Truck	2	6.9	14	8.5	1.62	593
Light Heavy Truck 10,000 lbs +	2-Axle Truck	1	6.9	7	8.5	0.81	296
Medium Heavy Truck	3-Axle Truck	3	6.9	21	5.85	3.54	1,292
Heavy Heavy Truck	4-Axle Truck	11	6.9	76	5.85	12.97	4,736
Total		157	--	2,250	11.74	124.79	--
Total Annual Fuel Consumption							45,549

Notes:

(1) Based on the size of the site and relative location, trips were assumed to be local rather than regional.

Table 20
Project Annual Operational Energy Demand Summary[1]

Natural Gas Demand	kBTU/year
Unrefrigerated Warehouse-No Rail (Self-Storage Facility)	289,963
Total	289,963

Electricity Demand	kWh/year
Unrefrigerated Warehouse-No Rail (Self-Storage Facility)	337,100
Total	337,100

Notes:

(1) Taken from the CalEEMod 2016.3.2 annual output (Appendix C of this report).

5. EMISSIONS REDUCTION MEASURES

CONSTRUCTION MEASURES

Adherence to SCAQMD Rule 403 is required.

No construction mitigation is required.

OPERATIONAL MEASURES

No operational mitigation is required.

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2008 Final Localized Significance Threshold Methodology, Revised

2012 Final 2012 Air Quality Management Plan

2015 Final MATES-IV Multiple Air Toxics Exposure Study in the South Coast Air Basin. May.

2016 2016 Air Quality Management Plan

2018 Historical Data by Year. 2013, 2014 and 2015 Air Quality Data Tables.
Source: http://www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year

Southern California Association of Governments

2016 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy

U.S. Environmental Protection Agency (EPA)

2017 Understanding Global Warming Potentials
(Source: https://www.epa.gov/ghgemissions/understanding-global-warming-potentials)

U.S. Geological Survey

2011 Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California

Western Riverside Council of Governments (WRCOG)

2014 Subregional Climate Action Plan. September.

APPENDICES

Appendix A Glossary of Terms

Appendix B CalEEMod Model Daily Emissions Printouts

Appendix C CalEEMod Model Annual Emissions Printouts

APPENDIX A

GLOSSARY OF TERMS

AQMP	Air Quality Management Plan
BACT	Best Available Control Technologies
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH_4	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DPM	Diesel particulate matter
EPA	U.S. Environmental Protection Agency
GHG	Greenhouse gas
GWP	Global warming potential
HIDPM	Hazard Index Diesel Particulate Matter
HFCs	Hydrofluorocarbons
IPCC	International Panel on Climate Change
LCFS	Low Carbon Fuel Standard
LST	Localized Significant Thresholds
$MTCO_2e$	Metric tons of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NOx	Nitrogen Oxides
NO_2	Nitrogen dioxide
N_2O	Nitrous oxide
O_3	Ozone
OPR	Governor's Office of Planning and Research
PFCs	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SANBAG	San Bernardino Association of Governments
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SSAB	Salton Sea Air Basin
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SOx	Sulfur Oxides
TAC	Toxic air contaminants
VOC	Volatile organic compounds

APPENDIX B

CALEEMOD MODEL DAILY EMISSIONS PRINTOUTS

19226 Eastvale Self-Storage Facility

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	142.84	1000sqft	1.79	142,839.00	0
Other Asphalt Surfaces	76.54	1000sqft	1.76	76,544.00	0
Other Non-Asphalt Surfaces	22.30	1000sqft	0.51	22,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

19226 Eastvale Self-Storage Facility - Riverside-South Coast County, Summer

Project Characteristics -

Land Use - ~4.08 ac site w/ 142,839 sf self-storage faclity (78,136 sf building footprint = ~1.79 acres), 22,300 sf landcaping, & 76,544 sf paving (includes a parking lot w/ 7 spaces),

Construction Phase - Construction anticipated to start December 2020 and take approximately 9 months to complete.

Off-road Equipment - CalEEMod default timing for Building Construction was decreased by ~45%; therefore, ~45% more equipment added.

Grading - Per applicant, site anticiapted to have up to 2,000 CY of import. Site preparation of ~10% (~0.4 ac) of the project site to remove existing trees/hardscape.

Demolition - Demolition of ~5,000 sf of existing residential buildings.

Vehicle Trips - Per Trip Generation Analysis, 1.10 trips/TSF/day.

Sequestration - Anticipated planting of ~12 new trees.

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Waste Mitigation - AB 341 requires all jurisdictions in CA divert at least 75% of their waste away from landfills by 2020.

Architectural Coating - SCAQMD Rule 1113 limits architectural coatings to 50 g/L VOC for buildings & 100 g/L VOC for parking striping.

Off-road Equipment - Site preparation of only ~10% of site to remove existing trees/hardscape; therefore, only ~10% of CalEEMod defautl equipment needed.

19226 Eastvale Self-Storage Facility - Riverside-South Coast County, Summer

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	127.00
tblGrading	AcresOfGrading	0.00	0.40
tblGrading	MaterialImported	0.00	2,000.00
tblLandUse	LotAcreage	3.28	1.79
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	12.00
tblTripsAndVMT	WorkerTripNumber	3.00	18.00
tblVehicleTrips	ST_TR	1.68	1.10
tblVehicleTrips	SU_TR	1.68	1.10
tblVehicleTrips	WD_TR	1.68	1.10

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.2418	31.7311	22.1525	0.0413	0.4354	1.5531	1.9885	0.0875	1.4427	1.5302	0.0000	3,999.5811	3,999.5811	1.0641	0.0000	4,026.1822
2022	38.6016	27.0805	27.2219	0.0572	7.2982	1.1130	8.2572	3.5666	1.0461	4.4494	0.0000	5,567.0740	5,567.0740	1.0715	0.0000	5,590.8855
Maximum	**38.6016**	**31.7311**	**27.2219**	**0.0572**	**7.2982**	**1.5531**	**8.2572**	**3.5666**	**1.4427**	**4.4494**	**0.0000**	**5,567.0740**	**5,567.0740**	**1.0715**	**0.0000**	**5,590.8855**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.2418	31.7311	22.1525	0.0413	0.2844	1.5531	1.8374	0.0646	1.4427	1.5073	0.0000	3,999.5811	3,999.5811	1.0641	0.0000	4,026.1822
2022	38.6016	27.0805	27.2219	0.0572	3.2820	1.1130	4.2410	1.5095	1.0461	2.3923	0.0000	5,567.0740	5,567.0740	1.0715	0.0000	5,590.8855
Maximum	**38.6016**	**31.7311**	**27.2219**	**0.0572**	**3.2820**	**1.5531**	**4.2410**	**1.5095**	**1.4427**	**2.3923**	**0.0000**	**5,567.0740**	**5,567.0740**	**1.0715**	**0.0000**	**5,590.8855**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**53.89**	**0.00**	**40.67**	**56.92**	**0.00**	**34.78**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.2358	2.3000e-004	0.0247	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0529	0.0529	1.4000e-004		0.0564
Energy	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4611	93.4611	1.7900e-003	1.7100e-003	94.0165
Mobile	0.3194	2.3505	4.2807	0.0188	1.4360	0.0123	1.4483	0.3842	0.0115	0.3957		1,918.0922	1,918.0922	0.0821		1,920.1454
Total	**3.5638**	**2.4286**	**4.3708**	**0.0193**	**1.4360**	**0.0183**	**1.4543**	**0.3842**	**0.0175**	**0.4017**		**2,011.6062**	**2,011.6062**	**0.0841**	**1.7100e-003**	**2,014.2183**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.2358	2.3000e-004	0.0247	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0529	0.0529	1.4000e-004		0.0564
Energy	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4611	93.4611	1.7900e-003	1.7100e-003	94.0165
Mobile	0.3194	2.3505	4.2807	0.0188	1.4360	0.0123	1.4483	0.3842	0.0115	0.3957		1,918.0922	1,918.0922	0.0821		1,920.1454
Total	**3.5638**	**2.4286**	**4.3708**	**0.0193**	**1.4360**	**0.0183**	**1.4543**	**0.3842**	**0.0175**	**0.4017**		**2,011.6062**	**2,011.6062**	**0.0841**	**1.7100e-003**	**2,014.2183**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2021	12/28/2021	5	20	
2	Site Preparation	Site Preparation	12/29/2021	1/4/2022	5	5	
3	Grading	Grading	1/5/2022	1/14/2022	5	8	
4	Building Construction	Building Construction	1/15/2022	7/12/2022	5	127	
5	Paving	Paving	7/13/2022	8/5/2022	5	18	
6	Architectural Coating	Architectural Coating	8/6/2022	8/31/2022	5	18	

Acres of Grading (Site Preparation Phase): 0.4

Acres of Grading (Grading Phase): 4

Acres of Paving: 2.27

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 214,259; Non-Residential Outdoor: 71,420; Striped Parking Area: 5,931 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	4	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	5	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	23.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	1	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	250.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	13	102.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2476	0.0000	0.2476	0.0375	0.0000	0.0375			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.2476**	**1.5513**	**1.7990**	**0.0375**	**1.4411**	**1.4786**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.6000e-003	0.2500	0.0329	8.7000e-004	0.0201	7.6000e-004	0.0209	5.5100e-003	7.3000e-004	6.2400e-003		91.9235	91.9235	5.3400e-003		92.0570
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0767**	**0.2905**	**0.5874**	**2.4700e-003**	**0.1878**	**1.7500e-003**	**0.1895**	**0.0500**	**1.6400e-003**	**0.0516**		**251.6362**	**251.6362**	**9.1500e-003**		**251.8649**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0966	0.0000	0.0966	0.0146	0.0000	0.0146			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.0966**	**1.5513**	**1.6479**	**0.0146**	**1.4411**	**1.4557**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.6000e-003	0.2500	0.0329	8.7000e-004	0.0201	7.6000e-004	0.0209	5.5100e-003	7.3000e-004	6.2400e-003		91.9235	91.9235	5.3400e-003		92.0570
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0767**	**0.2905**	**0.5874**	**2.4700e-003**	**0.1878**	**1.7500e-003**	**0.1895**	**0.0500**	**1.6400e-003**	**0.0516**		**251.6362**	**251.6362**	**9.1500e-003**		**251.8649**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0848	0.0000	0.0848	9.1600e-003	0.0000	9.1600e-003			0.0000			0.0000
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028		300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**	**0.0848**	**0.1118**	**0.1966**	**9.1600e-003**	**0.1028**	**0.1120**		**300.9001**	**300.9001**	**0.0973**		**303.3330**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0853	0.0486	0.6655	1.9200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		191.6552	191.6552	4.5700e-003		191.7694
Total	**0.0853**	**0.0486**	**0.6655**	**1.9200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**191.6552**	**191.6552**	**4.5700e-003**		**191.7694**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0331	0.0000	0.0331	3.5700e-003	0.0000	3.5700e-003			0.0000			0.0000
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028	0.0000	300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**	**0.0331**	**0.1118**	**0.1449**	**3.5700e-003**	**0.1028**	**0.1064**	**0.0000**	**300.9001**	**300.9001**	**0.0973**		**303.3330**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0853	0.0486	0.6655	1.9200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		191.6552	191.6552	4.5700e-003		191.7694
Total	**0.0853**	**0.0486**	**0.6655**	**1.9200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**191.6552**	**191.6552**	**4.5700e-003**		**191.7694**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0848	0.0000	0.0848	9.1600e-003	0.0000	9.1600e-003			0.0000			0.0000
Off-Road	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829		301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**	**0.0848**	**0.0901**	**0.1750**	**9.1600e-003**	**0.0829**	**0.0921**		**301.2390**	**301.2390**	**0.0974**		**303.6746**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0798	0.0438	0.6138	1.8500e-003	0.2012	1.1500e-003	0.2024	0.0534	1.0600e-003	0.0544		184.6523	184.6523	4.1000e-003		184.7549
Total	**0.0798**	**0.0438**	**0.6138**	**1.8500e-003**	**0.2012**	**1.1500e-003**	**0.2024**	**0.0534**	**1.0600e-003**	**0.0544**		**184.6523**	**184.6523**	**4.1000e-003**		**184.7549**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0331	0.0000	0.0331	3.5700e-003	0.0000	3.5700e-003			0.0000			0.0000
Off-Road	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829	0.0000	301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**	**0.0331**	**0.0901**	**0.1232**	**3.5700e-003**	**0.0829**	**0.0865**	**0.0000**	**301.2390**	**301.2390**	**0.0974**		**303.6746**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0798	0.0438	0.6138	1.8500e-003	0.2012	1.1500e-003	0.2024	0.0534	1.0600e-003	0.0544		184.6523	184.6523	4.1000e-003		184.7549
Total	**0.0798**	**0.0438**	**0.6138**	**1.8500e-003**	**0.2012**	**1.1500e-003**	**0.2024**	**0.0534**	**1.0600e-003**	**0.0544**		**184.6523**	**184.6523**	**4.1000e-003**		**184.7549**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5840	0.0000	6.5840	3.3723	0.0000	3.3723			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**6.5840**	**0.9409**	**7.5248**	**3.3723**	**0.8656**	**4.2379**		**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1429	6.1889	0.8667	0.0233	0.5466	0.0171	0.5637	0.1498	0.0164	0.1662		2,469.4672	2,469.4672	0.1392		2,472.9476
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0365	0.5115	1.5400e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		153.8769	153.8769	3.4200e-003		153.9624
Total	**0.2094**	**6.2254**	**1.3782**	**0.0248**	**0.7143**	**0.0181**	**0.7324**	**0.1943**	**0.0173**	**0.2116**		**2,623.3441**	**2,623.3441**	**0.1426**		**2,626.9100**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5678	0.0000	2.5678	1.3152	0.0000	1.3152			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**2.5678**	**0.9409**	**3.5086**	**1.3152**	**0.8656**	**2.1808**	**0.0000**	**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1429	6.1889	0.8667	0.0233	0.5466	0.0171	0.5637	0.1498	0.0164	0.1662		2,469.4672	2,469.4672	0.1392		2,472.9476
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0365	0.5115	1.5400e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		153.8769	153.8769	3.4200e-003		153.9624
Total	**0.2094**	**6.2254**	**1.3782**	**0.0248**	**0.7143**	**0.0181**	**0.7324**	**0.1943**	**0.0173**	**0.2116**		**2,623.3441**	**2,623.3441**	**0.1426**		**2,626.9100**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3848	21.0658	23.1294	0.0365		1.1005	1.1005		1.0344	1.0344		3,437.0103	3,437.0103	0.8551		3,458.3889
Total	**2.3848**	**21.0658**	**23.1294**	**0.0365**		**1.1005**	**1.1005**		**1.0344**	**1.0344**		**3,437.0103**	**3,437.0103**	**0.8551**		**3,458.3889**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0871	3.4923	0.6143	0.0103	0.2561	5.9200e-003	0.2620	0.0737	5.6600e-003	0.0794		1,083.7007	1,083.7007	0.0741		1,085.5521
Worker	0.4523	0.2479	3.4783	0.0105	1.1401	6.5400e-003	1.1467	0.3024	6.0200e-003	0.3084		1,046.3630	1,046.3630	0.0233		1,046.9445
Total	**0.5394**	**3.7402**	**4.0926**	**0.0208**	**1.3962**	**0.0125**	**1.4087**	**0.3761**	**0.0117**	**0.3878**		**2,130.0637**	**2,130.0637**	**0.0973**		**2,132.4966**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3848	21.0658	23.1294	0.0365		1.1005	1.1005		1.0344	1.0344	0.0000	3,437.0103	3,437.0103	0.8551		3,458.3889
Total	**2.3848**	**21.0658**	**23.1294**	**0.0365**		**1.1005**	**1.1005**		**1.0344**	**1.0344**	**0.0000**	**3,437.0103**	**3,437.0103**	**0.8551**		**3,458.3889**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0871	3.4923	0.6143	0.0103	0.2561	5.9200e-003	0.2620	0.0737	5.6600e-003	0.0794		1,083.7007	1,083.7007	0.0741		1,085.5521
Worker	0.4523	0.2479	3.4783	0.0105	1.1401	6.5400e-003	1.1467	0.3024	6.0200e-003	0.3084		1,046.3630	1,046.3630	0.0233		1,046.9445
Total	**0.5394**	**3.7402**	**4.0926**	**0.0208**	**1.3962**	**0.0125**	**1.4087**	**0.3761**	**0.0117**	**0.3878**		**2,130.0637**	**2,130.0637**	**0.0973**		**2,132.4966**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504		1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.2562					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2327**	**9.5221**	**12.1940**	**0.0189**		**0.4877**	**0.4877**		**0.4504**	**0.4504**		**1,805.1297**	**1,805.1297**	**0.5672**		**1,819.3091**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0887	0.0486	0.6820	2.0600e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		205.1692	205.1692	4.5600e-003		205.2832
Total	**0.0887**	**0.0486**	**0.6820**	**2.0600e-003**	**0.2236**	**1.2800e-003**	**0.2248**	**0.0593**	**1.1800e-003**	**0.0605**		**205.1692**	**205.1692**	**4.5600e-003**		**205.2832**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504	0.0000	1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.2562					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2327**	**9.5221**	**12.1940**	**0.0189**		**0.4877**	**0.4877**		**0.4504**	**0.4504**	**0.0000**	**1,805.1297**	**1,805.1297**	**0.5672**		**1,819.3091**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0887	0.0486	0.6820	2.0600e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		205.1692	205.1692	4.5600e-003		205.2832
Total	**0.0887**	**0.0486**	**0.6820**	**2.0600e-003**	**0.2236**	**1.2800e-003**	**0.2248**	**0.0593**	**1.1800e-003**	**0.0605**		**205.1692**	**205.1692**	**4.5600e-003**		**205.2832**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	38.3084					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**38.5129**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0887	0.0486	0.6820	2.0600e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		205.1692	205.1692	4.5600e-003		205.2832
Total	**0.0887**	**0.0486**	**0.6820**	**2.0600e-003**	**0.2236**	**1.2800e-003**	**0.2248**	**0.0593**	**1.1800e-003**	**0.0605**		**205.1692**	**205.1692**	**4.5600e-003**		**205.2832**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	38.3084					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**38.5129**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0887	0.0486	0.6820	2.0600e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		205.1692	205.1692	4.5600e-003		205.2832
Total	**0.0887**	**0.0486**	**0.6820**	**2.0600e-003**	**0.2236**	**1.2800e-003**	**0.2248**	**0.0593**	**1.1800e-003**	**0.0605**		**205.1692**	**205.1692**	**4.5600e-003**		**205.2832**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3194	2.3505	4.2807	0.0188	1.4360	0.0123	1.4483	0.3842	0.0115	0.3957		1,918.0922	1,918.0922	0.0821		1,920.1454
Unmitigated	0.3194	2.3505	4.2807	0.0188	1.4360	0.0123	1.4483	0.3842	0.0115	0.3957		1,918.0922	1,918.0922	0.0821		1,920.1454

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	157.12	157.12	157.12	673,384	673,384
Total	157.12	157.12	157.12	673,384	673,384

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Other Non-Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Unrefrigerated Warehouse-No Rail	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4611	93.4611	1.7900e-003	1.7100e-003	94.0165
NaturalGas Unmitigated	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4611	93.4611	1.7900e-003	1.7100e-003	94.0165

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	794.42	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4611	93.4611	1.7900e-003	1.7100e-003	94.0165
Total		**8.5700e-003**	**0.0779**	**0.0654**	**4.7000e-004**		**5.9200e-003**	**5.9200e-003**		**5.9200e-003**	**5.9200e-003**		**93.4611**	**93.4611**	**1.7900e-003**	**1.7100e-003**	**94.0165**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.79442	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4611	93.4611	1.7900e-003	1.7100e-003	94.0165
Total		**8.5700e-003**	**0.0779**	**0.0654**	**4.7000e-004**		**5.9200e-003**	**5.9200e-003**		**5.9200e-003**	**5.9200e-003**		**93.4611**	**93.4611**	**1.7900e-003**	**1.7100e-003**	**94.0165**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.2358	2.3000e-004	0.0247	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0529	0.0529	1.4000e-004		0.0564
Unmitigated	3.2358	2.3000e-004	0.0247	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0529	0.0529	1.4000e-004		0.0564

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3703					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8632					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.3000e-003	2.3000e-004	0.0247	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0529	0.0529	1.4000e-004		0.0564
Total	**3.2358**	**2.3000e-004**	**0.0247**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**		**0.0529**	**0.0529**	**1.4000e-004**		**0.0564**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3703					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8632					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.3000e-003	2.3000e-004	0.0247	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0529	0.0529	1.4000e-004		0.0564
Total	**3.2358**	**2.3000e-004**	**0.0247**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**		**0.0529**	**0.0529**	**1.4000e-004**		**0.0564**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

19226 Eastvale Self-Storage Facility

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	142.84	1000sqft	1.79	142,839.00	0
Other Asphalt Surfaces	76.54	1000sqft	1.76	76,544.00	0
Other Non-Asphalt Surfaces	22.30	1000sqft	0.51	22,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

19226 Eastvale Self-Storage Facility - Riverside-South Coast County, Winter

Project Characteristics -

Land Use - ~4.08 ac site w/ 142,839 sf self-storage faclity (78,136 sf building footprint = ~1.79 acres), 22,300 sf landcaping, & 76,544 sf paving (includes a parking lot w/ 7 spaces),

Construction Phase - Construction anticipated to start December 2020 and take approximately 9 months to complete.

Off-road Equipment - CalEEMod default timing for Building Construction was decreased by ~45%; therefore, ~45% more equipment added.

Grading - Per applicant, site anticiapted to have up to 2,000 CY of import. Site preparation of ~10% (~0.4 ac) of the project site to remove existing trees/hardscape.

Demolition - Demolition of ~5,000 sf of existing residential buildings.

Vehicle Trips - Per Trip Generation Analysis, 1.10 trips/TSF/day.

Sequestration - Anticipated planting of ~12 new trees.

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Waste Mitigation - AB 341 requires all jurisdictions in CA divert at least 75% of their waste away from landfills by 2020.

Architectural Coating - SCAQMD Rule 1113 limits architectural coatings to 50 g/L VOC for buildings & 100 g/L VOC for parking striping.

Off-road Equipment - Site preparation of only ~10% of site to remove existing trees/hardscape; therefore, only ~10% of CalEEMod defautl equipment needed.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	127.00
tblGrading	AcresOfGrading	0.00	0.40
tblGrading	MaterialImported	0.00	2,000.00
tblLandUse	LotAcreage	3.28	1.79
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	12.00
tblTripsAndVMT	WorkerTripNumber	3.00	18.00
tblVehicleTrips	ST_TR	1.68	1.10
tblVehicleTrips	SU_TR	1.68	1.10
tblVehicleTrips	WD_TR	1.68	1.10

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.2408	31.7342	22.0510	0.0411	0.4354	1.5531	1.9885	0.0875	1.4427	1.5302	0.0000	3,980.8380	3,980.8380	1.0641	0.0000	4,007.4392
2022	38.6002	27.1083	26.6621	0.0558	7.2982	1.1131	8.2575	3.5666	1.0463	4.4497	0.0000	5,418.4645	5,418.4645	1.0841	0.0000	5,444.0993
Maximum	**38.6002**	**31.7342**	**26.6621**	**0.0558**	**7.2982**	**1.5531**	**8.2575**	**3.5666**	**1.4427**	**4.4497**	**0.0000**	**5,418.4645**	**5,418.4645**	**1.0841**	**0.0000**	**5,444.0993**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.2408	31.7342	22.0510	0.0411	0.2844	1.5531	1.8375	0.0646	1.4427	1.5073	0.0000	3,980.8380	3,980.8380	1.0641	0.0000	4,007.4392
2022	38.6002	27.1083	26.6621	0.0558	3.2820	1.1131	4.2412	1.5095	1.0463	2.3926	0.0000	5,418.4645	5,418.4645	1.0841	0.0000	5,444.0993
Maximum	**38.6002**	**31.7342**	**26.6621**	**0.0558**	**3.2820**	**1.5531**	**4.2412**	**1.5095**	**1.4427**	**2.3926**	**0.0000**	**5,418.4645**	**5,418.4645**	**1.0841**	**0.0000**	**5,444.0993**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**53.89**	**0.00**	**40.67**	**56.92**	**0.00**	**34.78**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.2358	2.3000e-004	0.0247	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0529	0.0529	1.4000e-004		0.0564
Energy	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4611	93.4611	1.7900e-003	1.7100e-003	94.0165
Mobile	0.2731	2.3611	3.6499	0.0174	1.4360	0.0124	1.4484	0.3842	0.0116	0.3958		1,774.2297	1,774.2297	0.0839		1,776.3259
Total	**3.5175**	**2.4392**	**3.7400**	**0.0178**	**1.4360**	**0.0184**	**1.4544**	**0.3842**	**0.0176**	**0.4018**		**1,867.7437**	**1,867.7437**	**0.0858**	**1.7100e-003**	**1,870.3988**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.2358	2.3000e-004	0.0247	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0529	0.0529	1.4000e-004		0.0564
Energy	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4611	93.4611	1.7900e-003	1.7100e-003	94.0165
Mobile	0.2731	2.3611	3.6499	0.0174	1.4360	0.0124	1.4484	0.3842	0.0116	0.3958		1,774.2297	1,774.2297	0.0839		1,776.3259
Total	**3.5175**	**2.4392**	**3.7400**	**0.0178**	**1.4360**	**0.0184**	**1.4544**	**0.3842**	**0.0176**	**0.4018**		**1,867.7437**	**1,867.7437**	**0.0858**	**1.7100e-003**	**1,870.3988**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2021	12/28/2021	5	20	
2	Site Preparation	Site Preparation	12/29/2021	1/4/2022	5	5	
3	Grading	Grading	1/5/2022	1/14/2022	5	8	
4	Building Construction	Building Construction	1/15/2022	7/12/2022	5	127	
5	Paving	Paving	7/13/2022	8/5/2022	5	18	
6	Architectural Coating	Architectural Coating	8/6/2022	8/31/2022	5	18	

Acres of Grading (Site Preparation Phase): 0.4

Acres of Grading (Grading Phase): 4

Acres of Paving: 2.27

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 214,259; Non-Residential Outdoor: 71,420; Striped Parking Area: 5,931 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	4	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	5	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	23.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	1	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	250.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	13	102.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2476	0.0000	0.2476	0.0375	0.0000	0.0375			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.2476**	**1.5513**	**1.7990**	**0.0375**	**1.4411**	**1.4786**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.8900e-003	0.2517	0.0383	8.4000e-004	0.0201	7.7000e-004	0.0209	5.5100e-003	7.4000e-004	6.2500e-003		89.6140	89.6140	5.8400e-003		89.7600
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0698	0.0419	0.4476	1.4400e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		143.2790	143.2790	3.3100e-003		143.3618
Total	**0.0757**	**0.2936**	**0.4860**	**2.2800e-003**	**0.1878**	**1.7600e-003**	**0.1895**	**0.0500**	**1.6500e-003**	**0.0516**		**232.8930**	**232.8930**	**9.1500e-003**		**233.1218**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0966	0.0000	0.0966	0.0146	0.0000	0.0146			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.0966**	**1.5513**	**1.6479**	**0.0146**	**1.4411**	**1.4557**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.8900e-003	0.2517	0.0383	8.4000e-004	0.0201	7.7000e-004	0.0209	5.5100e-003	7.4000e-004	6.2500e-003		89.6140	89.6140	5.8400e-003		89.7600
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0698	0.0419	0.4476	1.4400e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		143.2790	143.2790	3.3100e-003		143.3618
Total	**0.0757**	**0.2936**	**0.4860**	**2.2800e-003**	**0.1878**	**1.7600e-003**	**0.1895**	**0.0500**	**1.6500e-003**	**0.0516**		**232.8930**	**232.8930**	**9.1500e-003**		**233.1218**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0848	0.0000	0.0848	9.1600e-003	0.0000	9.1600e-003			0.0000			0.0000
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028		300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**	**0.0848**	**0.1118**	**0.1966**	**9.1600e-003**	**0.1028**	**0.1120**		**300.9001**	**300.9001**	**0.0973**		**303.3330**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0838	0.0503	0.5372	1.7200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		171.9348	171.9348	3.9700e-003		172.0342
Total	**0.0838**	**0.0503**	**0.5372**	**1.7200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**171.9348**	**171.9348**	**3.9700e-003**		**172.0342**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0331	0.0000	0.0331	3.5700e-003	0.0000	3.5700e-003			0.0000			0.0000
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028	0.0000	300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**	**0.0331**	**0.1118**	**0.1449**	**3.5700e-003**	**0.1028**	**0.1064**	**0.0000**	**300.9001**	**300.9001**	**0.0973**		**303.3330**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0838	0.0503	0.5372	1.7200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		171.9348	171.9348	3.9700e-003		172.0342
Total	**0.0838**	**0.0503**	**0.5372**	**1.7200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**171.9348**	**171.9348**	**3.9700e-003**		**172.0342**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0848	0.0000	0.0848	9.1600e-003	0.0000	9.1600e-003			0.0000			0.0000
Off-Road	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829		301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**	**0.0848**	**0.0901**	**0.1750**	**9.1600e-003**	**0.0829**	**0.0921**		**301.2390**	**301.2390**	**0.0974**		**303.6746**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0786	0.0452	0.4947	1.6600e-003	0.2012	1.1500e-003	0.2024	0.0534	1.0600e-003	0.0544		165.6610	165.6610	3.5700e-003		165.7503
Total	**0.0786**	**0.0452**	**0.4947**	**1.6600e-003**	**0.2012**	**1.1500e-003**	**0.2024**	**0.0534**	**1.0600e-003**	**0.0544**		**165.6610**	**165.6610**	**3.5700e-003**		**165.7503**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0331	0.0000	0.0331	3.5700e-003	0.0000	3.5700e-003			0.0000			0.0000
Off-Road	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829	0.0000	301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**	**0.0331**	**0.0901**	**0.1232**	**3.5700e-003**	**0.0829**	**0.0865**	**0.0000**	**301.2390**	**301.2390**	**0.0974**		**303.6746**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0786	0.0452	0.4947	1.6600e-003	0.2012	1.1500e-003	0.2024	0.0534	1.0600e-003	0.0544		165.6610	165.6610	3.5700e-003		165.7503
Total	**0.0786**	**0.0452**	**0.4947**	**1.6600e-003**	**0.2012**	**1.1500e-003**	**0.2024**	**0.0534**	**1.0600e-003**	**0.0544**		**165.6610**	**165.6610**	**3.5700e-003**		**165.7503**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5840	0.0000	6.5840	3.3723	0.0000	3.3723			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**6.5840**	**0.9409**	**7.5248**	**3.3723**	**0.8656**	**4.2379**		**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1505	6.2155	1.0085	0.0227	0.5466	0.0174	0.5640	0.1498	0.0167	0.1665		2,406.8992	2,406.8992	0.1523		2,410.7057
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0655	0.0377	0.4123	1.3800e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		138.0508	138.0508	2.9800e-003		138.1253
Total	**0.2160**	**6.2532**	**1.4208**	**0.0240**	**0.7143**	**0.0184**	**0.7326**	**0.1943**	**0.0176**	**0.2118**		**2,544.9500**	**2,544.9500**	**0.1552**		**2,548.8310**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5678	0.0000	2.5678	1.3152	0.0000	1.3152			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**2.5678**	**0.9409**	**3.5086**	**1.3152**	**0.8656**	**2.1808**	**0.0000**	**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1505	6.2155	1.0085	0.0227	0.5466	0.0174	0.5640	0.1498	0.0167	0.1665		2,406.8992	2,406.8992	0.1523		2,410.7057
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0655	0.0377	0.4123	1.3800e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		138.0508	138.0508	2.9800e-003		138.1253
Total	**0.2160**	**6.2532**	**1.4208**	**0.0240**	**0.7143**	**0.0184**	**0.7326**	**0.1943**	**0.0176**	**0.2118**		**2,544.9500**	**2,544.9500**	**0.1552**		**2,548.8310**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3848	21.0658	23.1294	0.0365		1.1005	1.1005		1.0344	1.0344		3,437.0103	3,437.0103	0.8551		3,458.3889
Total	**2.3848**	**21.0658**	**23.1294**	**0.0365**		**1.1005**	**1.1005**		**1.0344**	**1.0344**		**3,437.0103**	**3,437.0103**	**0.8551**		**3,458.3889**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0926	3.4573	0.7293	9.8900e-003	0.2561	6.1100e-003	0.2622	0.0737	5.8400e-003	0.0796		1,042.7086	1,042.7086	0.0826		1,044.7736
Worker	0.4452	0.2563	2.8034	9.4100e-003	1.1401	6.5400e-003	1.1467	0.3024	6.0200e-003	0.3084		938.7457	938.7457	0.0203		939.2518
Total	**0.5378**	**3.7136**	**3.5327**	**0.0193**	**1.3962**	**0.0127**	**1.4089**	**0.3761**	**0.0119**	**0.3880**		**1,981.4542**	**1,981.4542**	**0.1029**		**1,984.0254**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3848	21.0658	23.1294	0.0365		1.1005	1.1005		1.0344	1.0344	0.0000	3,437.0103	3,437.0103	0.8551		3,458.3889
Total	**2.3848**	**21.0658**	**23.1294**	**0.0365**		**1.1005**	**1.1005**		**1.0344**	**1.0344**	**0.0000**	**3,437.0103**	**3,437.0103**	**0.8551**		**3,458.3889**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0926	3.4573	0.7293	9.8900e-003	0.2561	6.1100e-003	0.2622	0.0737	5.8400e-003	0.0796		1,042.7086	1,042.7086	0.0826		1,044.7736
Worker	0.4452	0.2563	2.8034	9.4100e-003	1.1401	6.5400e-003	1.1467	0.3024	6.0200e-003	0.3084		938.7457	938.7457	0.0203		939.2518
Total	**0.5378**	**3.7136**	**3.5327**	**0.0193**	**1.3962**	**0.0127**	**1.4089**	**0.3761**	**0.0119**	**0.3880**		**1,981.4542**	**1,981.4542**	**0.1029**		**1,984.0254**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504		1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.2562					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2327**	**9.5221**	**12.1940**	**0.0189**		**0.4877**	**0.4877**		**0.4504**	**0.4504**		**1,805.1297**	**1,805.1297**	**0.5672**		**1,819.3091**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0873	0.0503	0.5497	1.8500e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		184.0678	184.0678	3.9700e-003		184.1670
Total	**0.0873**	**0.0503**	**0.5497**	**1.8500e-003**	**0.2236**	**1.2800e-003**	**0.2248**	**0.0593**	**1.1800e-003**	**0.0605**		**184.0678**	**184.0678**	**3.9700e-003**		**184.1670**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504	0.0000	1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.2562					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2327**	**9.5221**	**12.1940**	**0.0189**		**0.4877**	**0.4877**		**0.4504**	**0.4504**	**0.0000**	**1,805.1297**	**1,805.1297**	**0.5672**		**1,819.3091**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0873	0.0503	0.5497	1.8500e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		184.0678	184.0678	3.9700e-003		184.1670
Total	**0.0873**	**0.0503**	**0.5497**	**1.8500e-003**	**0.2236**	**1.2800e-003**	**0.2248**	**0.0593**	**1.1800e-003**	**0.0605**		**184.0678**	**184.0678**	**3.9700e-003**		**184.1670**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	38.3084					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**38.5129**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0873	0.0503	0.5497	1.8500e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		184.0678	184.0678	3.9700e-003		184.1670
Total	**0.0873**	**0.0503**	**0.5497**	**1.8500e-003**	**0.2236**	**1.2800e-003**	**0.2248**	**0.0593**	**1.1800e-003**	**0.0605**		**184.0678**	**184.0678**	**3.9700e-003**		**184.1670**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	38.3084					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**38.5129**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0873	0.0503	0.5497	1.8500e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		184.0678	184.0678	3.9700e-003		184.1670
Total	**0.0873**	**0.0503**	**0.5497**	**1.8500e-003**	**0.2236**	**1.2800e-003**	**0.2248**	**0.0593**	**1.1800e-003**	**0.0605**		**184.0678**	**184.0678**	**3.9700e-003**		**184.1670**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2731	2.3611	3.6499	0.0174	1.4360	0.0124	1.4484	0.3842	0.0116	0.3958		1,774.2297	1,774.2297	0.0839		1,776.3259
Unmitigated	0.2731	2.3611	3.6499	0.0174	1.4360	0.0124	1.4484	0.3842	0.0116	0.3958		1,774.2297	1,774.2297	0.0839		1,776.3259

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	157.12	157.12	157.12	673,384	673,384
Total	157.12	157.12	157.12	673,384	673,384

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Other Non-Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Unrefrigerated Warehouse-No Rail	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4611	93.4611	1.7900e-003	1.7100e-003	94.0165
NaturalGas Unmitigated	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4611	93.4611	1.7900e-003	1.7100e-003	94.0165

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	794.42	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4611	93.4611	1.7900e-003	1.7100e-003	94.0165
Total		**8.5700e-003**	**0.0779**	**0.0654**	**4.7000e-004**		**5.9200e-003**	**5.9200e-003**		**5.9200e-003**	**5.9200e-003**		**93.4611**	**93.4611**	**1.7900e-003**	**1.7100e-003**	**94.0165**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.79442	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4611	93.4611	1.7900e-003	1.7100e-003	94.0165
Total		**8.5700e-003**	**0.0779**	**0.0654**	**4.7000e-004**		**5.9200e-003**	**5.9200e-003**		**5.9200e-003**	**5.9200e-003**		**93.4611**	**93.4611**	**1.7900e-003**	**1.7100e-003**	**94.0165**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.2358	2.3000e-004	0.0247	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0529	0.0529	1.4000e-004		0.0564
Unmitigated	3.2358	2.3000e-004	0.0247	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0529	0.0529	1.4000e-004		0.0564

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3703					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8632					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.3000e-003	2.3000e-004	0.0247	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0529	0.0529	1.4000e-004		0.0564
Total	**3.2358**	**2.3000e-004**	**0.0247**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**		**0.0529**	**0.0529**	**1.4000e-004**		**0.0564**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3703					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8632					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.3000e-003	2.3000e-004	0.0247	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0529	0.0529	1.4000e-004		0.0564
Total	**3.2358**	**2.3000e-004**	**0.0247**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**		**0.0529**	**0.0529**	**1.4000e-004**		**0.0564**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX C

CALEEMOD MODEL ANNUAL EMISSIONS PRINTOUTS

19226 Eastvale Self-Storage Facility

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	142.84	1000sqft	1.79	142,839.00	0
Other Asphalt Surfaces	76.54	1000sqft	1.76	76,544.00	0
Other Non-Asphalt Surfaces	22.30	1000sqft	0.51	22,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

19226 Eastvale Self-Storage Facility - Riverside-South Coast County, Annual

Project Characteristics -

Land Use - ~4.08 ac site w/ 142,839 sf self-storage faclity (78,136 sf building footprint = ~1.79 acres), 22,300 sf landcaping, & 76,544 sf paving (includes a parking lot w/ 7 spaces),

Construction Phase - Construction anticipated to start December 2020 and take approximately 9 months to complete.

Off-road Equipment - CalEEMod default timing for Building Construction was decreased by ~45%; therefore, ~45% more equipment added.

Grading - Per applicant, site anticiapted to have up to 2,000 CY of import. Site preparation of ~10% (~0.4 ac) of the project site to remove existing trees/hardscape.

Demolition - Demolition of ~5,000 sf of existing residential buildings.

Vehicle Trips - Per Trip Generation Analysis, 1.10 trips/TSF/day.

Sequestration - Anticipated planting of ~12 new trees.

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Waste Mitigation - AB 341 requires all jurisdictions in CA divert at least 75% of their waste away from landfills by 2020.

Architectural Coating - SCAQMD Rule 1113 limits architectural coatings to 50 g/L VOC for buildings & 100 g/L VOC for parking striping.

Off-road Equipment - Site preparation of only ~10% of site to remove existing trees/hardscape; therefore, only ~10% of CalEEMod defautl equipment needed.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	127.00
tblGrading	AcresOfGrading	0.00	0.40
tblGrading	MaterialImported	0.00	2,000.00
tblLandUse	LotAcreage	3.28	1.79
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	12.00
tblTripsAndVMT	WorkerTripNumber	3.00	18.00
tblVehicleTrips	ST_TR	1.68	1.10
tblVehicleTrips	SU_TR	1.68	1.10
tblVehicleTrips	WD_TR	1.68	1.10

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0328	0.3203	0.2250	4.2000e-004	4.8300e-003	0.0157	0.0205	9.7000e-004	0.0146	0.0156	0.0000	36.8086	36.8086	9.7900e-003	0.0000	37.0534
2022	0.5511	1.7875	1.9048	4.0200e-003	0.1208	0.0798	0.2005	0.0389	0.0749	0.1138	0.0000	355.2473	355.2473	0.0638	0.0000	356.8421
Maximum	**0.5511**	**1.7875**	**1.9048**	**4.0200e-003**	**0.1208**	**0.0798**	**0.2005**	**0.0389**	**0.0749**	**0.1138**	**0.0000**	**355.2473**	**355.2473**	**0.0638**	**0.0000**	**356.8421**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0328	0.3203	0.2250	4.2000e-004	3.1900e-003	0.0157	0.0189	7.3000e-004	0.0146	0.0153	0.0000	36.8086	36.8086	9.7900e-003	0.0000	37.0533
2022	0.5511	1.7875	1.9048	4.0200e-003	0.1046	0.0798	0.1843	0.0307	0.0749	0.1055	0.0000	355.2470	355.2470	0.0638	0.0000	356.8418
Maximum	**0.5511**	**1.7875**	**1.9048**	**4.0200e-003**	**0.1046**	**0.0798**	**0.1843**	**0.0307**	**0.0749**	**0.1055**	**0.0000**	**355.2470**	**355.2470**	**0.0638**	**0.0000**	**356.8418**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**14.21**	**0.00**	**8.07**	**21.26**	**0.00**	**6.56**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	12-1-2021	2-28-2022	0.9047	0.9047
2	3-1-2022	5-31-2022	0.9108	0.9108
3	6-1-2022	8-31-2022	0.8813	0.8813
		Highest	0.9108	0.9108

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5904	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0000e-003	6.0000e-003	2.0000e-005	0.0000	6.3900e-003
Energy	1.5600e-003	0.0142	0.0119	9.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	122.8808	122.8808	4.7300e-003	1.2000e-003	123.3570
Mobile	0.0499	0.4371	0.6872	3.2300e-003	0.2571	2.2400e-003	0.2593	0.0689	2.1000e-003	0.0710	0.0000	299.1914	299.1914	0.0135	0.0000	299.5290
Waste						0.0000	0.0000		0.0000	0.0000	27.2556	0.0000	27.2556	1.6108	0.0000	67.5246
Water						0.0000	0.0000		0.0000	0.0000	10.4795	137.0411	147.5206	1.0820	0.0266	182.4929
Total	**0.6418**	**0.4513**	**0.7022**	**3.3200e-003**	**0.2571**	**3.3300e-003**	**0.2604**	**0.0689**	**3.1900e-003**	**0.0721**	**37.7351**	**559.1194**	**596.8544**	**2.7110**	**0.0278**	**672.9100**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5904	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0000e-003	6.0000e-003	2.0000e-005	0.0000	6.3900e-003
Energy	1.5600e-003	0.0142	0.0119	9.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	122.8808	122.8808	4.7300e-003	1.2000e-003	123.3570
Mobile	0.0499	0.4371	0.6872	3.2300e-003	0.2571	2.2400e-003	0.2593	0.0689	2.1000e-003	0.0710	0.0000	299.1914	299.1914	0.0135	0.0000	299.5290
Waste						0.0000	0.0000		0.0000	0.0000	6.8139	0.0000	6.8139	0.4027	0.0000	16.8812
Water						0.0000	0.0000		0.0000	0.0000	10.4795	137.0411	147.5206	1.0820	0.0266	182.4929
Total	**0.6418**	**0.4513**	**0.7022**	**3.3200e-003**	**0.2571**	**3.3300e-003**	**0.2604**	**0.0689**	**3.1900e-003**	**0.0721**	**17.2934**	**559.1194**	**576.4127**	**1.5029**	**0.0278**	**622.2665**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**54.17**	**0.00**	**3.42**	**44.56**	**0.00**	**7.53**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	8.4960
Total	**8.4960**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2021	12/28/2021	5	20	
2	Site Preparation	Site Preparation	12/29/2021	1/4/2022	5	5	
3	Grading	Grading	1/5/2022	1/14/2022	5	8	
4	Building Construction	Building Construction	1/15/2022	7/12/2022	5	127	
5	Paving	Paving	7/13/2022	8/5/2022	5	18	
6	Architectural Coating	Architectural Coating	8/6/2022	8/31/2022	5	18	

Acres of Grading (Site Preparation Phase): 0.4

Acres of Grading (Grading Phase): 4

Acres of Paving: 2.27

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 214,259; Non-Residential Outdoor: 71,420; Striped Parking Area: 5,931 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	4	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	5	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	23.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	1	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	250.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	13	102.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.4800e-003	0.0000	2.4800e-003	3.7000e-004	0.0000	3.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**2.4800e-003**	**0.0155**	**0.0180**	**3.7000e-004**	**0.0144**	**0.0148**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	2.5600e-003	3.5000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.8251	0.8251	5.0000e-005	0.0000	0.8264
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	4.3000e-004	4.7200e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3333	1.3333	3.0000e-005	0.0000	1.3341
Total	**7.0000e-004**	**2.9900e-003**	**5.0700e-003**	**2.0000e-005**	**1.8500e-003**	**2.0000e-005**	**1.8700e-003**	**4.9000e-004**	**2.0000e-005**	**5.1000e-004**	**0.0000**	**2.1584**	**2.1584**	**8.0000e-005**	**0.0000**	**2.1604**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.7000e-004	0.0000	9.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**9.7000e-004**	**0.0155**	**0.0165**	**1.5000e-004**	**0.0144**	**0.0146**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	2.5600e-003	3.5000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.8251	0.8251	5.0000e-005	0.0000	0.8264
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	4.3000e-004	4.7200e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3333	1.3333	3.0000e-005	0.0000	1.3341
Total	**7.0000e-004**	**2.9900e-003**	**5.0700e-003**	**2.0000e-005**	**1.8500e-003**	**2.0000e-005**	**1.8700e-003**	**4.9000e-004**	**2.0000e-005**	**5.1000e-004**	**0.0000**	**2.1584**	**2.1584**	**8.0000e-005**	**0.0000**	**2.1604**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1000e-004	0.0000	2.1000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-004	2.8400e-003	3.3900e-003	0.0000		1.7000e-004	1.7000e-004		1.5000e-004	1.5000e-004	0.0000	0.4095	0.4095	1.3000e-004	0.0000	0.4128
Total	**2.8000e-004**	**2.8400e-003**	**3.3900e-003**	**0.0000**	**2.1000e-004**	**1.7000e-004**	**3.8000e-004**	**2.0000e-005**	**1.5000e-004**	**1.7000e-004**	**0.0000**	**0.4095**	**0.4095**	**1.3000e-004**	**0.0000**	**0.4128**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	8.0000e-005	8.5000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2400	0.2400	1.0000e-005	0.0000	0.2401
Total	**1.2000e-004**	**8.0000e-005**	**8.5000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2400**	**0.2400**	**1.0000e-005**	**0.0000**	**0.2401**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.0000e-005	0.0000	8.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-004	2.8400e-003	3.3900e-003	0.0000		1.7000e-004	1.7000e-004		1.5000e-004	1.5000e-004	0.0000	0.4095	0.4095	1.3000e-004	0.0000	0.4128
Total	**2.8000e-004**	**2.8400e-003**	**3.3900e-003**	**0.0000**	**8.0000e-005**	**1.7000e-004**	**2.5000e-004**	**1.0000e-005**	**1.5000e-004**	**1.6000e-004**	**0.0000**	**0.4095**	**0.4095**	**1.3000e-004**	**0.0000**	**0.4128**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	8.0000e-005	8.5000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2400	0.2400	1.0000e-005	0.0000	0.2401
Total	**1.2000e-004**	**8.0000e-005**	**8.5000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2400**	**0.2400**	**1.0000e-005**	**0.0000**	**0.2401**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1000e-004	0.0000	2.1000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6000e-004	1.6800e-003	2.2400e-003	0.0000		9.0000e-005	9.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.2733	0.2733	9.0000e-005	0.0000	0.2755
Total	**1.6000e-004**	**1.6800e-003**	**2.2400e-003**	**0.0000**	**2.1000e-004**	**9.0000e-005**	**3.0000e-004**	**2.0000e-005**	**8.0000e-005**	**1.0000e-004**	**0.0000**	**0.2733**	**0.2733**	**9.0000e-005**	**0.0000**	**0.2755**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	5.2000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1542	0.1542	0.0000	0.0000	0.1542
Total	**7.0000e-005**	**5.0000e-005**	**5.2000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1542**	**0.1542**	**0.0000**	**0.0000**	**0.1542**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.0000e-005	0.0000	8.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6000e-004	1.6800e-003	2.2400e-003	0.0000		9.0000e-005	9.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.2733	0.2733	9.0000e-005	0.0000	0.2755
Total	**1.6000e-004**	**1.6800e-003**	**2.2400e-003**	**0.0000**	**8.0000e-005**	**9.0000e-005**	**1.7000e-004**	**1.0000e-005**	**8.0000e-005**	**9.0000e-005**	**0.0000**	**0.2733**	**0.2733**	**9.0000e-005**	**0.0000**	**0.2755**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	5.2000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1542	0.1542	0.0000	0.0000	0.1542
Total	**7.0000e-005**	**5.0000e-005**	**5.2000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1542**	**0.1542**	**0.0000**	**0.0000**	**0.1542**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0263	0.0000	0.0263	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7900e-003	0.0834	0.0611	1.2000e-004		3.7600e-003	3.7600e-003		3.4600e-003	3.4600e-003	0.0000	10.4219	10.4219	3.3700e-003	0.0000	10.5062
Total	**7.7900e-003**	**0.0834**	**0.0611**	**1.2000e-004**	**0.0263**	**3.7600e-003**	**0.0301**	**0.0135**	**3.4600e-003**	**0.0170**	**0.0000**	**10.4219**	**10.4219**	**3.3700e-003**	**0.0000**	**10.5062**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.8000e-004	0.0253	3.7100e-003	9.0000e-005	2.1500e-003	7.0000e-005	2.2200e-003	5.9000e-004	7.0000e-005	6.6000e-004	0.0000	8.8657	8.8657	5.3000e-004	0.0000	8.8788
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.7400e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5139	0.5139	1.0000e-005	0.0000	0.5141
Total	**8.2000e-004**	**0.0254**	**5.4500e-003**	**1.0000e-004**	**2.8100e-003**	**7.0000e-005**	**2.8800e-003**	**7.7000e-004**	**7.0000e-005**	**8.4000e-004**	**0.0000**	**9.3795**	**9.3795**	**5.4000e-004**	**0.0000**	**9.3930**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0103	0.0000	0.0103	5.2600e-003	0.0000	5.2600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7900e-003	0.0834	0.0611	1.2000e-004		3.7600e-003	3.7600e-003		3.4600e-003	3.4600e-003	0.0000	10.4219	10.4219	3.3700e-003	0.0000	10.5062
Total	**7.7900e-003**	**0.0834**	**0.0611**	**1.2000e-004**	**0.0103**	**3.7600e-003**	**0.0140**	**5.2600e-003**	**3.4600e-003**	**8.7200e-003**	**0.0000**	**10.4219**	**10.4219**	**3.3700e-003**	**0.0000**	**10.5062**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.8000e-004	0.0253	3.7100e-003	9.0000e-005	2.1500e-003	7.0000e-005	2.2200e-003	5.9000e-004	7.0000e-005	6.6000e-004	0.0000	8.8657	8.8657	5.3000e-004	0.0000	8.8788
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.7400e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5139	0.5139	1.0000e-005	0.0000	0.5141
Total	**8.2000e-004**	**0.0254**	**5.4500e-003**	**1.0000e-004**	**2.8100e-003**	**7.0000e-005**	**2.8800e-003**	**7.7000e-004**	**7.0000e-005**	**8.4000e-004**	**0.0000**	**9.3795**	**9.3795**	**5.4000e-004**	**0.0000**	**9.3930**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1514	1.3377	1.4687	2.3200e-003		0.0699	0.0699		0.0657	0.0657	0.0000	197.9932	197.9932	0.0493	0.0000	199.2248
Total	**0.1514**	**1.3377**	**1.4687**	**2.3200e-003**		**0.0699**	**0.0699**		**0.0657**	**0.0657**	**0.0000**	**197.9932**	**197.9932**	**0.0493**	**0.0000**	**199.2248**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6500e-003	0.2231	0.0424	6.4000e-004	0.0160	3.8000e-004	0.0164	4.6300e-003	3.6000e-004	4.9900e-003	0.0000	61.4361	61.4361	4.4800e-003	0.0000	61.5481
Worker	0.0260	0.0168	0.1878	6.1000e-004	0.0712	4.2000e-004	0.0716	0.0189	3.8000e-004	0.0193	0.0000	55.4698	55.4698	1.2100e-003	0.0000	55.4999
Total	**0.0317**	**0.2400**	**0.2303**	**1.2500e-003**	**0.0872**	**8.0000e-004**	**0.0880**	**0.0235**	**7.4000e-004**	**0.0243**	**0.0000**	**116.9059**	**116.9059**	**5.6900e-003**	**0.0000**	**117.0480**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1514	1.3377	1.4687	2.3200e-003		0.0699	0.0699		0.0657	0.0657	0.0000	197.9930	197.9930	0.0493	0.0000	199.2245
Total	**0.1514**	**1.3377**	**1.4687**	**2.3200e-003**		**0.0699**	**0.0699**		**0.0657**	**0.0657**	**0.0000**	**197.9930**	**197.9930**	**0.0493**	**0.0000**	**199.2245**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6500e-003	0.2231	0.0424	6.4000e-004	0.0160	3.8000e-004	0.0164	4.6300e-003	3.6000e-004	4.9900e-003	0.0000	61.4361	61.4361	4.4800e-003	0.0000	61.5481
Worker	0.0260	0.0168	0.1878	6.1000e-004	0.0712	4.2000e-004	0.0716	0.0189	3.8000e-004	0.0193	0.0000	55.4698	55.4698	1.2100e-003	0.0000	55.4999
Total	**0.0317**	**0.2400**	**0.2303**	**1.2500e-003**	**0.0872**	**8.0000e-004**	**0.0880**	**0.0235**	**7.4000e-004**	**0.0243**	**0.0000**	**116.9059**	**116.9059**	**5.6900e-003**	**0.0000**	**117.0480**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.7900e-003	0.0857	0.1098	1.7000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	14.7383	14.7383	4.6300e-003	0.0000	14.8540
Paving	2.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0111**	**0.0857**	**0.1098**	**1.7000e-004**		**4.3900e-003**	**4.3900e-003**		**4.0500e-003**	**4.0500e-003**	**0.0000**	**14.7383**	**14.7383**	**4.6300e-003**	**0.0000**	**14.8540**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	4.7000e-004	5.2200e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.5415	1.5415	3.0000e-005	0.0000	1.5424
Total	**7.2000e-004**	**4.7000e-004**	**5.2200e-003**	**2.0000e-005**	**1.9800e-003**	**1.0000e-005**	**1.9900e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.5415**	**1.5415**	**3.0000e-005**	**0.0000**	**1.5424**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.7900e-003	0.0857	0.1098	1.7000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	14.7383	14.7383	4.6300e-003	0.0000	14.8540
Paving	2.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0111**	**0.0857**	**0.1098**	**1.7000e-004**		**4.3900e-003**	**4.3900e-003**		**4.0500e-003**	**4.0500e-003**	**0.0000**	**14.7383**	**14.7383**	**4.6300e-003**	**0.0000**	**14.8540**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	4.7000e-004	5.2200e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.5415	1.5415	3.0000e-005	0.0000	1.5424
Total	**7.2000e-004**	**4.7000e-004**	**5.2200e-003**	**2.0000e-005**	**1.9800e-003**	**1.0000e-005**	**1.9900e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.5415**	**1.5415**	**3.0000e-005**	**0.0000**	**1.5424**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3448					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017
Total	**0.3466**	**0.0127**	**0.0163**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.5000e-004**	**0.0000**	**2.3017**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	4.7000e-004	5.2200e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.5415	1.5415	3.0000e-005	0.0000	1.5424
Total	**7.2000e-004**	**4.7000e-004**	**5.2200e-003**	**2.0000e-005**	**1.9800e-003**	**1.0000e-005**	**1.9900e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.5415**	**1.5415**	**3.0000e-005**	**0.0000**	**1.5424**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3448					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017
Total	**0.3466**	**0.0127**	**0.0163**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.5000e-004**	**0.0000**	**2.3017**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	4.7000e-004	5.2200e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.5415	1.5415	3.0000e-005	0.0000	1.5424
Total	**7.2000e-004**	**4.7000e-004**	**5.2200e-003**	**2.0000e-005**	**1.9800e-003**	**1.0000e-005**	**1.9900e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.5415**	**1.5415**	**3.0000e-005**	**0.0000**	**1.5424**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0499	0.4371	0.6872	3.2300e-003	0.2571	2.2400e-003	0.2593	0.0689	2.1000e-003	0.0710	0.0000	299.1914	299.1914	0.0135	0.0000	299.5290
Unmitigated	0.0499	0.4371	0.6872	3.2300e-003	0.2571	2.2400e-003	0.2593	0.0689	2.1000e-003	0.0710	0.0000	299.1914	299.1914	0.0135	0.0000	299.5290

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	157.12	157.12	157.12	673,384	673,384
Total	157.12	157.12	157.12	673,384	673,384

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Other Non-Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Unrefrigerated Warehouse-No Rail	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	107.4073	107.4073	4.4300e-003	9.2000e-004	107.7916
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	107.4073	107.4073	4.4300e-003	9.2000e-004	107.7916
NaturalGas Mitigated	1.5600e-003	0.0142	0.0119	9.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	15.4735	15.4735	3.0000e-004	2.8000e-004	15.5655
NaturalGas Unmitigated	1.5600e-003	0.0142	0.0119	9.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	15.4735	15.4735	3.0000e-004	2.8000e-004	15.5655

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	289963	1.5600e-003	0.0142	0.0119	9.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	15.4735	15.4735	3.0000e-004	2.8000e-004	15.5655
Total		**1.5600e-003**	**0.0142**	**0.0119**	**9.0000e-005**		**1.0800e-003**	**1.0800e-003**		**1.0800e-003**	**1.0800e-003**	**0.0000**	**15.4735**	**15.4735**	**3.0000e-004**	**2.8000e-004**	**15.5655**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	289963	1.5600e-003	0.0142	0.0119	9.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	15.4735	15.4735	3.0000e-004	2.8000e-004	15.5655
Total		**1.5600e-003**	**0.0142**	**0.0119**	**9.0000e-005**		**1.0800e-003**	**1.0800e-003**		**1.0800e-003**	**1.0800e-003**	**0.0000**	**15.4735**	**15.4735**	**3.0000e-004**	**2.8000e-004**	**15.5655**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	337100	107.4073	4.4300e-003	9.2000e-004	107.7916
Total		**107.4073**	**4.4300e-003**	**9.2000e-004**	**107.7916**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	337100	107.4073	4.4300e-003	9.2000e-004	107.7916
Total		**107.4073**	**4.4300e-003**	**9.2000e-004**	**107.7916**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5904	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0000e-003	6.0000e-003	2.0000e-005	0.0000	6.3900e-003
Unmitigated	0.5904	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0000e-003	6.0000e-003	2.0000e-005	0.0000	6.3900e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0676					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5225					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.9000e-004	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0000e-003	6.0000e-003	2.0000e-005	0.0000	6.3900e-003
Total	**0.5904**	**3.0000e-005**	**3.0900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.0000e-003**	**6.0000e-003**	**2.0000e-005**	**0.0000**	**6.3900e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0676					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5225					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.9000e-004	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0000e-003	6.0000e-003	2.0000e-005	0.0000	6.3900e-003
Total	**0.5904**	**3.0000e-005**	**3.0900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.0000e-003**	**6.0000e-003**	**2.0000e-005**	**0.0000**	**6.3900e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	147.5206	1.0820	0.0266	182.4929
Unmitigated	147.5206	1.0820	0.0266	182.4929

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	33.0318 / 0	147.5206	1.0820	0.0266	182.4929
Total		**147.5206**	**1.0820**	**0.0266**	**182.4929**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	33.0318 / 0	147.5206	1.0820	0.0266	182.4929
Total		**147.5206**	**1.0820**	**0.0266**	**182.4929**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.8139	0.4027	0.0000	16.8812
Unmitigated	27.2556	1.6108	0.0000	67.5246

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	134.27	27.2556	1.6108	0.0000	67.5246
Total		**27.2556**	**1.6108**	**0.0000**	**67.5246**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	33.5675	6.8139	0.4027	0.0000	16.8812
Total		**6.8139**	**0.4027**	**0.0000**	**16.8812**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	8.4960	0.0000	0.0000	8.4960

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	12	8.4960	0.0000	0.0000	8.4960
Total		**8.4960**	**0.0000**	**0.0000**	**8.4960**

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APPENDIX 6:
Biological Resources Assessment

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47 1st Street, Suite 1
Redlands, CA 92373-4601
(909) 307-5633

November 4, 2019

Gossett Development, Inc.
Attn: Garrett Gossett
207 Monarch Bay
Dana Point, CA 92629

RE: BURROWING OWL - NARROW ENDEMIC PLANT - RIVERINE RIPARIAN AND VERNAL POOLS AREA HABITAT ASSESSMENTS AND JURISDICTIONAL DELINEATION
EASTVALE SELF-STORAGE FACILITY -APNs 144-120-002, 144-120-003 AND 144-120-020
CITY OF CORONA, RIVERSIDE COUNTY, CA

Dear Mr. Gossett:

Jericho Systems, Inc. (Jericho) is pleased to provide this Biological Resources Assessment (BRA), burrowing owl (*Athene cunicularia*) [BUOW], narrow endemic plant, riverine riparian and vernal pools area habitat assessments and jurisdictional delineation prepared for the Eastvale Self-storage Development Project (Project) along the north side of Chandler Street, south of Walters Street, east of Hall Avenue, and west of Selby Avenue in the City of Corona, Riverside County, California. The 4.12- acre site comprises three Assessor Parcel Numbers (APNs) 144-120-002, 144-120-003 AND 144-120-004 and can be found in in the northwest portion of the *Corona North* 7.5' USGS quadrangle map in Section 34, Township 2 South, Range 7 West (Figures 1 and 2).

The Project site location is subject to compliance with the Western Riverside County Multi Species Habitat Conservation Plan (MSHCP) policies. The City of Corona is a signatory to the MSHCP and according to the Riverside Conservation Authority (RCA) MSHCP Information Map, the Project site is not in a cell group, criteria cell, in the Stephen's Kangaroo Rat Plan Fee area or an area that requires surveys for amphibians, criteria area species, or mammals. The Project site is however, in an area requiring burrowing owl (*Athene cunicularia*) [BUOW], San Diego ambrosia (*Ambrosia pumila*), Brand's phacelia (*Phacelia stellaris*), and San Miguel savory (*Clinopodium chandleri*) habitat assessments and surveys if suitable habitat is present.

For the Project site, habitat suitability assessments for burrowing owl (MSHCP section 6.3.2), MSHCP Riparian/Riverine resources (MSHCP section 6.1.2) and narrow endemic plants was required and conducted. The site was also evaluated for the presence jurisdictional waters, subject to the federal Clean Water Act (CWA), Porter-Cologne (Porter-Cologne) and California Fish and Game Code (FGC) regulations. Jurisdictional resources subject to the CWA regulations include non-wetland waters and wetland waters of the U.S. (WoUS) whereas jurisdictional resources subject to Porter-Cologne include non-wetland waters and waters of the State (WoS) respectively. The California FGC encompasses the resources that constitute a stream or river, including associated riparian vegetation and floodplain.

Evaluation of Riparian/Riverine resources followed guidance provided in the MSHCP Section 6.1.2. Potential federal jurisdiction followed the regulations set forth in 33CFR part 328 and the USACE guidance documents and evaluation of potential State jurisdiction followed guidance in the Fish and Game Code and A Review of Stream Processes and Forms in Dryland Watersheds and MESA Field Guide (CDFW, 2010 and 2012 respectively).

The results of Jericho's field surveys are intended to provide sufficient baseline information to the City of Corona, RCA and, if required, to federal and State regulatory agencies, including U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), respectively, to determine if impacts will occur, quantify those impacts and to identify mitigation measures to offset any impacts.

PROJECT DESCRIPTION

The Project will develop approximately for a self-storage facility. The proposed project consists of the development of a self-storage facility on 4.12 acres encompassing three parcels (APNs 144-120-002, 144-120-003 and 144-120-004) where housing and livestock currently reside.

METHODS

Prior to the field investigation, reference materials and databases relevant to the Project site were reviewed for the *Corona North* and *Prado Dam* 7.5-minute USGS quadrangles to determine which species and/or habitats would be expected to occur on site. The database search included the *Corona North* and *Prado Dam* USGS Quads due to the Project site's proximity to these Quads. The literature review sources included:

- California Natural Diversity Database (CNDDB) *Rarefind 5*;
- CNDDB Biogeographic Information and Observation System (BIOS);
- USDA Natural Resources Conservation Service (NRCS) Web Soil Survey;
- USFWS National Wetland Inventory;
- Environmental Protection Agency (EPA) Water Program "My Waters" data layers
- California Native Plant Society Electronic Inventory (CNPSEI) database;
- Calflora database
- Google Earth Pro historic aerial imagery (1994-2018)
- County/City habitat conservation plans and other sensitive resource policies;
- RCA MSHCP Information Map

On October 15, 2019, Jericho biologist Christian Nordal conducted the field survey during calm weather, between the hours of 7:00 am and 11:00 am. Weather conditions during the survey consisted of partly cloudy skies with a temperature range between 69° and 75° F and no wind. Mr. Nordal walked transects spaced at 30-foot intervals to provide 100 percent visual coverage of the ground surface. The field surveys were designed to identify areas of potentially suitable habitat for narrow endemic plants, BUOW habitat and any features on site that meet the criteria for being federally or state jurisdictional and/or being a riverine/riparian and vernal pool areas as defined by the MSHCP.

Narrow endemic plants

The plant communities were evaluated for their potential to support special-status plant and wildlife species. Plant communities were identified and confirmed during field visit using the Western Riverside County RCA 2012 Vegetation map. The mapped plant communities were digitized using Geographic Information System (GIS) software, and acreages were calculated based on the vegetation types on site. Plant communities were determined in accordance with the categories described in Holland (1986) and Oberbauer (2008). Plant nomenclature follows that of The Jepson Manual: Higher Plants of California (Hickman 1993).

The MSHCP states that in general, habitat suitability assessments may be undertaken year-round, with the exception of vernal pool species for which habitat suitability assessments must be conducted during the rainy season. The Project site falls within a Narrow Endemic Plant Species Survey Area (NEPSSA) for San Diego

ambrosia (*Ambrosia pumila*), Brand's phacelia (*Phacelia stellaris*), and San Miguel savory (*Clinopodium chandleri*).

Burrowing owl

The BUOW habitat suitability assessment was conducted in accordance with the Western Riverside County MSHCP, which follows the 1993 *"Burrowing Owl Survey Protocol and Mitigation Guidelines"* prepared by the California Burrowing Owl Consortium. If suitable habitat is present, this protocol requires four (4) surveys between April 15 and July 15 with the first site survey counting as one survey period.

Natural and non-natural substrates were examined for potential burrow sites. If a burrow was encountered it was examined for shape, size, molted feathers, whitewash, cast pellets and/or prey remains. Date time and weather conditions were logged. A hand-held, global positioning system (GPS) unit was used to survey straight transects, to identify survey area boundaries, and for other pertinent information. Representative photographs of the survey area were taken, and Google Earth Pro was accessed to provide recent aerial photographs of the project site and surrounding area.

Riverside County also requires that any survey limitations be identified. No limitations significantly affected the results and conclusions given herein. No private property was surveyed without owner permission and buffer area transects were not surveyed within the areas occupied by existing development. Surveys were conducted during the appropriate season to observe the target species, in good weather conditions, by a qualified biologist who followed all pertinent protocols. Mr. Nordal has an advanced degrees in biology and multiple years of experience surveying biological resources within Southern California.

Riverine/Riparian Areas and Jurisdictional Waters

On October 15, 2019, Mr. Nordal evaluated the Project site for the presence of riverine/riparian and vernal pool areas and jurisdictional waters, i.e. waters of the U.S. and/or streambed and associated riparian habitat. There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredge and/or fill materials into "waters of the United States" pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the Regional Board regulates discharges into surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act and the CDFW regulates alterations to streambed and associated plant communities pursuant to Section 1602 of the California Fish and Game Code (FGC).

Reference materials relevant to the Project site were reviewed, including historical and current aerial imagery, Federal Emergency Management Agency (FEMA) flood insurance rate maps (FIRM), National Oceanic & Atmospheric Administration (NOAA) climate data, USFWS National Wetland Inventory (NWI) and EPA Water Program "My Waters" data layers and United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) web soil survey. The data provided in the Web Soil Survey provides a standard basis for the soil textures and types that are assigned a hydric indicator status of "hydric" or "non-hydric" by the National Technical Committee for Hydric Soils.

Mr. Nordal assessed the site's vegetation type and structure, soil type and structure, and hydrology characteristics. He also conducted a wetland investigation based on the three-parameter approach (vegetation, soil, and hydrology). In order to be considered a jurisdictional wetland under the federal Clean Water Act, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology.

<u>Hydrophytic vegetation</u>

Hydrophytic (wetland) vegetation is plant life that grows, and is typically adapted for life, in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, and herb layers) is considered hydrophytic. To be considered hydrophytic, the species must have wetland indicator status, i.e., be rated as Obligate Wetland (OBL), Facultative Wetland (FACW) or Facultative (FAC).

Table 1
Wetland Indicator Vegetation Categories

Category	Probability
Obligate Wetland (OBL)	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability 67 to 99%)
Facultative (FAC)	Equally likely to occur in wetlands and non-wetlands (estimated probability 34 to 66%)
Facultative Upland (FACU)	Usually occur in non-wetlands (estimated probability 67 to 99%)
Obligate Upland (UPL)	Almost always occur in non-wetlands (estimated probability >99%)

Hydric Soil

Hydric soils are saturated or inundated long enough during the growing season to develop anaerobic conditions that favor growth and regeneration of hydrophytic vegetation. Generally, hydric soils are dark in color or may be gleyed (bluish, greenish, or grayish), resulting from soil development under anoxic (without oxygen) conditions. Bright mottles within an otherwise dark soil matrix indicate periodic saturation with intervening periods of soil aeration. The hydric soil criterion is satisfied at a location if soils in the area can be inferred or observed to have a high groundwater table, if there is evidence of prolonged soil saturation, or if there are any indicators suggesting a long-term reducing environment in the upper part of the soil profile. Reducing conditions are most easily assessed using soil color. Color characteristics (Hue, Value, and Chroma) were recorded using a standard Munsell soil color chart (Munsell Color 2009).
If the soils exhibited low chroma colors and/or evidence of reducing conditions, then the hydric soil criterion were met per USACE (1987 and 2012).

Wetland Hydrology

Hydrology (water depth, extent of inundation, period of inundation) determines all other wetland characteristics. Federal Regulation 33 CFR 328.3(b) defines "wetlands" as "those areas that are inundated or saturated by surface 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." According to the Corps' 1987 Wetland Delineation Manual, the primary hydrologic test to determine soil saturation was whether the area's water table rises to within 18 inches of the surface for seven consecutive days during the growing season (February-June).

CWA waters

The methods used in this study to delineate the non-wetland WoUS at the Ordinary High Water Mark (OHWM) in variable, ephemeral, intermittent, or perennial non-wetland waters followed guidance described in *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (Lichvar and McColley 2008) and the *Updated Datasheet for the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* ("Updated Datasheet", Curtis and Lichvar 2010).

State Streambed Waters

Evaluation of FGC Section 1600 Streambed Waters followed guidance in the Mapping Episodic Stream Activity (MESA) protocols *[MESA Field Guide*], pursuant to which CDFW claims jurisdiction beyond traditional stream banks and the outer edge of riparian. Under MESA, the term stream is defined broadly to include "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic regime [i.e., 'circa 1800 to the present'], and where the width of its course can reasonably be identified by physical or biological indicators."

MSHCP riparian/riverine or vernal pool areas

The methods used to determine any riparian/riverine or vernal pool areas were based on the above techniques as well as soils evaluations and vegetation classifications. This is because an area may be characterized as riparian based on its vegetative composition, but not meet the criteria of being federal or state jurisdictional water.

RESULTS

Regional Setting

According to the EPA Regional map, the Project site is located in the Inland Valleys (85k) ecoregion. An ecoregion is a regional area that has similar ecosystems in terms of type, quality, and quantity of environmental resources. The Inland Valleys ecoregion is influenced less by marine processes, and more by alluvial processes. The ecoregion consists of alluvial fans and basin floors at the base of the San Bernardino and San Gabriel mountains and the San Jacinto and Perris Valleys in the south. The region was historically composed of Riversidean coastal sage scrub, valley grasslands, and riparian woodlands. The ecoregion is now heavily urbanized with some remaining agriculture.

The regional climate is classified as warm-summer Mediterranean. Over the course of the year, the temperature typically varies from 37°F to 92°F with extremes of 100°F in July/August to 30° in January. The average rainfall is 23 inches per year and also averages 274 sunny days per year.

Existing Site Conditions

Topography

The topography of the Project site gently to moderately sloped from the north/northeast to the south/southwest. The subject property has an altitude of 562 feet above mean sea level (MSL) along the northwestern corner dropping to 575 feet above MSL at the southeastern portion.

Soils

Soils on site consists of 64% Waukena fine sandy loam, saline-alkali which covers the southern portion of the parcel and 36% Chino silt loam which covers the northern portion of the Site (Figure 3). These soil types are generally considered moist/poorly drained during cooler times of the year and dry during hotter times (USDA, Natural Resources Conservation Service).

Vegetation

The ground cover consisted of bare ground/cow manure and with a small amount (10% > ground cover) of ruderal weedy species along the northern border of the site. The site's land use consists of residential in the

southern portion of the parcel and agriculture in the northern portion. The agriculture portion of the parcel is currently used to raise livestock including cows, chickens, and goats. Surrounding land uses include low-density residential/agriculture that is similar to the site. The entire site has been historically been used for agriculture and residential purposes. The habitat quality is poor and highly degraded and disturbed. The RCA MSHCP Information Map (Vegetation 2012 and 2005 layer) identifies the vegetation type as "Developed/Disturbed." (Figure 4). Current vegetation consists of > 90% bare ground supporting sparse amounts of non-native weedy and ruderal species in the northernmost portion of the Project site. Species observed were limited to gallant soldier (*Galinsoga parviflora*), Russian thistle (*Salsola tragus*), and oak leaved goosefoot (*Chenopodium glaucum var. salinum*). Nonnative trees can be found bordering the property fence lines; species observed include tree of heaven (*Ailanthus altissima*), Mexican fan palm (*Washingtonia robusta*), and red gum (*Eucalyptus camaldulensis*).

Hydrology

A concrete-lined channel that feeds into Cucamonga Creek lies approximately 50 feet north of the north Project boundary and is bounded by a chain link fence. According to the USGS National Hydrography Dataset (NHD), this concrete-lined channel is considered a jurisdictional drainage; the drainage occurs outside of the Project limits. FEMA FIRM Panel 06065C0678G identifies the limits of the floodway for Cucamonga Creek. The Project site is within Zone X, which is classified as an area of minimal flood hazard.
There are no visible drainages on-site, and no direct connectivity to Cucamonga Creek is found. There are no berms/barriers preventing surface sheet flow from the Project site from entering into the channel, but no sign of flow is evident on site. Therefore, no natural drainage features occur site to support riparian resources. A review of recent and historic aerial photographs (1994-2018) of the project site and its immediate vicinity lacked visual evidence of an astatic or vernal pool conditions on or in the vicinity of the project site. No ponding was observed on-site, further supporting the fact that the drainage patterns currently occurring on the project site do not follow hydrologic regimes needed for vernal pools, or astatic ponds.

From the review of the aerial photographs and observations during the field investigation, no vernal pools or suitable fairy shrimp habitat occur on the Project site. Further, no special-status plant species associated with vernal pools were observed during the field visit. Finally, the routine disturbances on-site, and compacted soils also preclude vernal pools from existing on-site.

Riparian Vernal Pool Obligates

Fairy shrimp can be found in non-vernal pool features such as stock ponds, ephemeral pools, road ruts, human-made depressions, or other depressions that may pond water. No habitat features suitable for fairy shrimp exist on site. Therefore, evaluations for the presence of fairy shrimp are not warranted or required.

Riparian Birds covered under the MSHCP such as the Least Bell's vireo (*Vireo bellii pusillus*) [LBVI], Southwestern willow flycatcher (*Empidonax trallii extimus*) [SWWF] and Yellow-billed cuckoo (*Coccyzus americanus*) [YBCU] are found only in well-developed riparian habitat. No habitat features suitable for any riparian birds exist on site. Therefore, evaluations for the presence of riparian birds were not warranted or required. No further discussion on riparian birds is made in this report.

Narrow Endemic Plants

The Project site falls within a Narrow Endemic Plant Species Survey Area (NEPSSA) for San Miguel savory, Brand's phacelia and San Diego ambrosia.

San Miguel savory grows in rocky, gabbroic, and metavolcanic substrate soils within a variety of habitats including coastal sage scrub, chaparral, cismontane woodland, riparian woodland, and valley and foothill

grasslands (MSHCP, Table 6-1). The Project site does not have rocky substrate soils or any habitats this species is associated with. The soil types required by San Miguel savory are absent from the site and according to CNDDB, CNPSEI and Calflora, San Miguel savory is not documented in the local vicinity of the Project site. This species has low potential to occur on site.

Brand's phacelia is an annual forb adapted to grow in sandy soils on washes and benches in alluvial floodplains (MSHCP, Table 6-1). It is dependent on periodic flooding and alluvial transport and population sizes vary depending on annual precipitation (MSHCP, Table 6-1). The Project site does not have the periodic flooding potential this species requires (information obtained via FEMA flood maps) nor does the Project site contain washes or benches. The soil types and hydrologic conditions required by Brand's phacelia are absent from the site and according to CNDDB, CNPSEI and Calflora, Brand's phacelia is not documented in the local vicinity of the Project site. This species has low potential to occur on site.

The Project site is not suitable for San Diego ambrosia because there are floodplain terraces or vernal pools on site and the soil types that typify this this species do not occur onsite. The soil types and hydrologic conditions required by San Diego ambrosia are absent from the site and according to CNDDB, CNPSEI and Calflora, San Diego ambrosia is not documented in the local vicinity of the Project site. This species has low potential to occur on site.

Burrowing owl (BUOW***)***

The Project site is within a mapped survey area for BUOW, in accordance with MSHCP Figure 6-4 and a recent review of the RCA MSHCP Information GIS map.

The BUOW is a small, ground-dwelling owl that is protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California Fish and Game Code (FGC) Code #3513 & #3503.5) as a Species of Special Concern. In southern California, BUOW can be found in grassland, shrub steppe, and desert habitat types consisting of short, sparse vegetation with few shrubs, level to gentle topography, and friable soils. They can also be found in agricultural areas, ruderal fields, vacant lots and pastures, and flood control facilities. Most importantly, BUOWs require underground burrows or other cavities for nesting, roosting and shelter. Burrows used by the owls are usually dug by other species, termed host burrowers. In California, California ground squirrel (*Spermophilus beecheyi*) and round-tailed ground squirrel (*Citellus tereticaudus*) burrows are frequently used by BUOW but they may use dens or holes dug by other fossorial species. The presence or absence of colonial mammal burrows is often a major factor that limits the presence or absence of burrowing owls. Where mammal burrows are scarce, burrowing owls have been found occupying man-made cavities, such as buried and non-functioning drainpipes, stand-pipes, and dry culverts.

They also require low growth or open vegetation allowing line-of-sight observation of the surrounding habitat to forage and watch for predators. In southern California, the burrowing owl breeding season extends from the beginning of February through the end of August. Per the definition provided in the *2012 CDFG Staff Report on Burrowing Owl Mitigation*, "Burrowing owl habitat generally includes, but is not limited to, short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey."

Based on Jericho's database search queries for the *Corona North* and *Prado Dam* 7.5-minute USGS quadrangles, the closest BUOW occurrence is approximately 800 feet west of the Project site (Figure 5). The disturbed habitats on the project site provide line-of-sight opportunities favored by burrowing owl, but no burrows and no ground squirrels where found onsite. Despite a systematic search of open habitat on the project site, no BUOW individuals, surrogate burrows, or recent or historic signs of occupation (pellets, feathers, castings, or whitewash) were observed during the habitat assessment. Further, the frequent disturbance and trampling from livestock decrease the likelihood that burrowing owls will occur on the project site.

Based no evidence of BUOW occupation, it is determined that BUOW are currently absent from the project site. A 30-day pre-construction survey will be required to ensure that no BUOW have migrated to the Project site.

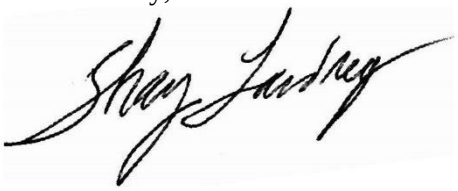
CONCLUSIONS AND RECOMMENDATIONS

No jurisdictional water, riverine/riparian/vernal pool areas. Narrow endemic plants, BUOW or otherwise sensitive species occurs on site.
However, the following recommendation is presented as a precautionary measure, regarding BUOW, is made to avoid potential impacts should BUOW migrate onto the site:

Prior to issuance of a grading permit, the applicant shall perform a preconstruction survey that shall be conducted within 30 days prior to ground disturbance to avoid direct take of burrowing owls. If the results of the survey indicate that no burrowing owls are present on-site, then the project may move forward with grading, upon Planning Department approval. If burrowing owls are found to be present or nesting on-site during the preconstruction survey, then the following recommendations must be adhered to: Exclusion and relocation activities may not occur during the breeding season, which is defined as March 1 through August 31, with the following exception: From March 1 through March 15 and from August 1 through August 31 exclusion and relocation activities may take place if it is proven to the Lead Agency and/or appropriate agencies (if any) that egg laying or chick rearing is not taking place. This determination must be made by a qualified biologist.

Thank you for this opportunity to provide information on this important Project. Please contact me if you have questions or need further information:

Sincerely,



Shay Lawrey
President

Attachments

Figures

Figure 1 – Regional Vicinity
Figure 2 – Site Location
Figure 3 – Soils
Figure 4 – Vegetation Map
Figure 5 – CNDDB

Site Photos

Photo 1. W Central portion of Project site.

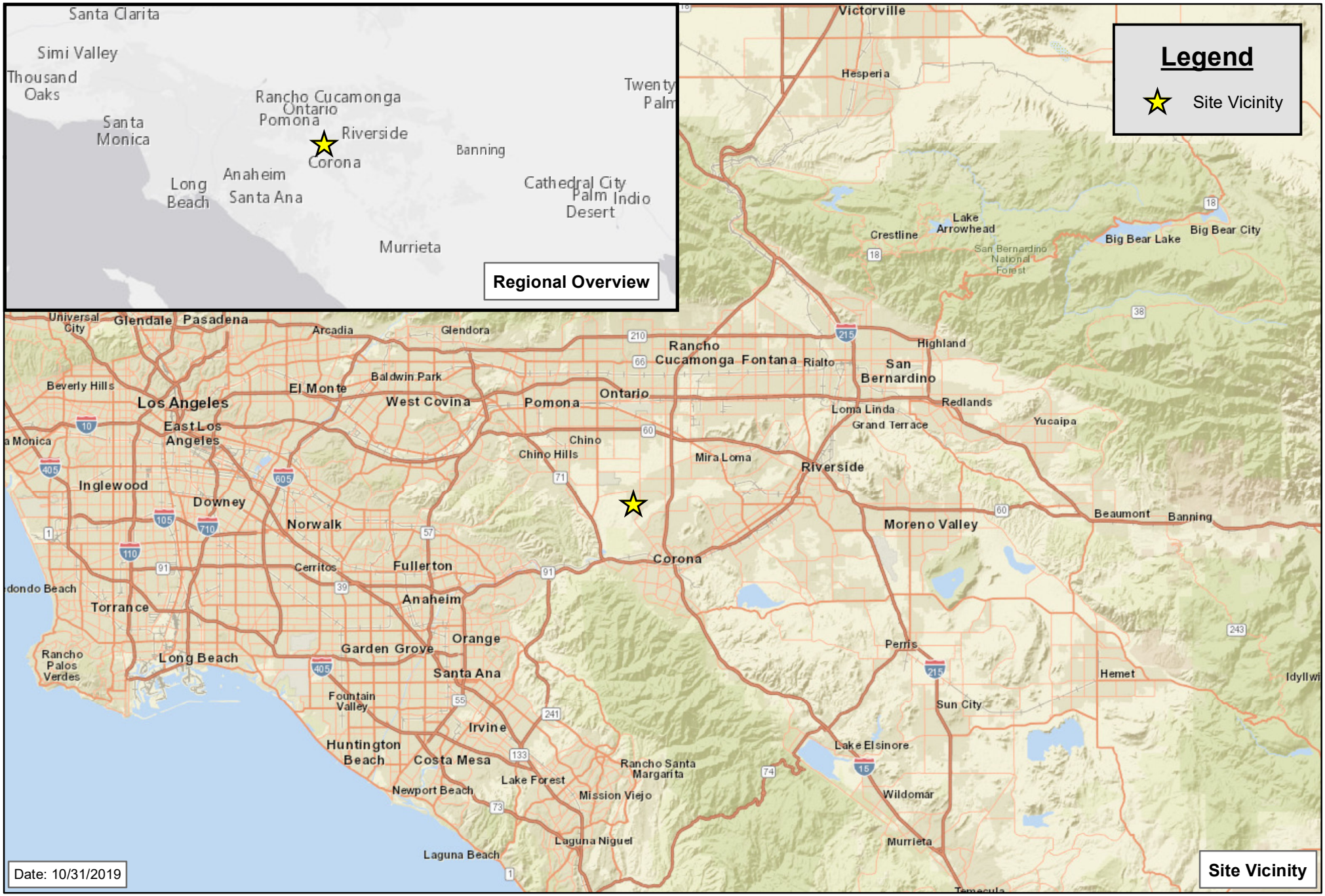
Photo 2. E View from NW corner. Cucamonga Creek (concrete-lined) to left, but not seen in photo

Photo 3. N view from western fence line.

Photo 4. NE view of the east fence line from the housing.

Photo 5. NW view N of housing

Photo 6. SW view of southern fence line.



Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Figure 1 - Regional Overview Site Vicinity

Eastvale Self-Storage Development
Gossett Development

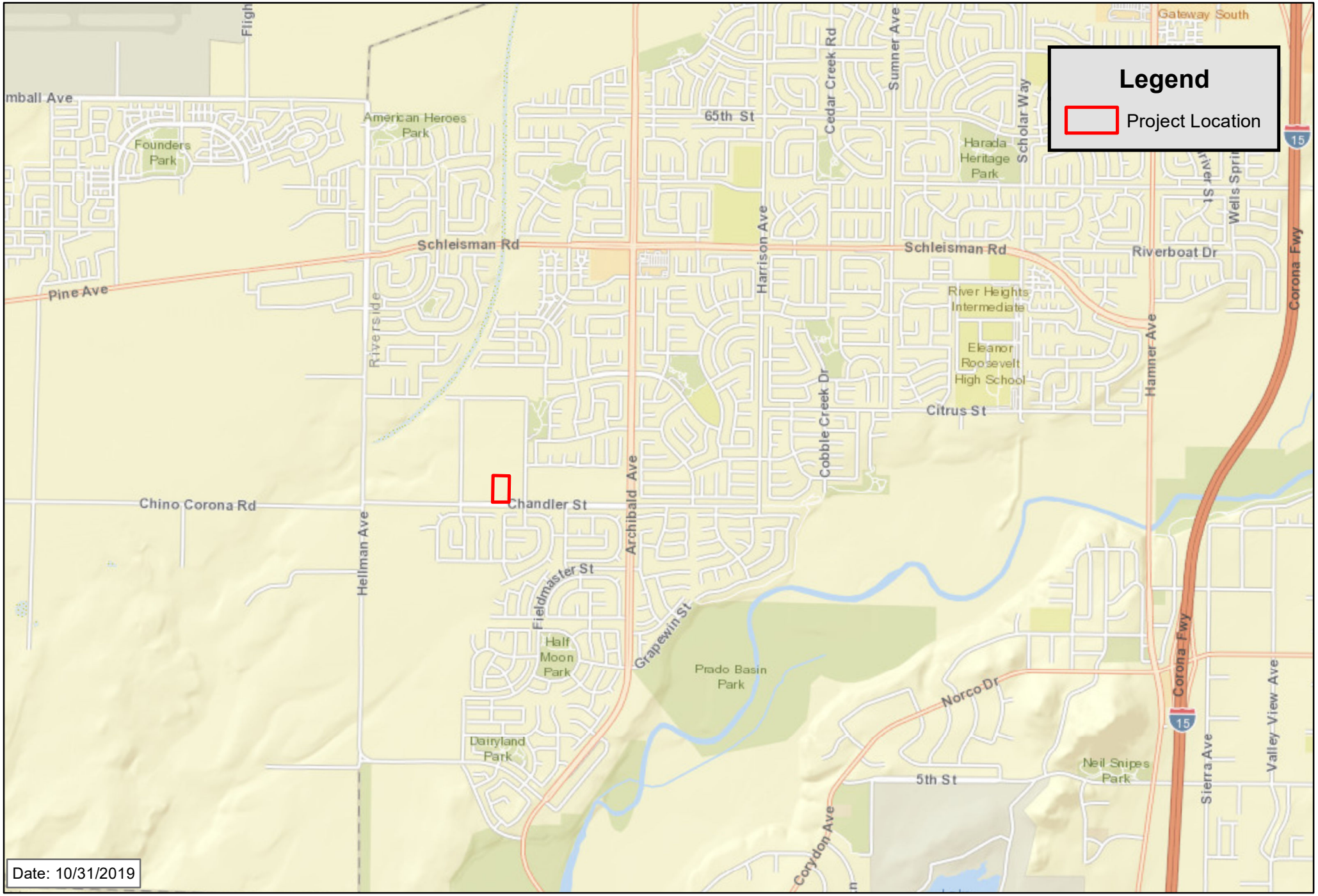

Figure 2
Project Location

Eastvale Self-Storage Development
Gossett Development

Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,

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1 inch = 104 feet

Figure 3
Soils

Eastvale Self-Storage Development
Gossett Development

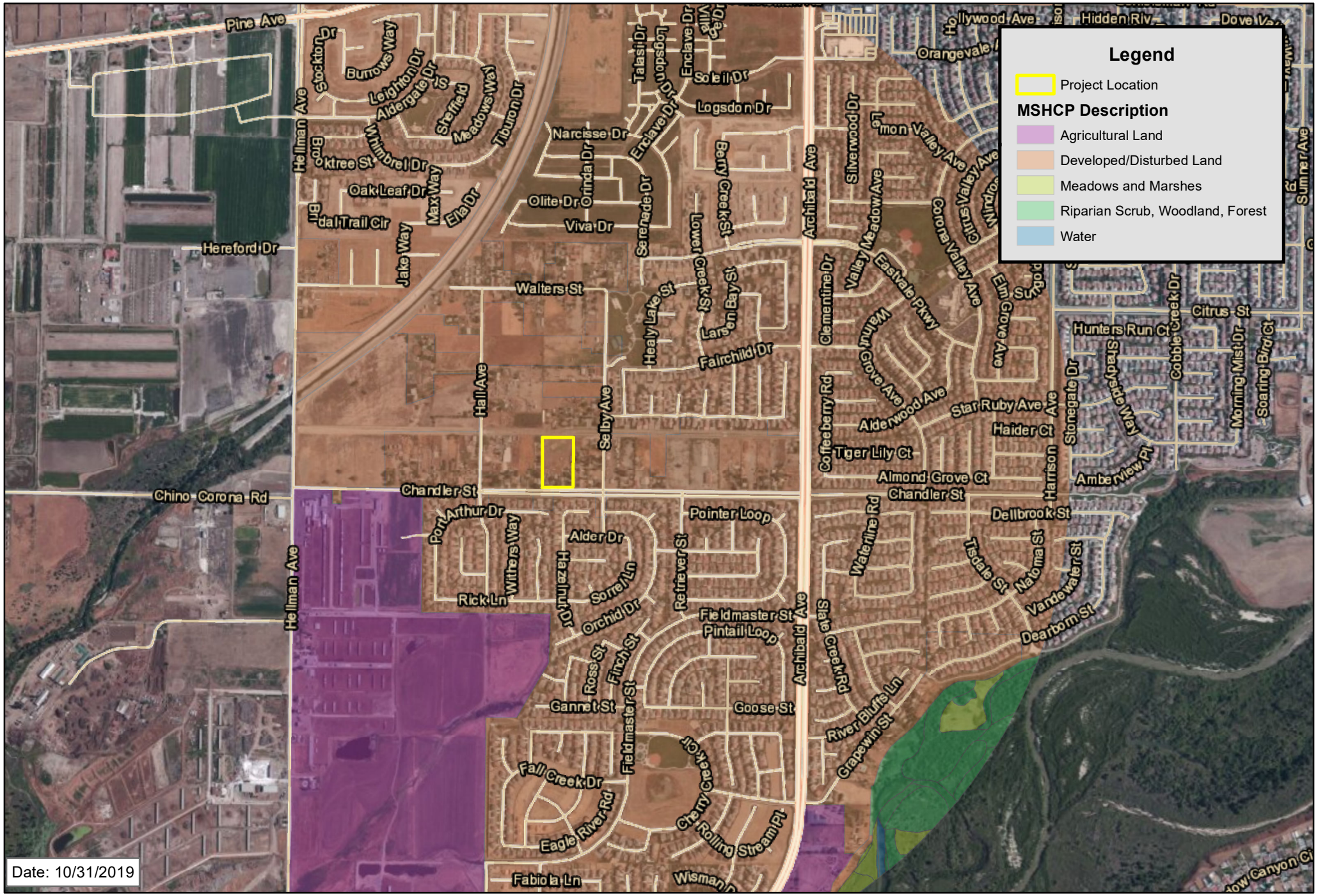

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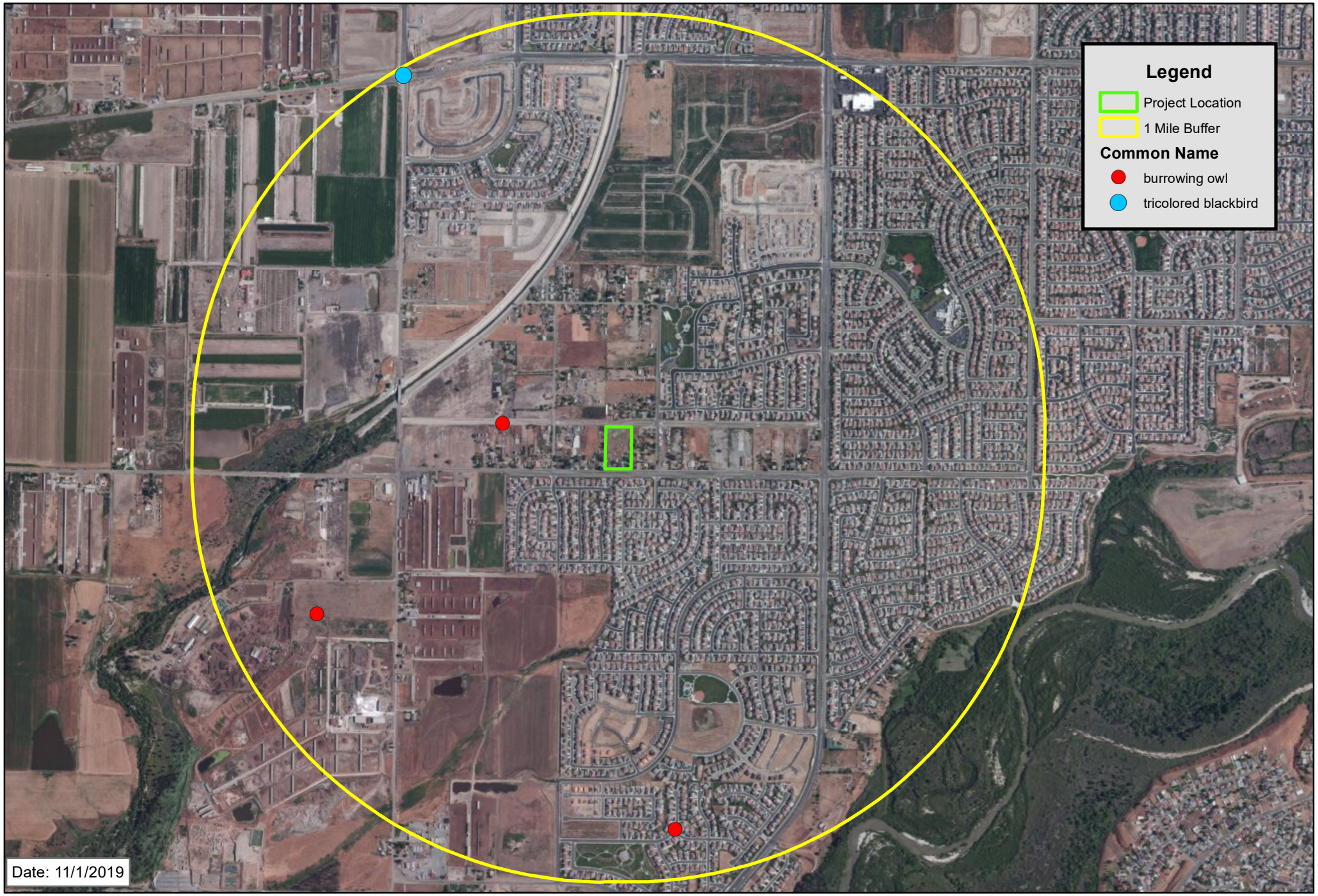
Figure 4
Vegetation

Eastvale Self-Storage Development
Gossett Development



Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,

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1 inch = 1,568 feet

Figure 3
1 Mile CNDDB

Eastvale Self-Storage Development
Gossett Development

APPENDIX 7:
Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis

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Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis

Eastvale Self-Storage Development

Permittee Name: Garrett Gossett
238 West Mariposa Avenue
San Clemente, CA 92672

Applicant Name: Garrett Gossett
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(949-735-6041)

Jericho Systems, Inc.
Shay Lawrey
(909) 915-5900

October 21, 2019

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1 EXECUTIVE SUMMARY

The format of this report follows the Regional Conservation Agency's guidance document for the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP; Plan) Consistency Analysis Report Template.

This report contains the findings of Jericho Systems, Inc. (Jericho's) Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis for the proposed Eastvale self-storage facility project (Project). The Project site is located along the north side of Chandler Street, south of Walters Street, east of Hall Avenue, and west of Selby Avenue in the City of Corona, Riverside County, California.

This site location is subject to compliance with the MSHCP policies. The City of Corona is a signatory to the MSHCP and according to the Riverside Conservation Authority (RCA) MSHCP Information Map, the Project site is not in a cell group, criteria cell, in the Stephen's Kangaroo Rat Plan Fee area or an area that requires surveys for amphibians, criteria area species, or mammals. The Project site is however, in an area requiring a burrowing owl (*Athene cunicularia*) [BUOW], San Diego ambrosia (*Ambrosia pumila*), Brand's phacelia (*Phacelia stellaris*), and San Miguel savory (*Clinopodium chandleri*) habitat assessments and surveys if suitable habitat is present.

The project site primarily consists of disturbed, barren habitat with patches of ruderal vegetation. The habitat on site is not suitable for the three narrow endemic plant species (San Diego ambrosia, Brand's phacelia, or San Miguel savory) due to the lack of soil and/or hydrological conditions required by theses species. The site provides marginally suitable habitat for BUOW in that the soils are friable, and the vegetation is sparse. During the systematic site survey however, no BUOW individuals, surrogate burrows or BUOW sign were found. No riverine riparian or vernal pool areas occur onsite and no special status species were observed or expected to occur on Site.

2 INTRODUCTION

The purpose of this Consistency Analysis (Analysis) is to summarize the biological data for the proposed Eastvale Self-Storage Facility and to document Project's consistency with the goals and objectives of the Western Riverside County MSHCP.

2.1 General Survey Methods

Prior to the field investigation reference materials and databases relevant to the Project site were reviewed for the *Corona North* and *Prado Dam* 7.5-minute USGS quadrangles to determine which species and/or habitats would be expected to occur on site. The literature review sources included:

- California Natural Diversity Database (CNDDB) *Rarefind 5*;
- CNDDB Biogeographic Information and Observation System (BIOS);
- USDA Natural Resources Conservation Service (NRCS) Web Soil Survey;
- USFWS National Wetland Inventory;
- Environmental Protection Agency (EPA) Water Program "My Waters" data layers
- California Native Plant Society Electronic Inventory (CNPSEI) database;
- Calflora database
- Google Earth Pro historic aerial imagery (1994-2018)
- County/City habitat conservation plans and other sensitive resource policies;
- RCA MSHCP Information Map

On October 15, 2019, Jericho biologist Christian Nordal conducted a field survey during calm weather, between the hours of 7:00 am and 11:00 am. Weather conditions during the survey consisted of clear skies with a temperature range between 69° and 75° F and no wind.

The field survey was designed to identify areas of potentially suitable habitat for narrow endemic plants, BUOW habitat and any features on site that meet the criteria for being federally or state jurisdictional and/or riverine/riparian or vernal pool areas as defined by the MSHCP. Mr. Nordal walked transects spaced at 30-foot intervals to provide 100 percent visual coverage of the ground surface.

2.2 Project Area

The proposed Project is generally located in the northwest portion of the *Corona North* 7.5' USGS quadrangle map in Section 34, Township 2 South, Range 7 West, on the north side of Chandler Street, south of Walters Street, east of Hall Avenue, and west of Selby Avenue in the City of Corona, Riverside County (Figure 1 and Figure 2). Specifically, the 4.12-acre Project site is located at 14555, 14577 & 14587 Chandler St, within Assessor's Parcel Numbers (APNs) 144-120-002, 144-120-003 & 144-120-004.

The Project area is defined as follows:

Assessor Parcel Numbers: 144-120-002, 003 & 004 – 4.12 acres, owned by applicant.

Project Acreage Onsite: 4.12 acres

Project Acreage Offsite: 0. There will be no off-site improvements.

Project Acreages that Occur Outside a Cell Group: 144-120-002, 003 & 004 – 4.12 acres

Project Acreages that Occur Inside a Cell Group: There is no acreage or parcels that occur inside of a cell group.

2.3 Project Description

The Project will develop approximately for a self-storage facility. The proposed project consists of the development of a self-storage facility on 4.12 acres encompassing three parcels (APNs 144-120-002, 144-120-003 and 144-120-004) where housing and livestock currently reside.

2.4 Covered Roads

The Project does not occur on a Covered Road or require access from a Covered Road as identified by MSHCP Table 7-4. Therefore, this section is not applicable.

2.5 General Setting

The topography of the Project site gently to moderately sloped from the north/northeast to the south/southwest. The subject property has an altitude of 562 feet above mean sea level (MSL) along the northwestern corner dropping to 575 feet above MSL at the southeastern portion.

Soils on site consists of 64% Waukena fine sandy loam, saline-alkali which covers the southern portion of the parcel and 36% Chino silt loam which covers the northern portion of the Site (Figure 3). These

soil types are generally considered moist/poorly drained during cooler times of the year and dry during hotter times (USDA, Natural Resources Conservation Service).

The ground cover consisted of bare ground/cow manure and with a small amount (10% > ground cover) of ruderal weedy species along the northern border of the site. The site's land use consists of residential in the southern portion of the parcel and agriculture in the northern portion. The agriculture portion of the parcel is currently used to raise livestock including cows, chickens, and goats. Surrounding land uses include low-density residential/agriculture that is similar to the site.

3 RESERVE ASSEMBLY ANALYSIS

The site is not located or mapped within any criteria cells or cell groups. The nearest criteria cell is Cell 964 (Santa Ana River Habitat Management Unit), located approximately 1 mile southeast of the Project site. Therefore, this analysis is not applicable.

3.1 Public Quasi-Public Lands

The majority of the cities in western Riverside County as well as the County have contributed open space/land to the County to help establish the MSHCP Conservation Area. These lands are described in the MSHCP as Public/Quasi-Public (PQP) Lands. P/QP Lands are a subset of MSHCP Conservation Area lands totaling approximately 347,000 acres of lands known to be in public/private ownership and expected to be managed for open space value and/or in a manner that contributes to the Conservation of Covered Species (including lands contained in existing reserves). The acreage of PQP Lands has been accounted for in the MSHCP tracking process for assembling the Conservation Area. If impacts to PQP Lands will result from development or implementation of a project, the project applicant must prepare an equivalency analysis that shows the impacts will either not affect the total acreage of PQP Lands or that the applicant can provide other compensatory mitigation that is biologically equivalent or superior to offset the loss of the PQP Lands.

3.1.1 Public Quasi-Public Lands in Reserve Assembly Analysis

The Project will not directly or indirectly impact any PQP lands because the project site is not located with PQP Lands nor is the Project site near PQP lands.

3.1.2 Project Impacts to Public Quasi-Public Lands

The Project will not directly or indirectly impact any PQP lands because the project site is not located with PQP Lands nor is the Project site near PQP lands.

4 VEGETATION MAPPING

The entire site has been historically been used for agriculture and residential purposes. The habitat quality is poor and highly degraded and disturbed. The RCA MSHCP Information Map (Vegetation 2012 and 2005 layer) identifies the vegetation type as "Developed/Disturbed." (Figure 4). Current vegetation consists of > 90% bare ground supporting sparse amounts of non-native weedy and ruderal species in the northernmost portion of the Project site. Species observed were limited to gallant soldier (*Galinsoga parviflora*), Russian thistle (*Salsola tragus*), and oak leaved goosefoot (*Chenopodium glaucum var. salinum*). Nonnative trees can be found bordering the property fence lines; species observed include tree of heaven (*Ailanthus altissima*), Mexican fan palm (*Washingtonia robusta*), and red gum (*Eucalyptus camaldulensis*).

5 PROTECTION OF SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AREAS AND VERNAL POOLS (SECTION 6.1.2)

According to Section 6.1.2 of the MSHCP:

"Riparian/Riverine Areas are lands which contain Habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.

"Vernal pools are seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics, and the definition of the watershed supporting vernal pool hydrology, must be made on a case-by-case basis. Such determinationsshould consider the length of the time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records.

"Fairy Shrimp. For Riverside, vernal pool and Santa Rosa fairy shrimp, mapping of stock ponds, ephemeral pools and other features shall also be undertaken as determined appropriate by a qualified biologist.

"With the exception of wetlands created for the purpose of providing wetlands Habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating characteristics as described above which are artificially created are not included in these definitions."

5.1 Riparian/Riverine

As defined under Section 6.1.2 of the MSHCP, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools*, riparian/riverine areas are areas dominated by trees, shrubs, persistent emergent plants, or emergent mosses and lichens which occur close to or are dependent upon nearby freshwater, or areas with freshwater flowing during all or a portion of the year. Conservation of these areas is intended to protect habitat that is essential to a number of listed or special-status water-dependent fish, amphibian, avian, and plant species. Any alteration or loss of riparian/riverine habitat from development of a Project will require the preparation of a Determination of Biologically Equivalent or Superior Preservation (DBESP) analysis to ensure the replacement of any lost functions and values of habitats in regard to the listed species. This assessment is independent from considerations given to waters of the United States (WoUS) and waters of the State under the federal Clean Water Act (CWA) and the California Porter-Cologne Water Quality Control Act respectively, and jurisdictional state streambed waters under the Fish and Game Code Section 1600.

5.1.1 Methods

On October 15, 2019, Mr. Nordal evaluated the Project site for the presence of riverine/riparian and vernal pool areas and jurisdictional waters, i.e. waters of the U.S. as regulated by the U.S. Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB), and/or streambed and associated riparian habitat as regulated by the California Department of Fish and Wildlife (CDFW).

Reference materials relevant to the Project site were reviewed, including historical and current aerial imagery, Federal Emergency Management Agency (FEMA) flood insurance rate maps (FIRM), National Oceanic & Atmospheric Administration (NOAA) climate data, USFWS National Wetland Inventory

(NWI) and EPA Water Program "My Waters" data layers and United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) web soil survey. The data provided in the Web Soil Survey provides a standard basis for the soil textures and types that are assigned a hydric indicator status of "hydric" or "non-hydric" by the National Technical Committee for Hydric Soils.

Mr. Nordal assessed the site's vegetation type and structure, soil type and structure, and hydrology characteristics. He also conducted a wetland investigation based on the three-parameter approach (vegetation, soil, and hydrology). In order to be considered a jurisdictional wetland under the federal Clean Water Act, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology.

Hydrophytic vegetation

Hydrophytic (wetland) vegetation is plant life that grows, and is typically adapted for life, in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, and herb layers) is considered hydrophytic. To be considered hydrophytic, the species must have wetland indicator status, i.e., be rated as Obligate Wetland (OBL), Facultative Wetland (FACW) or Facultative (FAC).

Table 1
Wetland Indicator Vegetation Categories

Category	Probability
Obligate Wetland (OBL)	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability 67 to 99%)
Facultative (FAC)	Equally likely to occur in wetlands and non-wetlands (estimated probability 34 to 66%)
Facultative Upland (FACU)	Usually occur in non-wetlands (estimated probability 67 to 99%)
Obligate Upland (UPL)	Almost always occur in non-wetlands (estimated probability >99%)

Hydric Soil

Hydric soils are saturated or inundated long enough during the growing season to develop anaerobic conditions that favor growth and regeneration of hydrophytic vegetation. Generally, hydric soils are dark in color or may be gleyed (bluish, greenish, or grayish), resulting from soil development under anoxic (without oxygen) conditions. Bright mottles within an otherwise dark soil matrix indicate periodic saturation with intervening periods of soil aeration. The hydric soil criterion is satisfied at a location if soils in the area can be inferred or observed to have a high groundwater table, if there is evidence of prolonged soil saturation, or if there are any indicators suggesting a long-term reducing environment in the upper part of the soil profile. Reducing conditions are most easily assessed using soil color. Color characteristics (Hue, Value, and Chroma) were recorded using a standard Munsell soil color chart (Munsell Color 2009).

If the soils exhibited low chroma colors and/or evidence of reducing conditions, then the hydric soil criterion were met per USACE (1987 and 2012).

Wetland Hydrology

Hydrology (water depth, extent of inundation, period of inundation) determines all other wetland characteristics. Federal Regulation 33 CFR 328.3(b) defines "wetlands" as "those areas that are inundated

or saturated by surface 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." According to the Corps' 1987 Wetland Delineation Manual, the primary hydrologic test to determine soil saturation was whether the area's water table rises to within 18 inches of the surface for seven consecutive days during the growing season (February-June).

The methods used in this study to delineate the non-wetland WoUS at the Ordinary High Water Mark (OHWM) in variable, ephemeral, intermittent, or perennial non-wetland waters followed guidance described in *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (Lichvar and McColley 2008) and the *Updated Datasheet for the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* ("Updated Datasheet", Curtis and Lichvar 2010).

Evaluation of FGC Section 1600 Streambed Waters followed guidance in the Mapping Episodic Stream Activity (MESA) protocols *[MESA Field Guide*], pursuant to which CDFW claims jurisdiction beyond traditional stream banks and the outer edge of riparian. Under MESA, the term stream is defined broadly to include "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic regime [i.e., 'circa 1800 to the present'], and where the width of its course can reasonably be identified by physical or biological indicators."

The methods used to determine any riparian/riverine or vernal pool areas were based on the above techniques as well as soils evaluations and vegetation classifications. This is because an area may be characterized as riparian based on its vegetative composition, but not meet the criteria of being federal or state jurisdictional water.

5.1.2 Existing Conditions and Results

A concrete-lined channel that feeds into Cucamonga Creek lies approximately 50 feet north of the north Project boundary and is bounded by a chain link fence. According to the USGS National Hydrography Dataset (NHD), this concrete-lined channel is considered a jurisdictional drainage; the drainage occurs outside of the Project limits. FEMA FIRM Panel 06065C0678G identifies the limits of the floodway for Cucamonga Creek. The Project site is within Zone X, which is classified as an area of minimal flood hazard.

There are no visible drainages on-site, and no direct connectivity to Cucamonga Creek is found. There are no berms/barriers preventing surface sheet flow from the Project site from entering into the channel, but no sign of flow is evident on site. Therefore, no natural drainage features occur site to support riparian resources.

No aspect of the project shows any discernible drainage courses, inundated areas, wetland vegetation, or hydric soils that would be considered jurisdictional. Therefore, no riparian areas occur site

5.1.3 Impacts

There is no impact to riparian resources because no evidence of any soils, plants or other features that meet the definition of 6.1.2 of the MSHCP visible on site.

5.1.4 Mitigation

There is no mitigation for riparian resources because there is no impact to riparian resources.

5.2 Vernal Pools

Vernal pools are seasonally inundated, ponded areas that only form in regions where specialized soil and climatic conditions exist. During fall and winter rains typical of Mediterranean climates, water collects in shallow depressions where downward percolation of water is prevented by the presence of a hard pan or clay pan layer (duripan) below the soil surface. Later in the spring when rains decrease and the weather warms, the water evaporates, and the pools generally disappear by May. The shallow depressions remain relatively dry until late fall and early winter with the advent of greater precipitation and cooler temperatures.

Vernal pools provide unusual "flood and drought" habitat conditions to which certain plant and wildlife species have specifically adapted as well as invertebrate species such as fairy shrimp.

One of the factors for determining the suitability of the habitat for fairy shrimp would be demonstrable evidence of seasonal ponding in an area of topographic depression that is not subject to flowing waters. These astatic pools are typically characterized as vernal pools. More specifically, vernal pools are seasonal wetlands that occur in depression areas without a continual source of water. They have wetland indicators of all 3 parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season. The determination that an area exhibits vernal pool characteristics and the definition of the watershed supporting vernal pool hydrology is made on a case-by-case basis. Such determinations should consider the length of time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. The seasonal hydrology of vernal pools provides for a unique environment, which supports plants and invertebrates specifically adapted to a regime of winter inundation, followed by an extended period when the pool soils are dry.

The MSHCP lists two general classes of soils known to be associated with special-status plant species; clay soils and Traver-Domino Willow association soils. The specific clay soils known to be associated with special-status species within the MSHCP plan area include Bosanko, Auld, Altamont, and Porterville series soils, whereas Traver-Domino Willows association includes saline-alkali soils largely located along floodplain areas of the San Jacinto River and Salt Creek. Without the appropriate soils to create the impermeable restrictive layer, none of the special-status species associated with vernal pools can occur on the Project site.

5.2.1 Methods

Methods included a review of recent and historic aerial photographs (1994-2018) of the project site and its immediate vicinity, a review of soils data, and 100 percent visual coverage site survey. Mr. Nordal looked for signs of clayey soils, ponding, cracking, mottling, etc.

5.2.2 Existing Conditions and Results

A review of recent and historic aerial photographs (1994-2018) of the project site and its immediate vicinity lacked visual evidence of an astatic or vernal pool conditions on or in the vicinity of the project site. No ponding was observed on-site, further supporting the fact that the drainage patterns currently occurring on the project site do not follow hydrologic regimes needed for vernal pools, or astatic ponds.

From the review of historic aerial photographs and observations during the field investigations, it is concluded no vernal pools or suitable fairy shrimp habitat occur on the Project site. Further, no special-status plant species associated with vernal pools were observed during the field visit. Finally, the routine disturbances on-site, and compacted soils also preclude vernal pools from existing on-site.

5.2.3 Impacts

There are no impacts to vernal pools because none exist on site.

5.2.4 Mitigation

No mitigation is required because no vernal pools exist on site.

5.3 Fairy Shrimp

Fairy shrimp can be found in non-vernal pool features such as stock ponds, ephemeral pools, road ruts, human-made depressions, or other depressions that may pond water. No habitat features suitable for fairy shrimp exist on site. Therefore, evaluations for the presence of fairy shrimp are not warranted or required. No further discussion on fairy shrimp is made in this report.

5.4 Riparian Birds

Riparian Birds covered under the MSHCP such as the Least Bell's vireo (*Vireo bellii pusillus*) [LBVI], Southwestern willow flycatcher (*Empidonax trallii extimus*) [SWWF] and Yellow-billed cuckoo (*Coccyzus americanus*) [YBCU] are found only in well-developed riparian habitat. No habitat features suitable for any riparian birds exist on site. Therefore, evaluations for the presence of riparian birds were not warranted or required. No further discussion on riparian birds is made in this report.

6 PROTECTION OF NARROW ENDEMIC PLANT SPECIES (SECTION 6.1.3)

The MSHCP identifies the potential presence for several endemic plant species. The MSHCP states that in general, habitat suitability assessments may be undertaken year-round, with the exception of vernal pool species for which habitat suitability assessments must be conducted during the rainy season. Species found in vernal pools and associated Habitats include the following Narrow Endemic Plant Species: San Diego ambrosia (*Ambrosia pumila*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*), and Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*). Species found in vernal pools and associated Habitats include the following Criteria Area Survey plant species: San Jacinto Valley crownscale (*Atriplex coronator* var. *notatior*), Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), thread-leaved brodiaea (*Brodiaea filifolia*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), little mousetail (*Myosurus minimus*), and prostrate navarretia (*Navarretia prostrata*) (MSHCP, Section 6.1.3)

The Project site falls within a Narrow Endemic Plant Species Survey Area (NEPSSA) for the following species:

San Miguel savory

San Miguel savory grows in rocky, gabbroic, and metavolcanic substrate soils within a variety of habitats including coastal sage scrub, chaparral, cismontane woodland, riparian woodland, and valley and foothill grasslands (MSHCP, Table 6-1).

Brand's phacelia

Brand's phacelia is an annual forb adapted to grow in sandy soils on washes and benches in alluvial floodplains (MSHCP, Table 6-1). It is dependent on periodic flooding and alluvial transport and population sizes vary depending on annual precipitation (MSHCP, Table 6-1).

San Diego ambrosia

San Diego ambrosia is a perennial species that grows on open floodplain terraces or on watershed margins of vernal pools and is associated with sparse grassland/ruderal habitat (MSHCP, Table 6-1). It grows in Garretson gravelly fine sandy loams within floodplain habitats, and in Las Posas loam near willow-riparian habitat with silty, alkaline soils (MSHCP, Table 6-1).

6.1 Methods

In addition to the 100 percent visual coverage survey, the soils and vegetation community were evaluated for potential suitability for these three narrow endemic plants. The CNDDB, CNPSEI and Calflora were also consulted to determine the nearest known documented occurrence of these three species.

6.2 Existing Conditions and Results

The soils found on the subject parcels consists of 64% Waukena fine sandy loam, saline-alkali which covers the southern portion of the parcel, and 36% Chino silt loam which covers the northern portion of the Site. The majority of the Project site lacks vegetation, with small patches of invasive species growing in the northern portion of the site.

San Miguel savory - The Project site does not have rocky substrate soils or any habitats this species is associated with. The soil types required by San Miguel savory are absent from the site and according to CNDDB, CNPSEI and Calflora, San Miguel savory is not documented in the local vicinity of the Project site. This species has low potential to occur on site and further discussion is not warranted or made in this document.

Brand's phacelia - The Project site does not have the periodic flooding potential this species requires (information obtained via FEMA flood maps) nor does the Project site contain washes or benches. The soil types and hydrologic conditions required by Brand's phacelia are absent from the site and according to CNDDB, CNPSEI and Calflora, Brand's phacelia is not documented in the local vicinity of the Project site. This species has low potential to occur on site and further discussion is not warranted or made in this document.

San Diego ambrosia - The Project does not contain floodplain terraces or vernal pools and does not have the specific soil types this species requires. The soil types and hydrologic conditions required by San Diego ambrosia are absent from the site and according to CNDDB, CNPSEI and Calflora, San Diego ambrosia is not documented in the local vicinity of the Project site. This species has low potential to occur on site and further discussion is not warranted or made in this document.

7 ADDITIONAL SURVEY NEEDS AND PROCEDURES (SECTION 6.3.2)

The Project site is not mapped in a Criteria survey area for plants, mammals or amphibians. It is however, mapped in a Criteria survey area for BUOW. Surveys must be conducted within suitable habitat for species according to accepted protocols.

7.1 Burrowing Owl

The Project site is within a mapped survey area for BUOW, in accordance with MSHCP Figure 6-4 and a recent review of the RCA MSHCP Information GIS map.

The BUOW is a small, ground-dwelling owl that is protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California Fish and Game Code (FGC) Code #3513 & #3503.5) as a Species of Special Concern. In southern California, BUOW can be found in grassland, shrub steppe, and desert habitat types consisting of short, sparse vegetation with few shrubs, level to gentle topography, and friable soils. They can also be found in agricultural areas, ruderal fields, vacant lots and pastures, and flood control facilities. Most importantly, BUOWs require underground burrows or other cavities for nesting, roosting and shelter. Burrows used by the owls are usually dug by other species, termed host burrowers. In California, California ground squirrel (*Spermophilus beecheyi*) and round-tailed ground squirrel (*Citellus tereticaudus*) burrows are frequently used by BUOW but they may use dens or holes dug by other fossorial species. The presence or absence of colonial mammal burrows is often a major factor that limits the presence or absence of burrowing owls. Where mammal burrows are scarce, burrowing owls have been found occupying man-made cavities, such as buried and non-functioning drainpipes, stand-pipes, and dry culverts.

They also require low growth or open vegetation allowing line-of-sight observation of the surrounding habitat to forage and watch for predators. In southern California, the burrowing owl breeding season extends from the beginning of February through the end of August. Per the definition provided in the *2012 CDFG Staff Report on Burrowing Owl Mitigation*, "Burrowing owl habitat generally includes, but is not limited to, short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey."

Under the MSHCP the BUOW is considered an adequately conserved covered species that may still require focused surveys in certain areas as designated in Figure 6-4 of the MSHCP. The survey for burrowing owl requires a systematic survey of all areas that provide suitable habitat plus a 150-meter (approximately 500 feet) zone of influence on all sides of suitable habitat, where applicable.

7.1.1 Methods

The BUOW habitat suitability assessment was conducted in accordance with the Western Riverside County MSHCP, which follows the 1993 *"Burrowing Owl Survey Protocol and Mitigation Guidelines"* prepared by the California Burrowing Owl Consortium. If suitable habitat is present, this protocol requires four (4) surveys between April 15 and July 15 with the first site survey counting as one survey period.

Mr. Nordal conducted a BUOW habitat assessment on October 15, 2019 by walking transects spaced at approximately a 30-foot intervals to provide 100 percent visual coverage of the ground surface. Adjacent areas that were not accessible on foot were surveyed with binoculars. Areas providing potential habitat for burrowing owls were surveyed for suitable burrows, consisting of natural and non-natural substrates in areas with low, open vegetation. All burrows encountered were examined for shape, scat, pellets, white-wash, feathers, and prey remains. Methods to detect presence of burrowing owls included direct observation and aural detection. Suitable burrows/sites, including rock piles and non-natural substrates, were thoroughly examined for signs of recent or historical presence.

7.1.2 Conditions and Results

Based on Jericho's database search queries for the *Corona North* and *Prado Dam* 7.5-minute USGS quadrangles, the closest BUOW occurrence is approximately 800 feet west of the Project site (Figure 5).

The disturbed habitats on the project site provide line-of-sight opportunities favored by burrowing owl. No burrows were observed on site, No ground squirrels where found onsite either.

Despite a systematic search of open habitat on the project site, no BUOW individuals, surrogate burrows, or recent or historic signs of occupation (pellets, feathers, castings, or whitewash) were observed during the habitat assessment. Further, the frequent disturbance and trampling from livestock decrease the likelihood that burrowing owls will occur on the project site.

Based no evidence of BUOW occupation, it is determined that BUOW are currently absent from the project site. A 30-day pre-construction survey will be required to ensure that no BUOW have migrated to the Project site.

7.1.3 Impacts

No impacts can be identified in that no BUOW or BUOW sign was observed on the Project site.

7.1.4 Mitigation

To ensure there will be no impact to BUOW, a pre-construction survey is required. The suggested mitigation is as follows:

"Prior to issuance of a grading permit, the applicant shall perform a preconstruction survey that shall be conducted within 30 days prior to ground disturbance to avoid direct take of burrowing owls. If the results of the survey indicate that no burrowing owls are present on-site, then the project may move forward with gradin , upon Planning Department approval . If burrowing owls are found to be present or nesting on-site during the preconstruction survey, then the following recommendations must be adhered to: Exclusion and relocation activities may not occur during the breeding season, which is defined as March 1 through August 31, with the following exception: From March 1 through March 15 and from August 1 through August 31 exclusion and relocation activities may take place if it is proven to the Lead Agency and/or appropriate agencies (if any) that egg laying or chick rearing is not taking place. This determination must be made by a qualified biologist."

8 INFORMATION ON OTHER SPECIES

8.1 Delhi Sands Flower Loving Fly

The Project site does not fall within the Delhi soils mapped within the MSHCP baseline data.

8.2 Species Not Adequately Conserved

MSHCP Table 9-3 identifies 28 species where requirements must be met for those to be considered not adequately conserved. None of the species listed in the MSHCP Table 9-3 occur on or near the Project site. Therefore, there is no further action required.

9 GUIDELINES PERTAINING TO THE URBAN/WILDLANDS INTERFACE (SECTION 6.1.4)

The MSHCP Section 6.1.4 Guidelines are intended to address indirect effects associated with locating Development in proximity to the MSHCP Conservation Area, where applicable. The Project Site is not located in proximity to an MSHCP Conservation Area.

The Project Site is not located in proximity to an MSHCP Conservation Area, therefore the analysis for this criterion does not apply.

10 BEST MANAGEMENT PRACTICES (VOLUME I, APPENDIX C)

This section of the report is designed to describe and comment as to the necessity of implementation of the BMPs identified in Volume 1, Appendix C. The BMPs and their applicability to the Project are identified in Table 2.

Table 2
MSHCP Best Management Practices Applicability (Volume 1, Appendix C)

BMP No.	BMP	Applicable Yes or No	Comment
1	A condition shall be placed on grading permits requiring a qualified biologist to conduct a training session for project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished.	No	There are no sensitive species within or near the Project site.
2	Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.	Yes	The site will include grading and paving and a paved surface for a self-storage facility.
3	The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible.	No	The site is in an urban area and the remnants of vacant habitat do not provide suitable habitat for species.
4	The upstream and downstream limits of projects disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work.	Yes	There is a concrete-lined channel adjacent to the north of the site.
5	Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.	No	There are no streambed resources on the site and encroachment of the channel is not required for access.
6	Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian identified in MSHCP Global Species Objective No. 7.	No	There is no riparian resources or streambed resources on site.
7	When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing of other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments offsite. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.	No	There are no streambed resources on the site.
8	Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of	Yes	There is a concrete-lined channel adjacent to the north of the site.

BMP No.	BMP	Applicable Yes or No	Comment
	hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, FWS, and CDFG, RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.		
9	Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.	Yes	There is a concrete-lined channel adjacent to the north of the site.
10	The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint.	No	There are no sensitive species or habitat on the Project site.
11	The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.	No	Vegetation on-site is ruderal.
12	Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.	No	The entire site will be developed, and exotic species will be permanently removed
13	To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).	Yes	This is a standard BMP for all construction.
14	Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.	Yes	There are historic occurrences of burrowing owl 800 feet east of the subject parcels.
15	The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.	No	No restoration areas are required.

11 REFERENCES

USFWS (United States Fish and Wildlife Service). 2000. *Southwestern Willow Flycatcher Protocol Revision 2000.* Sacramento, California: USFWS. https://www.fws.gov/pacific/ecoservices/endangered/recovery/documents/SWWFlycatcher.2000.protocol.pdf

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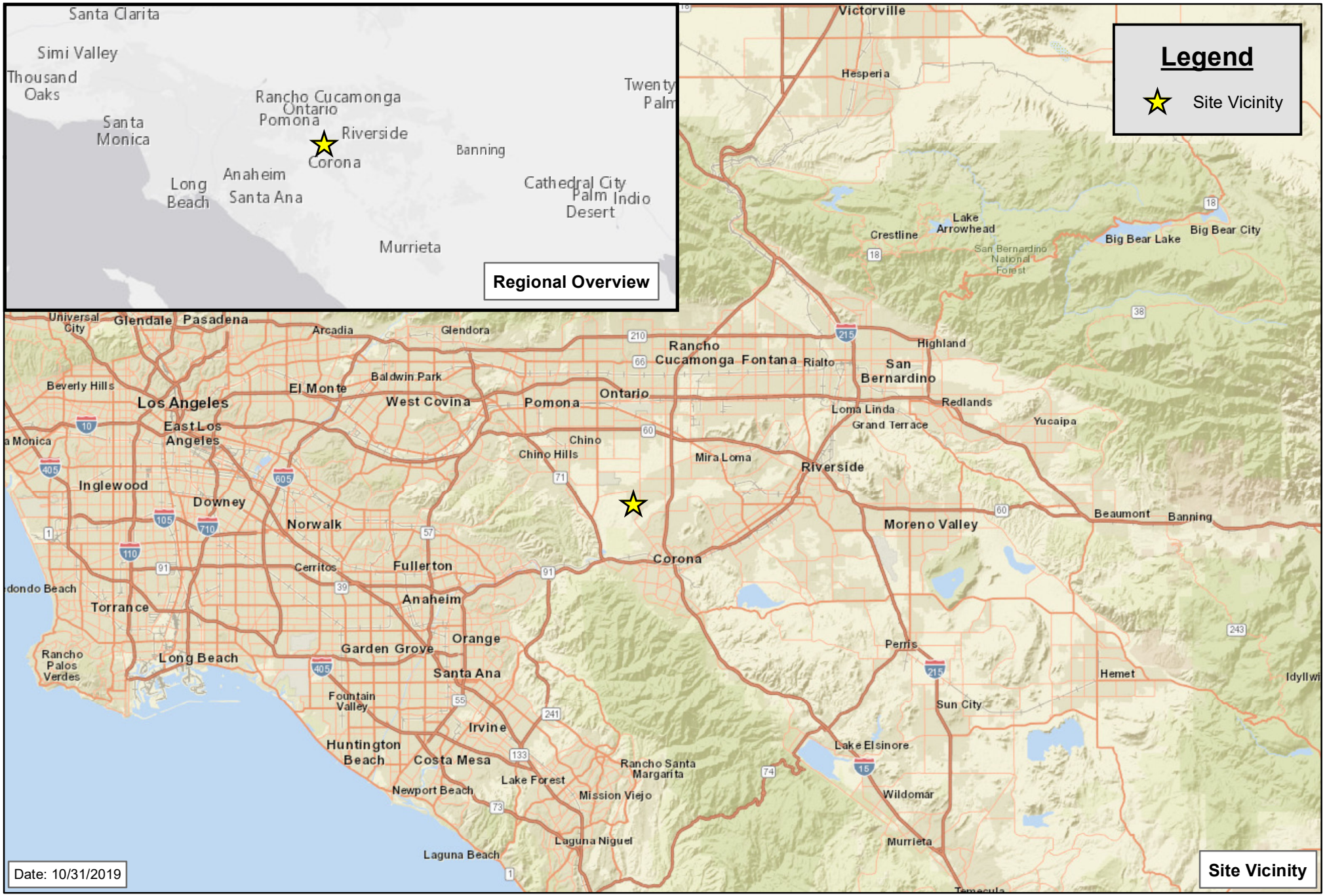
USFWS. 2015. *A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-Billed Cuckoo.* Prepared by M. Halterman, M.J. Johnson, J.A. Holmes, and S.A. Laymon. Sacramento, California: USFWS. April 2015. https://www.fws.gov/southwest/es/Documents/R2ES/YBCU_SurveyProtocol_FINAL_DRAFT_22Apr2015.pdf

USFWS. May 31, 2015. *Survey Guidelines for Listed Large Branchiopods*.



Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Figure 1 - Regional Overview Site Vicinity

Eastvale Self-Storage Development
Gossett Development

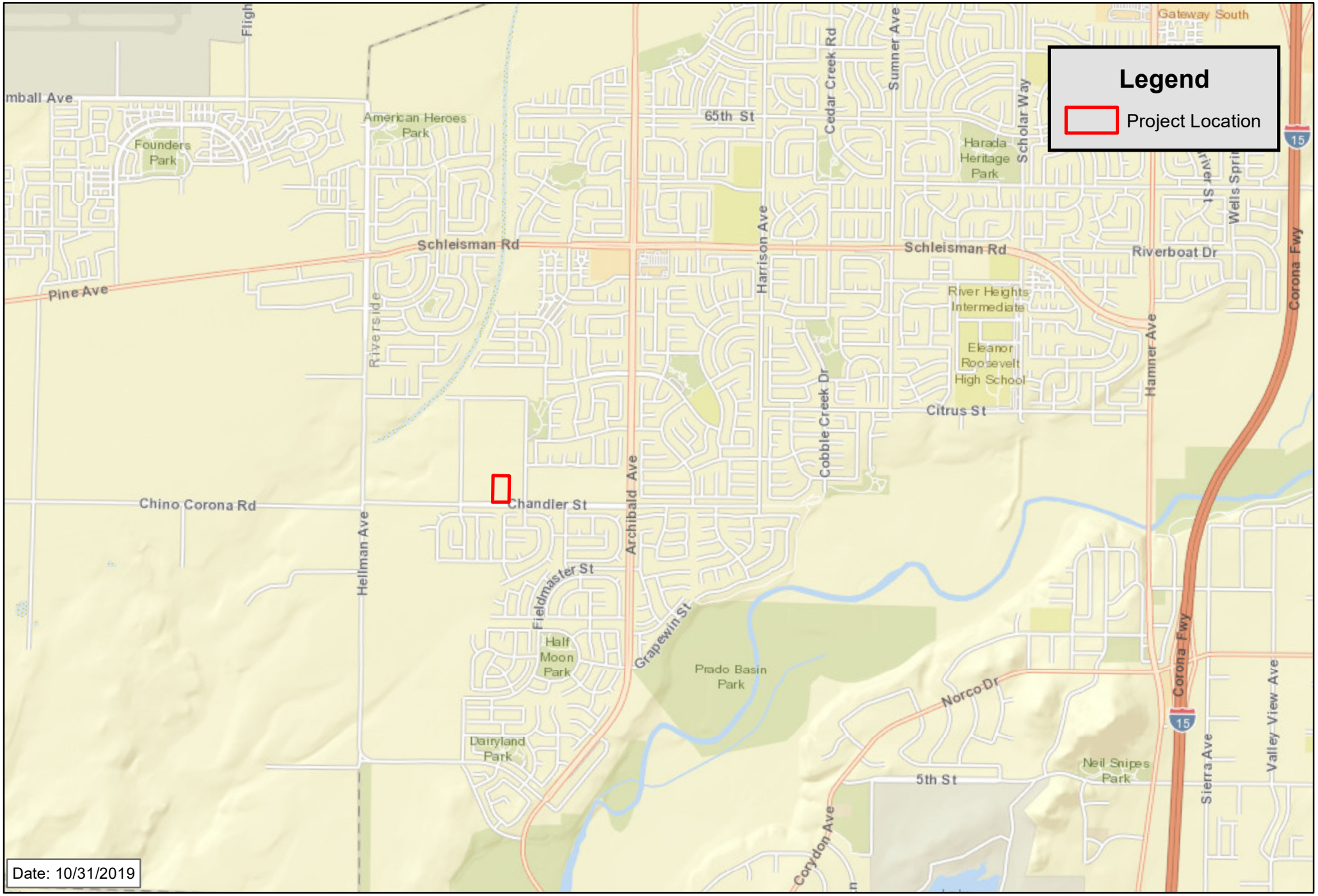

Figure 2
Project Location

Eastvale Self-Storage Development
Gossett Development

Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,

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1 inch = 104 feet

Figure 3
Soils

Eastvale Self-Storage Development
Gossett Development

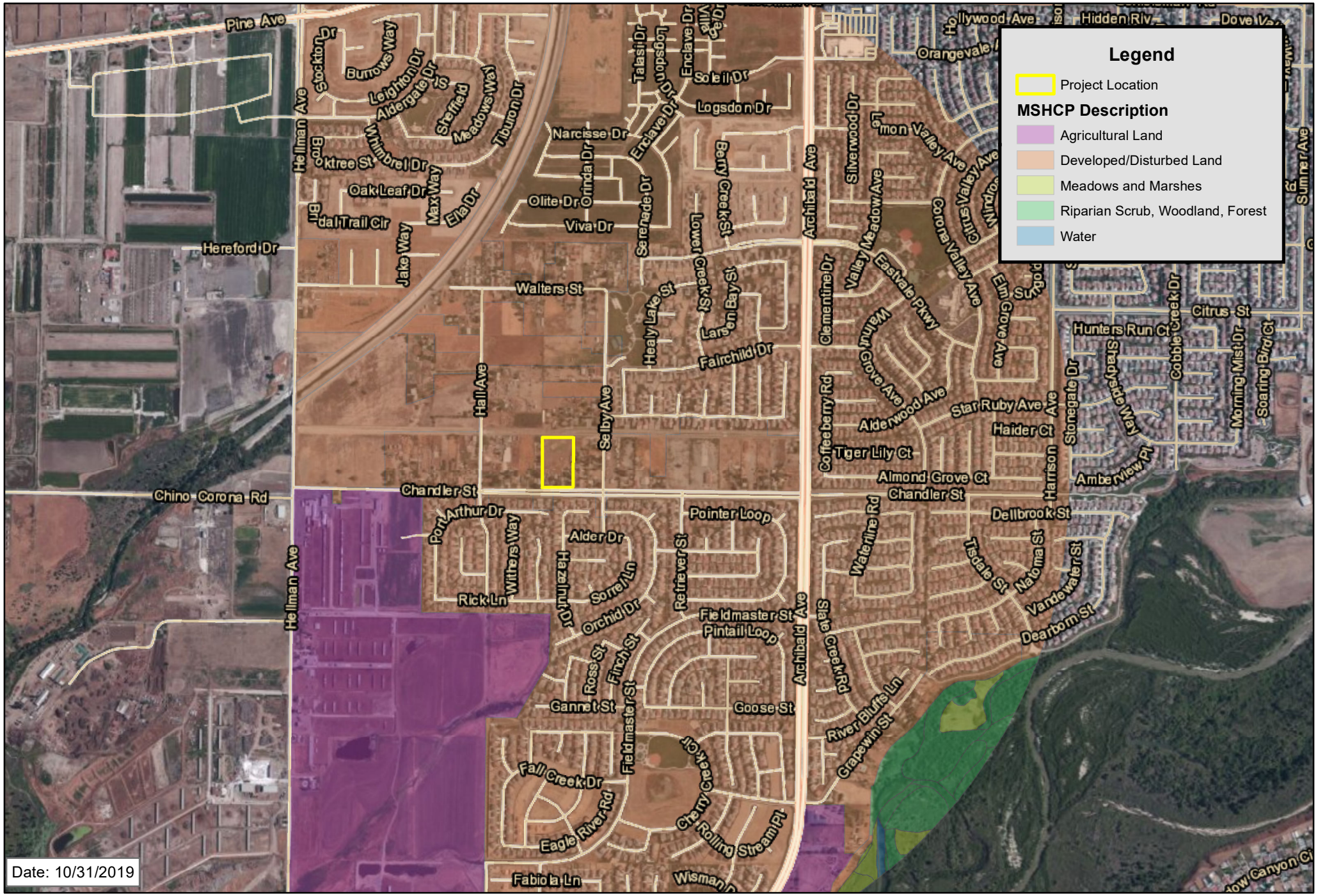
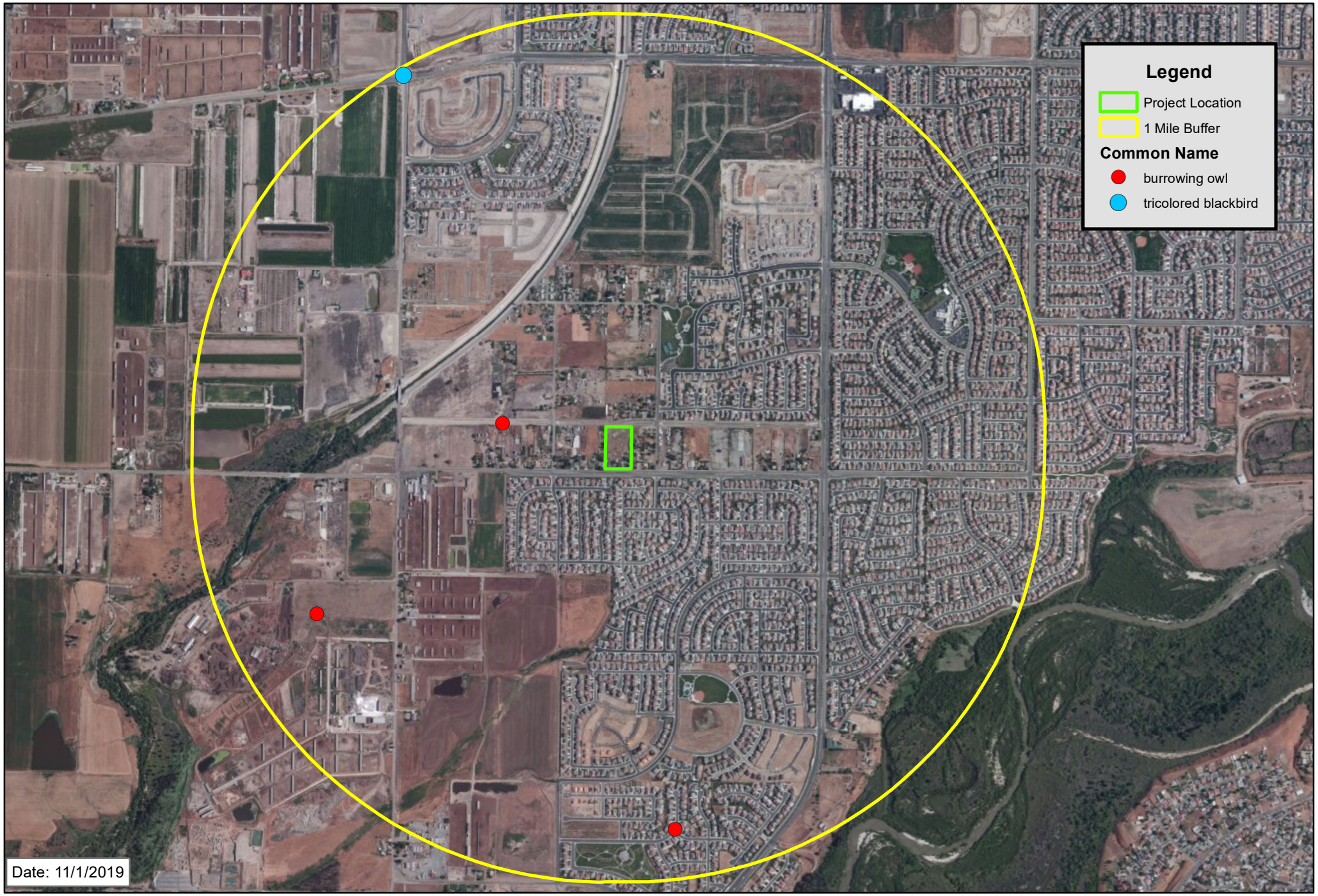


Figure 4 MSHCP Vegetation

Eastvale Self-Storage Development
Gossett Development



Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,

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1 inch = 1,568 feet

Figure 3
1 Mile CNDDB

Eastvale Self-Storage Development
Gossett Development

APPENDIX 8:
Phase I Cultural Resource Study

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A PHASE I CULTURAL RESOURCE STUDY FOR THE EASTVALE SELF STORAGE PROJECT

EASTVALE, CALIFORNIA

Submitted to:

City of Eastvale
12363 Limonite Avenue, Suite 910
Eastvale, California 91752

Prepared for:

Gossett Development Inc.
238 West Mariposa Avenue
San Clemente, California 92672

Prepared by:

Andrew J. Garrison, M.A. and
Brian F. Smith, M.A., Principal Investigator
Brian F. Smith and Associates, Inc.
14010 Poway Road, Suite A
Poway, California 92064

November 6, 2019

Archaeological Database Information Page

Author(s):	Andrew J. Garrison, M.A. and Brian F. Smith, M.A., Principal Investigator
Consulting Firm:	Brian F. Smith and Associates, Inc. 14010 Poway Road, Suite A Poway, California 92064 (858) 484-0915
Report Date:	November 6, 2019
Report Title:	A Phase I Cultural Resource Study for the Eastvale Self Storage Project, Eastvale, California
Prepared for:	Gossett Development Inc. 238 West Mariposa Avenue San Clemente, California 92672
Submitted to:	City of Eastvale 12363 Limonite Avenue, Suite 910 Eastvale, California 91752
Submitted by:	Brian F. Smith and Associates, Inc. 14010 Poway Road, Suite A Poway, California 92064 (858) 484-0915
USGS Quadrangle:	*Corona North, California* (7.5 minute)
Study Area:	4.1 acres (APNs 144-120-002, -003, and -004)
Key Words:	USGS *Corona North* Quadrangle (7.5 minute); archaeological survey; City of Eastvale; negative for archaeological resources; positive for historic structures; 1930-1960s residences identified; historic structure assessment recommended; monitoring recommended.

I. PROJECT DESCRIPTION AND LOCATION

As required by the City of Eastvale as part of an environmental review for a proposed land development project, Brian F. Smith and Associates, Inc. (BFSA) conducted a Phase I archaeological records search review and pedestrian survey of the 4.1-acre Eastvale Self Storage Project (Assessor's Parcel Numbers [APNs] 144-120-002, -003, and -004). The project is situated between Hall Avenue and Selby Avenue at 14555 through 14587 Chandler Street within the city of Eastvale, Riverside County, California. Specifically, the project is located within Section 34 Township 2 South, Range 7 West, San Bernardino Base and Meridian, as shown on the USGS *Corona North* 7.5' Quadrangle (Figures 1 and 2 [Attachment B]). As part of the project, the applicant plans to demolish all existing structures on the property to construct a self-storage center with associated access driveways, parking, landscaping, and infrastructure (Figure 3 [Attachment B]).

The records search was conducted at the Eastern Information Center (EIC) at the University of California, Riverside (UCR), the South Central Coastal Information Center (SCCIC) at California State University, Fullerton (CSU Fullerton), and the BFSA archives in order to determine whether any recorded cultural resources are present within the project. The records search identified the presence of 24 recorded resources within a one-mile radius of the project, none of which are located within the current project area. The archaeological survey was conducted on October 22, 2019. No archaeological resources were identified during the survey. However, the survey did identify structures constructed between the early 1930s and the mid-to late twentieth century within the property and further study is recommended.

II. SETTING

Natural Environment

The proposed project is located within the city of Eastvale, Riverside County, California and approximately a half-mile east of San Bernardino County and the city of Chino. The city of Eastvale is located in northwest Riverside County within the Chino Valley, which is a sub-portion of the larger San Bernardino Valley. The project is located within the Chino Basin, which is situated within the upper Santa Ana Valley of the Peninsular Ranges Geomorphic Province. The Chino Basin is a relatively flat alluvial plain formed from sediments deposited by the Santa Ana River and its tributaries, such as Cucamonga Creek, within the Perris Block of the Peninsular Ranges Geomorphic Province of southern California. The Peninsular Ranges are the southernmost segment of a chain of North American Mesozoic batholiths, a series of northwest- to southeast-trending mountain ranges separated by similarly trending valleys that extend from Alaska to the southern tip of Baja California. The project is relatively flat, with the property's lowest point located at its southern boundary and its highest point located at its northwestern corner. Elevations within the project range from approximately 560 to 575 feet above mean sea level (AMSL). The

subject property has been disturbed by rural residential development and agricultural use. As such vegetation within the project is characterized primarily as introduced weeds, grasses, weeds, and maintained residential landscaping.

Cultural Environment

Paleo Indian, Archaic Period Milling Stone Horizon, and the Late Prehistoric Shoshonean groups are the three general cultural periods represented in Riverside County. The following discussion of the cultural history of Riverside County references the San Dieguito Complex, the Encinitas Tradition, the Milling Stone Horizon, the La Jolla Complex, the Pauma Complex, and the San Luis Rey Complex, since these culture sequences have been used to describe archaeological manifestations in the region. The Late Prehistoric component present in the Riverside County area was represented by the Cahuilla, Gabrielino, and Luiseño Indians; however, the current project is more aligned with the territory occupied by the Gabrielino (Kroeber 1976; Bean and Smith 1978; Bean and Shipek 1978).

Absolute chronological information, where possible, will be incorporated into this discussion to examine the effectiveness of continuing to use these terms interchangeably. Reference will be made to the geological framework that divides the culture chronology of the area into four segments: late Pleistocene (20,000 to 10,000 years before the present [YBP]), early Holocene (10,000 to 6,650 YBP), middle Holocene (6,650 to 3,350 YBP), and late Holocene (3,350 to 200 YBP).

Paleo Indian Period (Late Pleistocene: 11,500 to circa 9,000 YBP)

The Paleo Indian Period is associated with the terminus of the late Pleistocene (12,000 to 10,000 YBP). The environment during the late Pleistocene was cool and moist, which allowed for glaciation in the mountains and the formation of deep, pluvial lakes in the deserts and basin lands (Moratto 1984). However, by the terminus of the late Pleistocene, the climate became warmer, which caused glaciers to melt, sea levels to rise, greater coastal erosion, large lakes to recede and evaporate, extinction of Pleistocene megafauna, and major vegetation changes (Moratto 1984; Martin 1967, 1973; Fagan 1991). The coastal shoreline at 10,000 YBP, depending upon the particular area of the coast, was near the 30-meter isobath, or two to six kilometers further west than its present location (Masters 1983).

Paleo Indians were likely attracted to multiple habitat types, including mountains, marshlands, estuaries, and lakeshores. These people likely subsisted using a more generalized hunting, gathering, and collecting adaptation, utilizing a variety of resources including birds, mollusks, and both large and small mammals (Erlandson and Colten 1991; Moratto 1984; Moss and Erlandson 1995).

Archaic Period (Early and Middle Holocene: circa 9,000 to 1,300 YBP)

The Archaic Period of prehistory began with the onset of the Holocene around 9,000 YBP.

The transition from the Pleistocene to the Holocene was a period of major environmental change throughout North America (Antevs 1953; Van Devender and Spaulding 1979). The general warming trend caused sea levels to rise, lakes to evaporate, and drainage patterns to change. In southern California, the general climate at the beginning of the early Holocene was marked by cool/moist periods and an increase in warm/dry periods and sea levels. The coastal shoreline at 8,000 YBP, depending upon the particular area of the coast, was near the 20-meter isobath, or one to four kilometers further west than its present location (Masters 1983).

The rising sea level during the early Holocene created rocky shorelines and bays along the coast by flooding valley floors and eroding the coastline (Curray 1965; Inman 1983). Shorelines were primarily rocky with small littoral cells, as sediments were deposited at bay edges but rarely discharged into the ocean (Reddy 2000). These bays eventually evolved into lagoons and estuaries, which provided a rich habitat for mollusks and fish. The warming trend and rising sea levels generally continued until the late Holocene (4,000 to 3,500 YBP).

At the beginning of the late Holocene, sea levels stabilized, rocky shores declined, lagoons filled with sediment, and sandy beaches became established (Gallegos 1985; Inman 1983; Masters 1994; Miller 1966; Warren and Pavesic 1963). Many former lagoons became saltwater marshes surrounded by coastal sage scrub by the late Holocene (Gallegos 2002). The sedimentation of the lagoons was significant in that it had profound effects on the types of resources available to prehistoric peoples. Habitat was lost for certain large mollusks, namely *Chione* and *Argopecten,* but habitat was gained for other small mollusks, particularly *Donax* (Gallegos 1985; Reddy 2000). The changing lagoon habitats resulted in the decline of larger shellfish, the loss of drinking water, and the loss of Torrey Pine nuts, causing a major depopulation of the coast as people shifted inland to reliable freshwater sources and intensified their exploitation of terrestrial small game and plants, including acorns (originally proposed by Rogers 1929; Gallegos 2002).

The Archaic Period in southern California is associated with a number of different cultures, complexes, traditions, and horizons, including San Dieguito, La Jolla, Encinitas, Milling Stone, and Pauma, as well as the Intermediate Period.

Late Prehistoric Period (Late Holocene: 1,300 YBP to 1790)

Approximately 1,350 YBP, a Shoshonean-speaking group from the Great Basin region moved into region, marking the transition to the Late Prehistoric Period. This period has been characterized by higher population densities and elaborations in social, political, and technological systems. Economic systems diversified and intensified during this period, with the continued elaboration of trade networks, the use of shell-bead currency, and the appearance of more labor-intensive, yet effective, technological innovations. Technological developments during this period included the introduction of the bow and arrow between A.D. 400 and 600 and the introduction of ceramics. Atlatl darts were replaced by smaller arrow darts, including the Cottonwood series points. Other hallmarks of the Late Prehistoric Period include extensive trade networks as far reaching as the Colorado River Basin and cremation of the dead.

Late Holocene / Protohistoric Period (1769 to Present)

Ethnohistoric and ethnographic evidence indicates that three Takic-speaking groups occupied portions of Riverside County: the Cahuilla, the Gabrielino, and the Luiseño. The geographic boundaries between these groups in pre- and proto-historic times are difficult to place, but the project is located well within the borders of ethnographic Gabrielino territory. Ethnographic data for the three groups, Gabrielino, Luiseño, and Cahuilla, is presented below.

Gabrielino

The territory of the Gabrielino at the time of Spanish contact covers much of present-day Los Angeles and Orange counties. The southern extent of this culture area is bounded by Aliso Creek, the eastern extent is located east of present-day San Bernardino along the Santa Ana River, the northern extent includes the San Fernando Valley, and the western extent includes portions of the Santa Monica Mountains. The Gabrielino also occupied several Channel Islands including Santa Barbara Island, Santa Catalina Island, San Nicholas Island, and San Clemente Island. Because of their access to certain resources, including a steatite source from Santa Catalina Island, this group was among the wealthiest and most populous aboriginal groups in all of southern California. Trade of materials and resources controlled by the Gabrielino extended as far north as the San Joaquin Valley, as far east as the Colorado River, and as far south as Baja California (Bean and Smith 1978; Kroeber 1976).

Subsistence and Settlement

The Gabrielino lived in permanent villages and smaller resource-gathering camps occupied at various times of the year depending upon the seasonality of the resource. Larger villages were comprised of several families or clans, while smaller, seasonal camps typically housed smaller family units. The coastal area between San Pedro and Topanga Canyon was the location of primary subsistence villages, while secondary sites were located near inland sage stands, oak groves, and pine forests. Permanent villages were located along rivers and streams and in sheltered areas along the coast. As previously mentioned, the Channel Islands were also the locations of relatively large settlements (Bean and Smith 1978; Kroeber 1976).

Resources procured along the coast and on the islands were primarily marine in nature and included tuna, swordfish, ray and shark, California sea lion, Stellar sea lion, harbor seal, northern elephant seal, sea otter, dolphin and porpoise, various waterfowl species, numerous fish species, purple sea urchin, and mollusks, such as rock scallop, California mussel, and limpet. Inland resources included oak acorn, pine nut, Mohave yucca, cacti, sage, grass nut, deer, rabbit, hare, rodent, quail, duck, and a variety of reptiles such as western pond turtle and numerous snake species (Bean and Smith 1978; Kroeber 1976).

Social Organization

The social structure of the Gabrielino is little known; however, there appears to have been

at least three social classes: 1) the elite, which included the rich, chiefs, and their immediate family; 2) a middle class, which included people of relatively high economic status or long-established lineages; and 3) a class of people that included most other individuals in the society. Villages were politically autonomous units comprised of several lineages. During times of the year when certain seasonal resources were available, the village would divide into lineage groups and move out to exploit them, returning to the village between forays (Bean and Smith 1978; Kroeber 1976).

Each lineage had its own leader, with the village chief coming from the dominant lineage. Several villages might be allied under a paramount chief. Chiefly positions were of an ascribed status, most often passed to the eldest son. Chiefly duties included providing village cohesion, leading warfare and peace negotiations with other groups, collecting tribute from the village(s) under his jurisdiction, and arbitrating disputes within the village(s). The status of the chief was legitimized by his safekeeping of the sacred bundle, a representation of the link between the material and spiritual realms and the embodiment of power (Bean and Smith 1978; Kroeber 1976).

Shamans were leaders in the spirit realm. The duties of the shaman included conducting healing and curing ceremonies, guarding the sacred bundle, locating lost items, identifying and collecting poisons for arrows, and making rain (Bean and Smith 1978; Kroeber 1976).

Marriages were made between individuals of equal social status and, in the case of powerful lineages, marriages were arranged to establish political ties between the lineages (Bean and Smith 1978; Kroeber 1976).

Men conducted the majority of the heavy labor, hunting, fishing, and trading with other groups. Women's duties included gathering and preparing plant and animal resources, and making baskets, pots, and clothing (Bean and Smith 1978; Kroeber 1976).

Material Culture

Gabrielino houses were domed, circular structures made of thatched vegetation. Houses varied in size and could house from one to several families. Sweathouses (semicircular, earth-covered buildings) were public structures used in male social ceremonies. Other structures included menstrual huts and a ceremonial structure called a *yuvar*, an open-air structure built near the chief's house (Bean and Smith 1978; Kroeber 1976).

Clothing was minimal; men and children most often went naked, while women wore deerskin or bark aprons. In cold weather, deerskin, rabbit fur, or bird skin (with feathers intact) cloaks were worn. Island and coastal groups used sea otter fur for cloaks. In areas of rough terrain, yucca fiber sandals were worn. Women often used red ochre on their faces and skin for adornment or protection from the sun. Adornment items included feathers, fur, shells, and beads (Bean and Smith 1978; Kroeber 1976).

Hunting implements included wooden clubs, sinew-backed bows, slings, and throwing clubs. Maritime implements included rafts, harpoons, spears, hook and line, and nets. A variety of other tools included deer scapulae saws, bone and shell needles, bone awls, scrapers, bone or shell flakers, wedges, stone knives and drills, metates, mullers, manos, shell spoons, bark platters,

and wooden paddles and bowls. Baskets were made from rush, deer grass, and skunkbush. Baskets were fashioned for hoppers, plates, trays, and winnowers for leaching, straining, and gathering. Baskets were also used for storing, preparing, and serving food, and for keeping personal and ceremonial items (Bean and Smith 1978; Kroeber 1976).

The Gabrielino had exclusive access to soapstone, or steatite, procured from Santa Catalina Island quarries. This highly prized material was used for making pipes, animal carvings, ritual objects, ornaments, and cooking utensils. The Gabrielino profited well from trading steatite since it was valued so much by groups throughout southern California (Bean and Smith 1978; Kroeber 1976).

Luiseño

When contacted by the Spanish in the sixteenth century, the Luiseño occupied a territory bounded on the west by the Pacific Ocean, on the east by the Peninsular Ranges mountains at San Jacinto (including Palomar Mountain to the south and Santiago Peak to the north), on the south by Agua Hedionda Lagoon, and on the north by Aliso Creek in present-day San Juan Capistrano. The Luiseño were a Takic-speaking people more closely related linguistically and ethnographically to the Cahuilla, Gabrielino, and Cupeño to the north and east rather than the Kumeyaay who occupied territory to the south. The Luiseño differed from their neighboring Takic speakers in having an extensive proliferation of social statuses, a system of ruling families that provided ethnic cohesion within the territory, a distinct worldview that stemmed from the use of *datura* (a hallucinogen), and an elaborate religion that included the creation of sacred sand paintings depicting the deity *Chingichngish* (Bean and Shipek 1978; Kroeber 1976).

Subsistence and Settlement

The Luiseño occupied sedentary villages most often located in sheltered areas in valley bottoms, along streams, or along coastal strands near mountain ranges. Villages were located near water sources to facilitate acorn leaching and in areas that offered thermal and defensive protection. Villages were composed of areas that were publicly and privately (by family) owned. Publicly owned areas included trails, temporary campsites, hunting areas, and quarry sites. Inland groups had fishing and gathering sites along the coast that were used intensively from January to March when inland food resources were scarce. During October and November, most of the village would relocate to mountain oak groves to harvest acorns. The Luiseño remained at village sites for the remainder of the year, where food resources were within a day's travel (Bean and Shipek 1978; Kroeber 1976).

The most important food source for the Luiseño was the acorn, six different species of which were used (*Quercus californica, Quercus agrifolia, Quercus chrysolepis, Quercus dumosa, Quercus engelmannii,* and *Quercus wislizenii*). Seeds, particularly of grasses, composites, and mints, were also heavily exploited. Seed-bearing species were encouraged through controlled burns, which were conducted at least every third year. A variety of other stems, leaves, shoots,

bulbs, roots, and fruits were also collected. Hunting augmented this vegetal diet. Animal species taken included deer, rabbit, hare, woodrat, ground squirrel, antelope, quail, duck, freshwater fish from mountain streams, marine mammals, and other sea creatures such as fish, crustaceans, and mollusks (particularly abalone, or *Haliotis* sp.). In addition, a variety of snakes, small birds, and rodents were eaten (Bean and Shipek 1978; Kroeber 1976).

Social Organization

Social groups within the Luiseño nation consisted of patrilinear families or clans, which were politically and economically autonomous. Several clans comprised a religious party, or *nota,* which was headed by a chief who organized ceremonies and controlled economics and warfare. The chief had assistants who specialized in particular aspects of ceremonial or environmental knowledge and who, with the chief, were part of a religion-based social group with special access to supernatural power, particularly that of *Chingichngish*. The positions of chief and assistants were hereditary, and the complexity and multiplicity of these specialists' roles likely increased in coastal and larger inland villages (Bean and Shipek 1978; Kroeber 1976; Strong 1929).

Marriages were arranged by the parents, often made to forge alliances between lineages. Useful alliances included those between groups of differing ecological niches and those that resulted in territorial expansion. Residence was patrilocal (Bean and Shipek 1978; Kroeber 1976). Women were primarily responsible for plant gathering, and men principally hunted, although at times, particularly during acorn and marine mollusk harvests, there was no division of labor. Elderly women cared for children and elderly men participated in rituals, ceremonies, and political affairs. They were also responsible for manufacturing hunting and ritual implements. Children were taught subsistence skills at the earliest age possible (Bean and Shipek 1978; Kroeber 1976).

Material Culture

House structures were conical, partially subterranean, and thatched with reeds, brush, or bark. Ramadas were rectangular, protected workplaces for domestic chores such as cooking. Ceremonial sweathouses were important in purification rituals; these were round and partially subterranean thatched structures covered with a layer of mud. Another ceremonial structure was the *wámkis* (located in the center of the village, serving as the place of rituals), where sand paintings and other rituals associated with the *Chingichngish* religious group were performed (Bean and Shipek 1978; Kroeber 1976).

Clothing was minimal; women wore a cedar-bark and netted twine double apron and men wore a waist cord. In cold weather, cloaks or robes of rabbit fur, deerskin, or sea otter fur were worn by both sexes. Footwear included deerskin moccasins and sandals fashioned from yucca fibers. Adornments included bead necklaces and pendants made of bone, clay, stone, shell, bear claw, mica, deer hooves, and abalone shell. Men wore ear and nose piercings made from cane or bone, which were sometimes decorated with beads. Other adornments were commonly decorated with semiprecious stones including quartz, topaz, garnet, opal, opalite, agate, and jasper (Bean and

Shipek 1978; Kroeber 1976).

Hunting implements included the bow and arrow. Arrows were tipped with either a carved, fire-hardened wooden tip or a lithic point, usually fashioned from locally available metavolcanic material or quartz. Throwing sticks fashioned from wood were used in hunting small game, while deer head decoys were used during deer hunts. Coastal groups fashioned dugout canoes for nearshore fishing and harvested fish with seines, nets, traps, and hooks made of bone or abalone shell (Bean and Shipek 1978; Kroeber 1976).

The Luiseño had a well-developed basket industry. Baskets were used in resource gathering, food preparation, storage, and food serving. Ceramic containers were shaped by paddle and anvil and fired in shallow, open pits to be used for food storage, cooking, and serving. Other utensils included wood implements, steatite bowls, and ground stone manos, metates, mortars, and pestles (Bean and Shipek 1978; Kroeber 1976). Additional tools such as knives, scrapers, choppers, awls, and drills were also used. Shamanistic items include soapstone or clay smoking pipes and crystals made of quartz or tourmaline (Bean and Shipek 1978; Kroeber 1976).

Cahuilla

At the time of Spanish contact in the sixteenth century, the Cahuilla occupied territory that included the San Bernardino Mountains, Orocopia Mountain, and the Chocolate Mountains to the west, Salton Sea and Borrego Springs to the south, Palomar Mountain and Lake Mathews to the west, and the Santa Ana River to the north. The Cahuilla are a Takic-speaking people closely related to their Gabrielino and Luiseño neighbors, although relations with the Gabrielino were more intense than with the Luiseño. They differ from the Luiseño and Gabrielino in that their religion is more similar to the Mohave tribes of the eastern deserts than the *Chingichngish* religious group of the Luiseño and Gabrielino. The following is a summary of ethnographic data regarding this group (Bean 1978; Kroeber 1976).

Subsistence and Settlement

Cahuilla villages were typically permanent and located on low terraces within canyons in proximity to water sources. These locations proved to be rich in food resources and also afforded protection from prevailing winds. Villages had areas that were publicly owned and areas that were privately owned by clans, families, or individuals. Each village was associated with a particular lineage and series of sacred sites that included unique petroglyphs and pictographs. Villages were occupied throughout the year; however, during a several-week period in the fall, most of the village members relocated to mountain oak groves to take part in acorn harvesting (Bean 1978; Kroeber 1976).

The Cahuilla's use of plant resources is well documented. Plant foods harvested by the Cahuilla included valley oak acorns and single-leaf pinyon pine nuts. Other important plant species included bean and screw mesquite, agave, Mohave yucca, cacti, palm, chia, quail brush, yellowray goldfield, goosefoot, manzanita, catsclaw, desert lily, mariposa lily, and a number of

other species such as grass seed. A number of agricultural domesticates were acquired from the Colorado River tribes including corn, bean, squash, and melon grown in limited amounts. Animal species taken included deer, bighorn sheep, pronghorn antelope, rabbit, hare, rat, quail, dove, duck, roadrunner, and a variety of rodents, reptiles, fish, and insects (Bean 1978; Kroeber 1976).

Social Organization

The Cahuilla was not a political nation, but rather a cultural nationality with a common language. Two non-political, non-territorial patrimoieties were recognized, the Wildcats (túktem) and the Coyotes (?ístam). Lineage and kinship were memorized at a young age among the Cahuilla, providing a backdrop for political relationships. Clans were composed of three to 10 lineages; each lineage owned a village site and specific resource areas. Lineages within a clan cooperated in subsistence activities, defense, and rituals (Bean 1978; Kroeber 1976).

A system of ceremonial hierarchy operated within each lineage. The hierarchy included the lineage leader, who was responsible for leading subsistence activities, guarding the sacred bundle, and negotiating with other lineage leaders in matters concerning land use, boundary disputes, marriage arrangements, trade, warfare, and ceremonies. The ceremonial assistant to the lineage leader was responsible for organizing ceremonies. A ceremonial singer possessed and performed songs at rituals and trained assistant singers. The shaman cured illnesses through supernatural powers, controlled natural phenomena, and was the guardian of ceremonies, keeping evil spirits away. The diviner was responsible for finding lost objects, telling future events, and locating game and other food resources. Doctors were usually older women who cured various ailments and illnesses with their knowledge of medicinal herbs. Finally, certain Cahuilla specialized as traders, who ranged as far west as Santa Catalina and as far east as the Gila River (Bean 1978; Kroeber 1976).

Marriages were arranged by parents from opposite moieties. When a child was born, an alliance formed between the families, which included frequent reciprocal exchanges. The Cahuilla kinship system extended to relatives within five generations. Important economic decisions, primarily the distribution of goods, operated within this kinship system (Bean 1978; Kroeber 1976).

Material Culture

Cahuilla houses were dome-shaped or rectangular, thatched structures. The home of the lineage leader was the largest, located near the ceremonial house with the best access to water. Other structures within the village included the men's sweathouse and granaries (Bean 1978; Kroeber 1976).

Cahuilla clothing, like other groups in the area, was minimal. Men typically wore a loincloth and sandals; women wore skirts made from mesquite bark, animal skin, or tules. Babies wore mesquite bark diapers. Rabbit skin cloaks were worn in cold weather (Bean 1978; Kroeber 1976).

Hunting implements included the bow and arrow, throwing sticks, and clubs. Grinding tools used in food processing included manos, metates, and wooden mortars. The Cahuilla were known to use long, wood, grinding implements to process mesquite beans; the mortar was typically a hollowed wooden log buried in the ground. Other tools included steatite arrow shaft straighteners (Bean 1978; Kroeber 1976).

Baskets were made from rush, deer grass, and skunkbrush. Different species and leaves were chosen for different colors in the basket design. Coiled-ware baskets were either flat (for plates, trays, or winnowing), bowl-shaped (for food serving), deep, inverted, and cone-shaped (for transporting), or rounded and flat-bottomed for storing utensils and personal items (Bean 1978; Kroeber 1976).

Cahuilla pottery was made from a thin, red-colored ceramic ware that was often painted and incised. Four basic vessel types are known for the Cahuilla: small-mouthed jars, cooking pots, bowls, and dishes. Additionally, smoking pipes and flutes were fashioned from ceramic (Bean 1978; Kroeber 1976).

Historic Period

The historic background of the project area began with the Spanish colonization of Alta California. The first Spanish colonizing expedition reached southern California in 1769 with the intention of converting and civilizing the indigenous populations, as well as expanding the knowledge of and access to new resources in the region (Brigandi 1998). In the late eighteenth century, the San Gabriel (Los Angeles County), San Juan Capistrano (Orange County), and San Luis Rey (San Diego County) missions began colonizing southern California and gradually expanded their use of the interior valley (into what is now western Riverside County) for raising grain and cattle to support the missions (Riverside County n.d.). The San Gabriel Mission claimed lands in what is now Jurupa, Riverside, San Jacinto, and the San Gorgonio Pass, while the San Luis Rey Mission claimed land in what is now Lake Elsinore, Temecula, and Murrieta (American Local History Network: Riverside County, California 1998). The indigenous groups who occupied these lands were recruited by missionaries, converted, and put to work in the missions (Pourade 1964). Throughout this period, the Native American populations were decimated by introduced diseases, a drastic shift in diet resulting in poor nutrition, and social conflicts due to the introduction of an entirely new social order (Cook 1976).

In the mid- to late 1770s, Juan Bautista de Anza passed through much of Riverside County while searching for an overland route from Sonora, Mexico to San Gabriel and Los Angeles, describing fertile valleys, lakes, and sub-desert areas (American Local History Network: Riverside County, California 1998; Riverside County n.d.). In 1797, Father Presidente Lausen, Father Norberto de Santiago, and Corporal Pedro Lisalde led an expedition from Mission San Juan Capistrano through southwestern Riverside County in search of a new mission site before constructing Mission San Luis Rey in northern San Diego County (Brigandi 1998). While no missions were ever built in what would become Riverside County (American Local History

Network: Riverside County, California 1998), many mission outposts, or *asistencias,* were established in the early years of the nineteenth century to extend the missions' influence to the backcountry (Brigandi 1998). Two outposts located in Riverside County include San Jacinto and Temecula.

Mexico gained independence in 1822 and desecularized the missions in 1832, signifying the end of the Mission Period (Brigandi 1998; Riverside County n.d.). By this time, the missions owned some of the best and most fertile land in southern California. In order for California to develop, the land would have to be made productive enough to turn a profit (Brigandi 1998). The new government began distributing the vast mission holdings to wealthy and politically connected Mexican citizens. The "grants" were called "ranchos," of which Jurupa, El Rincon, La Sierra, El Sobrante de San Jacinto, La Laguna (Lake Elsinore), Santa Rosa, Temecula, Pauba, San Jacinto Nuevo y Potrero, and San Jacinto Viejo were located in present-day Riverside County. Many of these ranchos have lent their names to modern-day locales (American Local History Network: Riverside County, California 1998). The first grant in present-day Riverside County, Rancho Jurupa, was given to Juan Bandini in 1838. These ranchos were all located in the valley environments typical of western Riverside County.

The treatment of Native Americans grew worse during the Rancho Period. Most of the Native Americans were forced off of their land or put to work on the now privately-owned ranchos, most often as slave labor. In light of the brutal ranchos, the degree to which Native Americans had become dependent upon the mission system is evident when, in 1838, a group of Native Americans from the San Luis Rey Mission petitioned government officials in San Diego to relieve suffering at the hands of the rancheros:

> We have suffered incalculable losses, for some of which we are in part to be blamed for because many of us have abandoned the Mission … We plead and beseech you … to grant us a Rev. Father for this place. We have been accustomed to the Rev. Fathers and to their manner of managing the duties. We labored under their intelligent directions, and we were obedient to the Fathers according to the regulations, because we considered it as good for us. (Brigandi 1998:21)

Native American culture had been disrupted to the point where they could no longer rely upon prehistoric subsistence and social patterns. Not only does this illustrate how dependent the Native Americans had become upon the missionaries, but it also indicates a marked contrast in the way the Spanish treated the Native Americans compared to the Mexican and United States ranchers. Spanish colonialism (missions) is based upon utilizing human resources while integrating them into their society. The Mexican and American ranchers did not accept Native Americans into their social order and used them specifically for the extraction of labor, resources, and profit. Rather than being incorporated, they were either subjugated or exterminated (Cook 1976).

In 1846, war erupted between Mexico and the United States. In 1848, with the signing of the Treaty of Guadalupe Hidalgo, the region was annexed as a territory of the United States, leading to California became a state in 1850. These events generated a steady flow of settlers into the area, including gold miners, entrepreneurs, health-seekers, speculators, politicians, adventurers, seekers of religious freedom, and individuals desiring to create utopian colonies.

In early 1852, the Native Americans of southern Riverside County, including the Luiseño and the Cahuilla, thought they had signed a treaty resulting in their ownership of all lands from Temecula to Aguanga east to the desert, including the San Jacinto Valley and the San Gorgonio Pass. The Temecula Treaty also included food and clothing provisions for the Native Americans. However, Congress never ratified the treaties, and the promise of one large reservation was rescinded (Brigandi 1998).

With the completion of the transcontinental railroad in 1869, land speculators, developers, and colonists began to invest in southern California. The first colony in what was to become Riverside County was Riverside itself. Judge John Wesley North, an abolitionist from Tennessee, brought a group of associates and co-investors out to southern California and founded Riverside on part of the Jurupa Rancho. A few years after, the navel orange was planted and found to be such a success that it quickly became the agricultural staple of the region (American Local History Network: Riverside County, California 1998).

By the late 1880s and early 1890s, there was growing discontent between Riverside and San Bernardino, its neighbor 10 miles to the north, due to differences in opinion concerning religion, morality, the Civil War, politics, and fierce competition to attract settlers. After a series of instances in which charges were claimed about unfair use of tax monies to the benefit of the city of only San Bernardino, several people from Riverside decided to investigate the possibility of a new county. In May 1893, voters living within portions of San Bernardino County (to the north) and San Diego County (to the south) approved the formation of Riverside County. Early business opportunities were linked to the agriculture industry, but commerce, construction, manufacturing, transportation, and tourism also provided a healthy local economy. By the time of Riverside County's formation, Riverside had grown to become the wealthiest city per capita in the country due to the successful cultivation of the navel orange (American Local History Network: Riverside County, California 1998; Riverside County n.d.).

History of the Eastvale Area

Although the city of Eastvale did not incorporate until 2010, the origins of the City's name date to the late nineteenth century. When Riverside County was founded in 1893, the school district of "East Vale" was established within area and it is generally believed that the school district is the origin of the current city's name (City of Eastvale 2019).

The historic development of Eastvale is linked to that of neighboring cities and communities, including Corona, Chino, Ontario, and Norco. As such, early development of the area was tied to the agriculture and dairy industry that was so prevalent throughout this region.

Between the late nineteenth and the mid-twentieth century, approximately half of the land that now makes up the city of Eastvale was part of the Fuller Ranch. The Fuller Ranch was located between Schleisman Road and the Santa Ana River. When first purchased in 1893 by Charles Henry Fuller, the ranch was known as the Pioneer Ranch and was comprised of approximately 3,000 acres. It was not until the 1920s when his son, Olive Ransome Fuller (O.R.), took control of the ranch. O.R. Fuller referred to the ranch as the "Fuller RanchO" (Meissner 2013; Johnson 2018). Throughout his ownership of the property, O.R. Fuller leased surrounding properties, which expanded the ranch to approximately 5,000 acres and established the ranch as a successful turkey and dairy farm (Theobald 2015; Johnson 2018). For most of their ownership of the property, O.R. Fuller and his wife, Ione, lived in Beverly Hills and ran a successful car dealership until the Great Depression took its toll on the automobile business (Theobald 2015).

The Fullers built a home on their ranch and referred to it as "Casa Orone," which was a combination of both of their first names. Casa Orone was a large home offering views south and east across the Santa Ana River Valley. In 1937, the Fullers turned the residence into a guest ranch, called the Fuller Guest Rancho, and expanded the home to accommodate 25 guests. The Fuller Guest Rancho became well known throughout the region, attracting many Hollywood celebrities, including W.C. Fields, Groucho Marx, Spencer Tracy, and Mary Pickford (Meissner 2013; Johnson 2018). The ranch was mostly famous for its illegal gambling, with card tables and slot machines designed to be hidden in the event of an unexpected visit from law enforcement (Theobald 2015).

The Fullers had begun to sell off portions of the ranch during the late 1930s. By the time O.R. passed away in 1946, "a portion of the original 3,000 acres had been leased out or sold to third parties for ranches and small housing developments" (Theobald 2015). After his death, ownership the property, which still included the Fuller Guest Rancho and its surrounding outbuildings, passed to Ione. Ione shut down the Fuller Guest Rancho and on January 1, 1948 remarried Harvey Uriah Weeks. The couple lived on the property until Ione's death on August 24, 1951 (Theobald 2015). After Ione's death, the remainder of the ranch was sold to a local dairyman who later subdivided the ranch property for individual buyers (Johnson 2018; Meissner 2013; Theobald 2015).

The dairy industry in southern California flourished from the 1950s through the 1980s. With dairy-friendly zoning throughout the Eastvale area and surrounding communities, many Dutch, French Basque, and Portuguese families chose to relocate there in order to become successful dairy farmers. These families became the cornerstone of the industry and the area's large, highly efficient dairies made it the largest milk-producing community in the nation's largest milk-producing state (Galvin and Associates 2004).

The Eastvale area remained primarily agricultural until the 1990s when dairy farms began to be subdivided and developed into residential subdivisions. In 2004, the Casa Orone building was razed and the property divided into parcels for residential tract housing (Theobald 2015). The city officially was incorporated in 2010 (Stokley 2010).

III. PROJECT DESCRIPTION

The 4.1-acre Eastvale Self Storage Project is situated between Hall Avenue and Selby Avenue at 14555 through 14587 Chandler Street within the city of Eastvale. The project is located within Section 34 Township 2 South, Range 7 West, San Bernardino Base and Meridian, as shown on the USGS *Corona North, California* 7.5' Quadrangle (see Figures 1 and 2 [Attachment B]). Currently, the property consists of three parcels (APNs 144-120-002, -003, and -004). In general, the southern half of the subject property contains 10 residential structures, consisting of five residences, four garages, and one shed (Plates 1 and 2). The northern half of the subject property is comprised of ancillary structures with corrugated metal roofs and fenced corrals containing cows, goats, chickens, and other livestock (Plates 3 and 4). As part of the project, the applicant plans to demolish all existing structures on the property to construct a self-storage center with associated access driveways, parking, landscaping, and infrastructure (see Figure 3 [Attachment B]).

IV. STUDY METHODS

An archaeological records search conducted at the EIC and the SCCIC was conducted by BFSA (see Confidential Appendix). The records search did not identify any previously recorded resources within the subject property; however, the search did identify 24 cultural resources within a one-mile radius of the project. Of the 24 cultural resources identified during the records search, three are prehistoric, two are multicomponent, and nineteen are historic. The prehistoric resources consist of a prehistoric artifact scatter, which reportedly was found by dairy farmers, and two prehistoric isolates. The two multicomponent sites consist of artifact scatters containing both prehistoric and historic artifacts. Two of the historic resources (P-33-016681 and SBR-12,613H) are actually a single resource identified as the Southern Sierra Transmission Line recorded both with the EIC and the SCCIC. The remaining historic resources include the original location of Casa Orone, five single-family residences, eight single-family residences associated with ranch complexes, one commercial/residential complex, one dairy complex, and the Fuqua Ditch.

In total, 57 cultural resource studies have been conducted within a one-mile radius of the proposed project. Of the previously conducted studies, one is mapped by the SCCIC as overlapping the subject property (Hoffman et al. 2012), while the EIC lists one located adjacent along Chandler Street (McKenna et al. 2003). Both studies are general large linear projects and do not directly address the project parcel or any potential resources within the subject property.

Plate 1: Overview of the southern half of the project, facing north.

Plate 2: Overview of the southern half of the project, facing north.

Plates 1 and 2

The Eastvale Self Storage Project

Plate 3: Overview of the northern half of the project, facing west.

Plate 4: Overview of the northern half of the project, facing southwest.

Plates 3 and 4

The Eastvale Self Storage Project

BFSA also reviewed the following historic sources:

- The National Register of Historic Places Index
- The Office of Historic Preservation, Archaeological Determinations of Eligibility
- The Office of Historic Preservation, Directory of Properties in the Historic Property Data File

These sources did not indicate the presence of cultural resources within or immediately adjacent to the project.

BFSA also reviewed additional online sources of information including the Riverside County Assessor's data; historic maps, including the USGS 1942 15' *Corona* and 1943 7.5' *Corona and Vicinity* topographic maps; and historic aerial photographs (1938 to 2018). Based on the aerial photographs, structures were present within the eastern half of the subject property as early as1938. Further, the maps and subsequent aerial photographs show the addition of multiple structures within the project throughout the mid-to late twentieth century. Based on the Assessor's data, the subject property includes Lots 60 and 61 of the 1925 Persimmon Republic Acres subdivision. APNs 144-120-002 and -003 were both originally part of Lot 60 while APN 144-120-004 was part of Lot 61. The property characteristics for APNs 144-120-002 and -003 both list one residential structure (14581 and 14577 Chandler Street, respectively) constructed in 1966 on each parcels. The Assessor's property characteristics lists three residences at APN 144-120-004, one constructed in 1932 (14565 Chandler Street) while the remaining two (14555 and 14557 Chandler Street) constructed in 1950.

BFSA also requested a records search of the Sacred Lands File (SLF) of the Native American Heritage Commission (NAHC). The SLF search did not indicate the presence of any sacred sites or locations of religious or ceremonial importance within the search radius. In accordance with the recommendations of the NAHC, BFSA contacted all Native Americans listed in the NAHC response letter to request any relevant information concerning the property. This request is not part of any Assembly Bill (AB) 52 Native American consultation. As of the date of this report, BFSA has received one response. The Agua Caliente Band of Cahuilla Indians stated the project is not located within their Traditional Use Area and deferred to tribes closer to the project. Original correspondence may be found in the Confidential Appendix.

V. RESULTS OF THE STUDY

Background Research

The records search and literature review suggest the potential for both historic and prehistoric resources to be located within the subject property. The project is situated less than a mile east of the Cucamonga Creek and north of the Santa Ana River. Although the records search only identified a limited number of prehistoric resources, the proximity of the property to multiple

sources of water indicate this area would have been advantageous for the prehistoric inhabitants of the region. Further, the frequency of historic resources associated with the agricultural history of the region as well as the historic maps, photographs, and assessor's information suggest that similar rural residential structures may be located within the property.

Field Reconnaissance

The archaeological survey was conducted on October 22, 2019 by Senior Project Archaeologist and Historian Andrew Garrison. Generally, the project consists of a mixed rural residential development within the southern half, while the northern half consists of a series of pens, corrals, and ancillary structures containing a variety of livestock. As such, visibility throughout the project was limited by structures, hardscape, landscaping, and some of the smaller inaccessible pens and corrals where livestock were being held. Vegetation on the property is characterized as primarily introduced grasses, weeds, and maintained residential landscaping.

As a result of the survey, five residences (14555, 14557, 14565, 14577, and 14581 Chandler Street), four associated garages, and one shed were identified within the southern half of the property. Additional ancillary structures, pens, and corrals are located within the northern half of the project (Plates 5 and 6). Generally, the style of the residences found on the subject property match the relative dates of construction listed by the Riverside County Assessor. Both 14581 and 14577 Chandler Street appear to be mid-1960s-era ranch style homes (Plates 7 and 8). The 14565, 14555, and 14557 Chandler Street residences currently exhibit features associated with the Minimal Traditional-style homes that were popular from the 1930s through 1950s (McAlester 2015). However, these three older structures, primarily 14565 Chandler Street, all exhibit some form of modification or alteration. As such, it is possible they were altered after construction from an earlier style of residence to the Minimal Traditional style they now exhibit (Plates 9 through 11).

Plate 5: Overview of the northern half of the project, facing northwest.

Plate 6: View of corrals and ancillary structures within the northern half of the project, facing south.

Plates 5 and 6

The Eastvale Self Storage Project

Plate 7: View of the primary (south) façade of the 14581 Chandler Street building.

Plate 8: View of the primary (south) façade of the 14577 Chandler Street building.

Plates 7 and 8

The Eastvale Self Storage Project

Plate 9: View of the primary (south) façade of the 14565 Chandler Street building.

Plate 10: View of the primary (south) façade of the 14555 Chandler Street building.

Plates 9 and 10

The Eastvale Self Storage Project

Plate 11: Overview of the 14565 Chandler Street (left) and 14555 Chandler Street (right) buildings, facing north.

Plate 12: View of the primary (west) façade of the 14557 Chandler Street building.

Plates 11 and 12

The Eastvale Self Storage Project

VI. RECOMMENDATIONS

No archaeological resources or deposits were identified during the archaeological survey conducted for the Eastvale Self Storage Project, nor did the records search indicate the existence of any recorded sites on the property. However, multiple residences and associated structures were located within the project. Based on the literature search and style of the residences, the buildings were constructed on the property as early as 1932 and development of the property continued throughout the mid- to late twentieth century. As all five of the residences are older than 50 years, they meet the minimum threshold to be considered a cultural resource. However, they have never been formally recorded or evaluated, and are not listed on any state or local register. As such, it is recommended that a Historic Structure Assessment (HSA) be conducted for the property to record and evaluate the residences, garages, and ancillary structures for significance under the California Register of Historical Resources. Should the structures and associated features be determined significant, the HSA should address project impacts to the resource and appropriate measures to mitigate them.

In addition to the standing structures, the project parcel is situated within an area of moderate sensitivity for cultural resources. The subject property is located near multiple natural sources of water including the Santa Ana River. The location of the property to these natural features would have been advantageous for the prehistoric inhabitants of the area and, based on the records search, prehistoric artifacts have been found within former agricultural properties in the region. Therefore, due to the presence of the frequency of recorded cultural resources located near the property and the limited visibility encountered during the archaeological survey, the potential exists that buried cultural deposits may be present under the landscaping, hardscape, and structures. Based upon the potential to encounter buried archaeological deposits or artifacts associated with the historic and prehistoric occupation of the area, archaeological and Native American monitoring of any earth-moving activities associated with the demolition of the existing structures and subsequent grading is recommended for the Eastvale Self Storage Project.

VIII. CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this archaeological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief, and have been compiled in accordance with the CEQA criteria as defined in Section 15064.5 and City of Eastvale guidelines.

Andrew J. Garrison — November 6, 2019

Andrew J. Garrison, M.A. — Date
Project Archaeologist

IX. ATTACHMENT A

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Resumes

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Education

Master of Arts, Public History, University of California, Riverside **2009**

Bachelor of Science, Anthropology, University of California, Riverside **2005**

Bachelor of Arts, History, University of California, Riverside **2005**

Professional Memberships

Register of Professional Archaeologists
Society for California Archaeology
Society for American Archaeology
California Council for the Promotion of History
Society of Primitive Technology
Lithic Studies Society
California Preservation Foundation
Pacific Coast Archaeological Society

Experience

Senior Project Archaeologist **June 2017–Present**
Brian F. Smith and Associates, Inc. **Poway, California**

Project management of all phases of archaeological investigations for local, state, and federal agencies including National Register of Historic Places (NRHP) and California Environmental Quality Act (CEQA) level projects interacting with clients, sub-consultants, and lead agencies. Supervise and perform fieldwork including archaeological survey, monitoring, site testing, comprehensive site records checks, and historic building assessments. Perform and oversee technological analysis of prehistoric lithic assemblages. Author or co-author cultural resource management reports submitted to private clients and lead agencies.

Senior Archaeologist and GIS Specialist **2009–2017**
Scientific Resource Surveys, Inc. **Orange, California**

Served as Project Archaeologist or Principal Investigator on multiple projects, including archaeological monitoring, cultural resource surveys, test excavations, and historic building assessments. Directed projects from start to finish, including budget and personnel hours proposals, field and laboratory direction, report writing, technical editing, Native American consultation, and final report submittal. Oversaw all GIS projects including data collection, spatial analysis, and map creation.

Preservation Researcher **2009**
City of Riverside Modernism Survey **Riverside, California**

Completed DPR Primary, District, and Building, Structure and Object Forms for five sites for a grant-funded project to survey designated modern architectural resources within the City of Riverside.

Information Officer **2005, 2008–2009**
Eastern Information Center (EIC), University of California, Riverside **Riverside, California**

Processed and catalogued restricted and unrestricted archaeological and historical site record forms. Conducted research projects and records searches for government agencies and private cultural resource firms.

Reports/Papers

2017 A Phase I Cultural Resources Assessment for the Marbella Villa Project, City of Desert Hot Springs, Riverside County, California. Brian F. Smith and Associates, Inc.

2017 Phase I Cultural Resources Survey for TTM 37109, City of Jurupa Valley, County of Riverside. Brian F. Smith and Associates, Inc.

2017 A Phase I Cultural Resources Survey for the Jefferson & Ivy Project, City of Murrieta, California. Brian F. Smith and Associates, Inc.

2017 A Phase I Cultural Resources Assessment for the Nuevo Dollar General Store Project, Riverside County, California. Brian F. Smith and Associates, Inc.

2017 A Phase I Cultural Resource Study for the Westmont Project, Encinitas, California. Brian F. Smith and Associates, Inc.

2017 A Phase I Cultural Resources Assessment for the Winchester Dollar General Store Project, Riverside County, California. Brian F. Smith and Associates, Inc.

2017 Phase I Cultural Resource Assessment for TTM 31810 (42.42 acres) Predico Properties Olive Grove Project. Scientific Resource Surveys, Inc.

2016 John Wayne Airport Jet Fuel Pipeline and Tank Farm Archaeological Monitoring Plan. Scientific Resource Surveys, Inc. On file at the County of Orange, California.

2016 Phase I Cultural Resources Assessment: All Star Super Storage City of Menifee Project, 2015-156. Scientific Resource Surveys, Inc. On file at the Eastern Information Center, University of California, Riverside.

2016 Historic Resource Assessment for 220 South Batavia Street, Orange, CA 92868 Assessor's Parcel Number 041-064-4. Scientific Resource Surveys, Inc. Submitted to the City of Orange as part of Mills Act application.

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2015 Exploring a Traditional Rock Cairn: Test Excavation at CA-SDI-13/RBLI-26: The Rincon Indian Reservation, San Diego County, California. Scientific Resource Surveys, Inc.

2015 Class III Scientific Resource Surveys, Inc. Survey for The Lynx Cat Granite Quarry and Water Valley Road Widening Project County of San Bernardino, California, Near the Community of Hinkley. Scientific Resource Surveys, Inc. On file at the South Central Coastal Information Center, California State University, Fullerton.

2014 Archaeological Phase I: Cultural Resource Survey of the South West Quadrant of Fairview Park, Costa Mesa. Scientific Resource Surveys, Inc. On file at the South Central Coastal Information Center, California State University, Fullerton.

2014 Archaeological Monitoring Results: The New Los Angeles Federal Courthouse. Scientific Resource Surveys, Inc. On file at the South Central Coastal Information Center, California State University, Fullerton.

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Presentations

2017 "Repair and Replace: Lithic Production Behavior as Indicated by the Debitage Assemblage from CA-MRP-283 the Hackney Site." Presented at the Society for California Archaeology Annual Meeting, Fish Camp, California.

2016 "Bones, Stones, and Shell at Bolsa Chica: A Ceremonial Relationship?" Presented at the Society for California Archaeology Annual Meeting, Ontario, California.

2016 "Markers of Time: Exploring Transitions in the Bolsa Chica Assemblage." Presented at the Society for California Archaeology Annual Meeting, Ontario, California.

2016 "Dating Duress: Understanding Prehistoric Climate Change at Bolsa Chica." Presented at the Society for California Archaeology Annual Meeting, Ontario, California.

2015 "Successive Cultural Phasing Of Prehistoric Northern Orange County, California." Presented at the Society for California Archaeology Annual Meeting, Redding, California.

2015 "Southern California Cogged Stone Replication: Experimentation and Results." Presented at the Society for California Archaeology Annual Meeting, Redding, California.

2015 "Prehistoric House Keeping: Lithic Analysis of an Intermediate Horizon House Pit." Presented at the Society for California Archaeology Annual Meeting, Redding, California.

2015 "Pits and Privies: The Use and Disposal of Artifacts from Historic Los Angeles." Presented at the Society for California Archaeology Annual Meeting, Redding, California.

2015 "Grooving in the Past: A Demonstration of the Manufacturing of OGR beads and a look at Past SRS, Inc. Replicative Studies." Demonstration of experimental manufacturing techniques at the January meeting of The Pacific Coast Archaeological Society, Irvine, California.

2014 "From Artifact to Replication: Examining *Olivella* Grooved Bead Manufacturing." Presented at the Society for California Archaeology Annual Meeting, Visalia, California.

2014 "New Discoveries from an Old Collection: Comparing Recently Identified OGR Beads to Those Previously Analyzed from the Encino Village Site." Presented at the Society for California Archaeology Annual Meeting, Visalia, California.

2012 Bolsa Chica Archaeology: Part Seven: Culture and Chronology. Lithic demonstration of experimental manufacturing techniques at the April meeting of The Pacific Coast Archaeological Society, Irvine, California.

2012 "Expedient Flaked Tools from Bolsa Chica: Exploring the Lithic Technological Organization." Presented at the Society for California Archaeology Annual Meeting, San Diego, California.

2012 "Utilitarian and Ceremonial Ground Stone Production at Bolsa Chica Identified Through Production Tools." Presented at the Society for California Archaeology Annual Meeting, San Diego, California.

2012 "Connecting Production Industries at Bolsa Chica: Lithic Reduction and Bead Manufacturing." Presented at the Society for California Archaeology Annual Meeting, San Diego, California.

2011 Bolsa Chica Archaeology: Part Four: Mesa Production Industries. Co-presenter at the April meeting of The Pacific Coast Archaeological Society, Irvine, California.

2011 "Hammerstones from Bolsa Chica and Their Relationship towards Site Interpretation." Presented at the Society for California Archaeology Annual Meeting, Rohnert Park, California.

2011 "Exploring Bipolar Reduction at Bolsa Chica: Debitage Analysis and Replication." Presented at the Society for California Archaeology Annual Meeting, Rohnert Park, California.

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Education

Master of Arts, History, University of San Diego, California **1982**

Bachelor of Arts, History, and Anthropology, University of San Diego, California **1975**

Professional Memberships

Society for California Archaeology

Experience

Principal Investigator **1977–Present**
Brian F. Smith and Associates, Inc. **Poway, California**

Brian F. Smith is the owner and principal historical and archaeological consultant for Brian F. Smith and Associates. Over the past 32 years, he has conducted over 2,500 cultural resource studies in California, Arizona, Nevada, Montana, and Texas. These studies include every possible aspect of archaeology from literature searches and large-scale surveys to intensive data recovery excavations. Reports prepared by Mr. Smith have been submitted to all facets of local, state, and federal review agencies, including the US Army Crops of Engineers, the Bureau of Land Management, the Bureau of Reclamation, the Department of Defense, and the Department of Homeland Security. In addition, Mr. Smith has conducted studies for utility companies (Sempra Energy) and state highway departments (CalTrans).

Professional Accomplishments

These selected major professional accomplishments represent research efforts that have added significantly to the body of knowledge concerning the prehistoric life ways of cultures once present in the Southern California area and historic settlement since the late 18th century. Mr. Smith has been principal investigator on the following select projects, except where noted.

Downtown San Diego Mitigation and Monitoring Reporting Programs: Large numbers of downtown San Diego mitigation and monitoring projects submitted to the Centre City Development Corporation, some of which included Strata (2008), Hotel Indigo (2008), Lofts at 707 10th Avenue Project (2007), Breeza (2007), Bayside at the Embarcadero (2007), Aria (2007), Icon (2007), Vantage Pointe (2007), Aperture (2007), Sapphire Tower (2007), Lofts at 655 Sixth Avenue (2007), Metrowork (2007), The Legend (2006), The Mark (2006), Smart Corner (2006), Lofts at 677 7th Avenue (2005), Aloft on Cortez Hill (2005), Front and

Beech Apartments (2003), Bella Via Condominiums (2003), Acqua Vista Residential Tower (2003), Northblock Lofts (2003), Westin Park Place Hotel (2001), Parkloft Apartment Complex (2001), Renaissance Park (2001), and Laurel Bay Apartments (2001).

Archaeology at the Padres Ballpark: Involved the analysis of historic resources within a seven-block area of the "East Village" area of San Diego, where occupation spanned a period from the 1870s to the 1940s. Over a period of two years, BFSA recovered over 200,000 artifacts and hundreds of pounds of metal, construction debris, unidentified broken glass, and wood. Collectively, the Ballpark Project and the other downtown mitigation and monitoring projects represent the largest historical archaeological program anywhere in the country in the past decade (2000-2007).

4S Ranch Archaeological and Historical Cultural Resources Study: Data recovery program consisted of the excavation of over 2,000 square meters of archaeological deposits that produced over one million artifacts, containing primarily prehistoric materials. The archaeological program at 4S Ranch is the largest archaeological study ever undertaken in the San Diego County area and has produced data that has exceeded expectations regarding the resolution of long-standing research questions and regional prehistoric settlement patterns.

Charles H. Brown Site: Attracted international attention to the discovery of evidence of the antiquity of man in North America. Site located in Mission Valley, in the city of San Diego.

Del Mar Man Site: Study of the now famous Early Man Site in Del Mar, California, for the San Diego Science Foundation and the San Diego Museum of Man, under the direction of Dr. Spencer Rogers and Dr. James R. Moriarty.

Old Town State Park Projects: Consulting Historical Archaeologist. Projects completed in the Old Town State Park involved development of individual lots for commercial enterprises. The projects completed in Old Town include Archaeological and Historical Site Assessment for the Great Wall Cafe (1992), Archaeological Study for the Old Town Commercial Project (1991), and Cultural Resources Site Survey at the Old San Diego Inn (1988).

Site W-20, Del Mar, California: A two-year-long investigation of a major prehistoric site in the Del Mar area of the city of San Diego. This research effort documented the earliest practice of religious/ceremonial activities in San Diego County (circa 6,000 years ago), facilitated the projection of major non-material aspects of the La Jolla Complex, and revealed the pattern of civilization at this site over a continuous period of 5,000 years. The report for the investigation included over 600 pages, with nearly 500,000 words of text, illustrations, maps, and photographs documenting this major study.

City of San Diego Reclaimed Water Distribution System: A cultural resource study of nearly 400 miles of pipeline in the city and county of San Diego.

Master Environmental Assessment Project, City of Poway: Conducted for the City of Poway to produce a complete inventory of all recorded historic and prehistoric properties within the city. The information was used in conjunction with the City's General Plan Update to produce a map matrix of the city showing areas of high, moderate, and low potential for the presence of cultural resources. The effort also included the development of the City's Cultural Resource Guidelines, which were adopted as City policy.

Draft of the City of Carlsbad Historical and Archaeological Guidelines: Contracted by the City of Carlsbad to produce the draft of the City's historical and archaeological guidelines for use by the Planning Department of the City.

The Mid-Bayfront Project for the City of Chula Vista: Involved a large expanse of undeveloped agricultural land situated between the railroad and San Diego Bay in the northwestern portion of the city. The study included the analysis of some potentially historic features and numerous prehistoric sites.

Cultural Resources Survey and Test of Sites Within the Proposed Development of the Audie Murphy Ranch, Riverside County, California: Project manager/director of the investigation of 1,113.4 acres and 43 sites, both prehistoric and historic—included project coordination; direction of field crews; evaluation of sites for significance based on County of Riverside and CEQA guidelines; assessment of cupule, pictograph, and rock shelter sites, co-authoring of cultural resources project report. February-September 2002.

Cultural Resources Evaluation of Sites Within the Proposed Development of the Otay Ranch Village 13 Project, San Diego County, California: Project manager/director of the investigation of 1,947 acres and 76 sites, both prehistoric and historic—included project coordination and budgeting; direction of field crews; assessment of sites for significance based on County of San Diego and CEQA guidelines; co-authoring of cultural resources project report. May-November 2002.

Cultural Resources Survey for the Remote Video Surveillance Project, El Centro Sector, Imperial County: Project manager/director for a survey of 29 individual sites near the U.S./Mexico Border for proposed video surveillance camera locations associated with the San Diego Border barrier Project—project coordination and budgeting; direction of field crews; site identification and recordation; assessment of potential impacts to cultural resources; meeting and coordinating with U.S. Army Corps of Engineers, U.S. Border Patrol, and other government agencies involved; co-authoring of cultural resources project report. January, February, and July 2002.

Cultural Resources Survey and Test of Sites Within the Proposed Development of the Menifee West GPA, Riverside County, California: Project manager/director of the investigation of nine sites, both prehistoric and historic—included project coordination and budgeting; direction of field crews; assessment of sites for significance based on County of Riverside and CEQA guidelines; historic research; co-authoring of cultural resources project report. January-March 2002.

Mitigation of An Archaic Cultural Resource for the Eastlake III Woods Project for the City of Chula Vista, California: Project archaeologist/ director—included direction of field crews; development and completion of data recovery program including collection of material for specialized faunal and botanical analyses; assessment of sites for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; co-authoring of cultural resources project report, in prep. September 2001-March 2002.

Cultural Resources Survey and Test of Sites Within the Proposed French Valley Specific Plan/EIR, Riverside County, California: Project manager/director of the investigation of two prehistoric and three historic sites—included project coordination and budgeting; survey of project area; Native American consultation; direction of field crews; assessment of sites for significance based on CEQA guidelines; cultural resources project report in prep. July-August 2000.

Cultural Resources Survey and Test of Sites Within the Proposed Lawson Valley Project, San Diego County, California: Project manager/director of the investigation of 28 prehistoric and two historic sites—included project coordination; direction of field crews; assessment of sites for significance based on CEQA guidelines; cultural resources project report in prep. July-August 2000.

Cultural Resource Survey and Geotechnical Monitoring for the Mohyi Residence Project, La Jolla, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; field survey; assessment of parcel for potentially buried cultural deposits; monitoring of geotechnichal borings; authoring of cultural resources project report. Brian F. Smith and Associates, San Diego, California. June 2000.

Enhanced Cultural Resource Survey and Evaluation for the Prewitt/Schmucker/Cavadias Project, La Jolla, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; direction of field crews; assessment of parcel for potentially buried cultural deposits; authoring of cultural resources project report. June 2000.

Cultural Resources Survey and Test of Sites Within the Proposed Development of the Menifee Ranch, Riverside County, California: Project manager/director of the investigation of one prehistoric and five historic sites—included project coordination and budgeting; direction of field crews; feature recordation; historic structure assessments; assessment of sites for significance based on CEQA guidelines; historic research; co-authoring of cultural resources project report. February-June 2000.

Salvage Mitigation of a Portion of the San Diego Presidio Identified During Water Pipe Construction for the City of San Diego, California: Project archaeologist/director—included direction of field crews; development and completion of data recovery program; management of artifact collections cataloging and curation; data synthesis and authoring of cultural resources project report in prep. April 2000.

Enhanced Cultural Resource Survey and Evaluation for the Tyrian 3 Project, La Jolla, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; assessment of parcel for potentially buried cultural deposits; authoring of cultural resources project report. April 2000.

Enhanced Cultural Resource Survey and Evaluation for the Lamont 5 Project, Pacific Beach, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; assessment of parcel for potentially buried cultural deposits; authoring of cultural resources project report. April 2000.

Enhanced Cultural Resource Survey and Evaluation for the Reiss Residence Project, La Jolla, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; assessment of parcel for potentially buried cultural deposits; authoring of cultural resources project report. March-April 2000.

Salvage Mitigation of a Portion of Site SDM-W-95 (CA-SDI-211) for the Poinsettia Shores Santalina Development Project and Caltrans, Carlsbad, California: Project achaeologist/ director—included direction of field crews; development and completion of data recovery program; management of artifact collections cataloging and curation; data synthesis and authoring of cultural resources project report in prep. December 1999-January 2000.

Survey and Testing of Two Prehistoric Cultural Resources for the Airway Truck Parking Project, Otay Mesa, California: Project archaeologist/director—included direction of field crews; development and completion of testing recovery program; assessment of site for significance based on CEQA guidelines; authoring of cultural resources project report, in prep. December 1999-January 2000.

Cultural Resources Phase I and II Investigations for the Tin Can Hill Segment of the Immigration and Naturalization Services Triple Fence Project Along the International Border, San Diego County, California: Project manager/director for a survey and testing of a prehistoric quarry site along the border—NRHP eligibility assessment; project coordination and budgeting; direction of field crews; feature recordation; meeting and coordinating with U.S. Army Corps of Engineers; co-authoring of cultural resources project report. December 1999-January 2000.

Mitigation of a Prehistoric Cultural Resource for the Westview High School Project for the City of San Diego, California: Project archaeologist/ director—included direction of field crews; development and completion of data recovery program including collection of material for specialized faunal and botanical analyses; assessment of sites for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; co-authoring of cultural resources project report, in prep. October 1999-January 2000.

Mitigation of a Prehistoric Cultural Resource for the Otay Ranch SPA-One West Project for the City of Chula Vista, California: Project archaeologist/director—included direction of field crews; development of data recovery program; management of artifact collections cataloging and curation; assessment of

site for significance based on CEQA guidelines; data synthesis; authoring of cultural resources project report, in prep. September 1999-January 2000.

Monitoring of Grading for the Herschel Place Project, La Jolla, California: Project archaeologist/ monitor—included monitoring of grading activities associated with the development of a single-dwelling parcel. September 1999.

Survey and Testing of a Historic Resource for the Osterkamp Development Project, Valley Center, California: Project archaeologist/ director—included direction of field crews; development and completion of data recovery program; budget development; assessment of site for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; authoring of cultural resources project report. July-August 1999.

Survey and Testing of a Prehistoric Cultural Resource for the Proposed College Boulevard Alignment Project, Carlsbad, California: Project manager/director —included direction of field crews; development and completion of testing recovery program; assessment of site for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; authoring of cultural resources project report, in prep. July-August 1999.

Survey and Evaluation of Cultural Resources for the Palomar Christian Conference Center Project, Palomar Mountain, California: Project archaeologist—included direction of field crews; assessment of sites for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; authoring of cultural resources project report. July-August 1999.

Survey and Evaluation of Cultural Resources at the Village 2 High School Site, Otay Ranch, City of Chula Vista, California: Project manager/director —management of artifact collections cataloging and curation; assessment of site for significance based on CEQA guidelines; data synthesis; authoring of cultural resources project report. July 1999.

Cultural Resources Phase I, II, and III Investigations for the Immigration and Naturalization Services Triple Fence Project Along the International Border, San Diego County, California: Project manager/director for the survey, testing, and mitigation of sites along border—supervision of multiple field crews, NRHP eligibility assessments, Native American consultation, contribution to Environmental Assessment document, lithic and marine shell analysis, authoring of cultural resources project report. August 1997-January 2000.

Phase I, II, and II Investigations for the Scripps Poway Parkway East Project, Poway California: Project archaeologist/project director—included recordation and assessment of multicomponent prehistoric and historic sites; direction of Phase II and III investigations; direction of laboratory analyses including prehistoric and historic collections; curation of collections; data synthesis; coauthorship of final cultural resources report. February 1994; March-September 1994; September-December 1995.

Archaeological Evaluation of Cultural Resources Within the Proposed Corridor for the San Elijo Water Reclamation System Project, San Elijo, California: Project manager/director —test excavations; direction of artifact identification and analysis; graphics production; coauthorship of final cultural resources report. December 1994-July 1995.

Evaluation of Cultural Resources for the Environmental Impact Report for the Rose Canyon Trunk Sewer Project, San Diego, California: Project manager/Director —direction of test excavations; identification and analysis of prehistoric and historic artifact collections; data synthesis; co-authorship of final cultural resources report, San Diego, California. June 1991-March 1992.

Reports/Papers

Author, coauthor, or contributor to over 2,500 cultural resources management publications, a selection of which are presented below.

2015 An Archaeological/Historical Study for the Safari Highlands Ranch Project, City of Escondido, County of San Diego.

2015 A Phase I and II Cultural Resources Assessment for the Decker Parcels II Project, Planning Case No. 36962, Riverside County, California.

2015 A Phase I and II Cultural Resources Assessment for the Decker Parcels I Project, Planning Case No. 36950, Riverside County, California.

2015 Cultural Resource Data Recovery and Mitigation Monitoring Program for Site SDI-10,237 Locus F, Everly Subdivision Project, El Cajon, California.

2015 Phase I Cultural Resource Survey for the Woodward Street Senior Housing Project, City of San Marcos, California (APN 218-120-31).

2015 An Updated Cultural Resource Survey for the Box Springs Project (TR 33410), APNs 255-230-010, 255-240-005, 255-240-006, and Portions of 257-180-004, 257-180-005, and 257-180-006.

2015 A Phase I and II Cultural Resource Report for the Lake Ranch Project, TR 36730, Riverside County, California.

2015 A Phase II Cultural Resource Assessment for the Munro Valley Solar Project, Inyo County, California.

2014 Cultural Resources Monitoring Report for the Diamond Valley Solar Project, Community of Winchester, County of Riverside.

2014 National Historic Preservation Act Section 106 Compliance for the Proposed Saddleback Estates Project, Riverside County, California.

2014 A Phase II Cultural Resource Evaluation Report for RIV-8137 at the Toscana Project, TR 36593, Riverside County, California.

2014 Cultural Resources Study for the Estates at Del Mar Project, City of Del Mar, San Diego, California (TTM 14-001).

2014 Cultural Resources Study for the Aliso Canyon Major Subdivision Project, Rancho Santa Fe, San Diego County, California.

2014 Cultural Resources Due Diligence Assessment of the Ocean Colony Project, City of Encinitas.

2014 A Phase I and Phase II Cultural Resource Assessment for the Citrus Heights II Project, TTM 36475, Riverside County, California.

2013 A Phase I Cultural Resource Assessment for the Modular Logistics Center, Moreno Valley, Riverside County, California.

2013 A Phase I Cultural Resources Survey of the Ivey Ranch Project, Thousand Palms, Riverside County, California.

2013 Cultural Resources Report for the Emerald Acres Project, Riverside County, California.

2013 A Cultural Resources Records Search and Review for the Pala Del Norte Conservation Bank Project, San Diego County, California.

2013 An Updated Phase I Cultural Resources Assessment for Tentative Tract Maps 36484 and 36485, Audie Murphy Ranch, City of Menifee, County of Riverside.

2013 El Centro Town Center Industrial Development Project (EDA Grant No. 07-01-06386); Result of Cultural Resource Monitoring.

2013 Cultural Resources Survey Report for the Renda Residence Project, 9521 La Jolla Farms Road, La Jolla, California.

2013 A Phase I Cultural Resource Study for the Ballpark Village Project, San Diego, California.

2013 Archaeological Monitoring and Mitigation Program, San Clemente Senior Housing Project, 2350 South El Camino Real, City of San Clemente, Orange County, California (CUP No. 06-065; APN-060-032-04).

2012 Mitigation Monitoring Report for the Los Peñasquitos Recycled Water Pipeline.

2012 Cultural Resources Report for Menifee Heights (Tract 32277).

2012 A Phase I Cultural Resource Study for the Altman Residence at 9696 La Jolla Farms Road, La Jolla, California 92037.

2012 Mission Ranch Project (TM 5290-1/MUP P87-036W3): Results of Cultural Resources Monitoring During Mass Grading.

2012 A Phase I Cultural Resource Study for the Payan Property Project, San Diego, California.

2012 Phase I Archaeological Survey of the Rieger Residence, 13707 Durango Drive, Del Mar, California 92014, APN 300-369-49.

2011 Mission Ranch Project (TM 5290-1/MUP P87-036W3): Results of Cultural Resources Monitoring During Mass Grading.

2011 Mitigation Monitoring Report for the 1887 Viking Way Project, La Jolla, California.

2011 Cultural Resource Monitoring Report for the Sewer Group 714 Project.

2011 Results of Archaeological Monitoring at the 10th Avenue Parking Lot Project, City of San Diego, California (APNs 534-194-02 and 03).

2011 Archaeological Survey of the Pelberg Residence for a Bulletin 560 Permit Application; 8335 Camino Del Oro; La Jolla, California 92037 APN 346-162-01-00 .

2011 A Cultural Resources Survey Update and Evaluation for the Robertson Ranch West Project and an Evaluation of National Register Eligibility of Archaeological sites for Sites for Section 106 Review (NHPA).

2011 Mitigation Monitoring Report for the 43rd and Logan Project.

2011 Mitigation Monitoring Report for the Sewer Group 682 M Project, City of San Diego Project #174116.

2011 A Phase I Cultural Resource Study for the Nooren Residence Project, 8001 Calle de la Plata, La Jolla, California, Project No. 226965.

2011 A Phase I Cultural Resource Study for the Keating Residence Project, 9633 La Jolla Farms Road, La Jolla, California 92037.

2010 Mitigation Monitoring Report for the 15th & Island Project, City of San Diego; APNs 535-365-01, 535-365-02 and 535-392-05 through 535-392-07.

2010 Archaeological Resource Report Form: Mitigation Monitoring of the Sewer and Water Group 772 Project, San Diego, California, W.O. Nos. 187861 and 178351.

2010 Pottery Canyon Site Archaeological Evaluation Project, City of San Diego, California, Contract No. H105126.

2010 Archaeological Resource Report Form: Mitigation Monitoring of the Racetrack View Drive Project, San Diego, California; Project No. 163216.

2010 A Historical Evaluation of Structures on the Butterfield Trails Property.

2010 Historic Archaeological Significance Evaluation of 1761 Haydn Drive, Encinitas, California (APN 260-276-07-00).

2010 Results of Archaeological Monitoring of the Heller/Nguyen Project, TPM 06-01, Poway, California.

2010 Cultural Resource Survey and Evaluation Program for the Sunday Drive Parcel Project, San Diego County, California, APN 189-281-14.

2010 Archaeological Resource Report Form: Mitigation Monitoring of the Emergency Garnet Avenue Storm Drain Replacement Project, San Diego, California, Project No. B10062

2010 An Archaeological Study for the 1912 Spindrift Drive Project

2009 Cultural Resource Assessment of the North Ocean Beach Gateway Project City of San Diego #64A-003A; Project #154116.

2009 Archaeological Constraints Study of the Morgan Valley Wind Assessment Project, Lake County, California.

2008 Results of an Archaeological Review of the Helen Park Lane 3.1-acre Property (APN 314-561-31), Poway, California.

2008 Archaeological Letter Report for a Phase I Archaeological Assessment of the Valley Park Condominium Project, Ramona, California; APN 282-262-75-00.

2007 Archaeology at the Ballpark. Brian F. Smith and Associates, San Diego, California. Submitted to the Centre City Development Corporation.

2007 Result of an Archaeological Survey for the Villages at Promenade Project (APNs 115-180-007-3,115-180-049-1, 115-180-042-4, 115-180-047-9) in the City of Corona, Riverside County.

2007 Monitoring Results for the Capping of Site CA-SDI-6038/SDM-W-5517 within the Katzer Jamul Center Project; P00-017.

2006 Archaeological Assessment for The Johnson Project (APN 322-011-10), Poway, California.

2005 Results of Archaeological Monitoring at the El Camino Del Teatro Accelerated Sewer Replacement Project (Bid No. K041364; WO # 177741; CIP # 46-610.6.

2005 Results of Archaeological Monitoring at the Baltazar Draper Avenue Project (Project No. 15857; APN: 351-040-09).

2004 TM 5325 ER #03-14-043 Cultural Resources.

2004 An Archaeological Survey and an Evaluation of Cultural Resources at the Salt Creek Project. Report on file at Brian F. Smith and Associates.

2003 An Archaeological Assessment for the Hidden Meadows Project, San Diego County, TM 5174, Log No. 99-08-033. Report on file at Brian F. Smith and Associates.

2003 An Archaeological Survey for the Manchester Estates Project, Coastal Development Permit #02-009, Encinitas, California. Report on file at Brian F. Smith and Associates.

2003 Archaeological Investigations at the Manchester Estates Project, Coastal Development Permit #02-009, Encinitas, California. Report on file at Brian F. Smith and Associates.

2003 Archaeological Monitoring of Geological Testing Cores at the Pacific Beach Christian Church Project. Report on file at Brian F. Smith and Associates.

2003 San Juan Creek Drilling Archaeological Monitoring. Report on file at Brian F. Smith and Associates.

2003 Evaluation of Archaeological Resources Within the Spring Canyon Biological Mitigation Area, Otay Mesa, San Diego County, California. Brian F. Smith and Associates, San Diego, California.

2002 An Archaeological/Historical Study for the Otay Ranch Village 13 Project (et al.). Brian F. Smith and Associates, San Diego, California.

2002 An Archaeological/Historical Study for the Audie Murphy Ranch Project (et al.). Brian F. Smith and Associates, San Diego, California.

2002 Results of an Archaeological Survey for the Remote Video Surveillance Project, El Centro Sector, Imperial County, California. Brian F. Smith and Associates, San Diego, California.

2002 A Cultural Resources Survey and Evaluation for the Proposed Robertson Ranch Project, City of Carlsbad. Brian F. Smith and Associates, San Diego, California.

2002 Archaeological Mitigation of Impacts to Prehistoric Site SDI-7976 for the Eastlake III Woods Project, Chula Vista, California. Brian F. Smith and Associates, San Diego, California.

2002 An Archaeological/Historical Study for Tract No. 29777, Menifee West GPA Project, Perris Valley, Riverside County. Brian F. Smith and Associates, San Diego, California.

2002 An Archaeological/Historical Study for Tract No. 29835, Menifee West GPA Project, Perris Valley, Riverside County. Brian F. Smith and Associates, San Diego, California.

2001 An Archaeological Survey and Evaluation of a Cultural Resource for the Moore Property, Poway. Brian F. Smith and Associates, San Diego, California.

2001 An Archaeological Report for the Mitigation, Monitoring, and Reporting Program at the Water and Sewer Group Job 530A, Old Town San Diego. Brian F. Smith and Associates, San Diego, California.

2001 A Cultural Resources Impact Survey for the High Desert Water District Recharge Site 6 Project, Yucca Valley. Brian F. Smith and Associates, San Diego, California.

2001 Archaeological Mitigation of Impacts to Prehistoric Site SDI-13,864 at the Otay Ranch SPA-One West Project. Brian F. Smith and Associates, San Diego, California.

2001 A Cultural Resources Survey and Site Evaluations at the Stewart Subdivision Project, Moreno Valley, County of San Diego. Brian F. Smith and Associates, San Diego, California.

2000 An Archaeological/Historical Study for the French Valley Specific Plan/EIR, French Valley, County of Riverside. Brian F. Smith and Associates, San Diego, California.

2000 Results of an Archaeological Survey and the Evaluation of Cultural Resources at The TPM#24003– Lawson Valley Project. Brian F. Smith and Associates, San Diego, California.

2000 Archaeological Mitigation of Impacts to Prehistoric Site SDI-5326 at the Westview High School Project for the Poway Unified School District. Brian F. Smith and Associates, San Diego, California.

2000 An Archaeological/Historical Study for the Menifee Ranch Project. Brian F. Smith and Associates, San Diego, California.

2000 An Archaeological Survey and Evaluation of Cultural Resources for the Bernardo Mountain Project, Escondido, California. Brian F. Smith and Associates, San Diego, California.

2000 A Cultural Resources Impact Survey for the Nextel Black Mountain Road Project, San Diego, California. Brian F. Smith and Associates, San Diego, California.

2000 A Cultural Resources Impact Survey for the Rancho Vista Project, 740 Hilltop Drive, Chula Vista, California. Brian F. Smith and Associates, San Diego, California.

2000 A Cultural Resources Impact Survey for the Poway Creek Project, Poway, California. Brian F. Smith and Associates, San Diego, California.

2000 Cultural Resource Survey and Geotechnical Monitoring for the Mohyi Residence Project. Brian F. Smith and Associates, San Diego, California.

2000 Enhanced Cultural Resource Survey and Evaluation for the Prewitt/Schmucker/ Cavadias Project. Brian F. Smith and Associates, San Diego, California.

2000 Enhanced Cultural Resource Survey and Evaluation for the Lamont 5 Project. Brian F. Smith and Associates, San Diego, California.

2000 Salvage Excavations at Site SDM-W-95 (CA-SDI-211) for the Poinsettia Shores Santalina Development Project, Carlsbad, California. Brian F. Smith and Associates, San Diego, California.

2000 Enhanced Cultural Resource Survey and Evaluation for the Reiss Residence Project, La Jolla, California. Brian F. Smith and Associates, San Diego, California.

2000 Enhanced Cultural Resource Survey and Evaluation for the Tyrian 3 Project, La Jolla, California. Brian F. Smith and Associates, San Diego, California.

2000 A Report for an Archaeological Evaluation of Cultural Resources at the Otay Ranch Village Two SPA, Chula Vista, California. Brian F. Smith and Associates, San Diego, California.

2000 An Archaeological Evaluation of Cultural Resources for the Airway Truck Parking Project, Otay Mesa, County of San Diego. Brian F. Smith and Associates, San Diego, California.

2000 Results of an Archaeological Survey and Evaluation of a Resource for the Tin Can Hill Segment of the Immigration and Naturalization and Immigration Service Border Road, Fence, and Lighting Project, San Diego County, California. Brian F. Smith and Associates, San Diego, California.

1999 An Archaeological Survey of the Home Creek Village Project, 4600 Block of Home Avenue, San Diego, California. Brian F. Smith and Associates, San Diego, California.

1999 An Archaeological Survey for the Sgobassi Lot Split, San Diego County, California. Brian F. Smith and Associates, San Diego, California.

1999 An Evaluation of Cultural Resources at the Otay Ranch Village 11 Project. Brian F. Smith and Associates, San Diego, California.

1999 An Archaeological/Historical Survey and Evaluation of a Cultural Resource for The Osterkamp Development Project, Valley Center, California. Brian F. Smith and Associates, San Diego, California.

1999 An Archaeological Survey and Evaluation of Cultural Resources for the Palomar Christian Conference Center Project, Palomar Mountain, California. Brian F. Smith and Associates, San Diego, California.

1999 An Archaeological Survey and Evaluation of a Cultural Resource for the Proposed College Boulevard Alignment Project. Brian F. Smith and Associates, San Diego, California.

1999 Results of an Archaeological Evaluation for the Anthony's Pizza Acquisition Project in Ocean Beach, City of San Diego (with L. Pierson and B. Smith). Brian F. Smith and Associates, San Diego, California.

1996 An Archaeological Testing Program for the Scripps Poway Parkway East Project. Brian F. Smith and Associates, San Diego, California.

1995 Results of a Cultural Resources Study for the 4S Ranch. Brian F. Smith and Associates, San Diego, California.

1995 Results of an Archaeological Evaluation of Cultural Resources Within the Proposed Corridor for the San Elijo Water Reclamation System. Brian F. Smith and Associates, San Diego, California.

1994 Results of the Cultural Resources Mitigation Programs at Sites SDI-11,044/H and SDI-12,038 at the Salt Creek Ranch Project . Brian F. Smith and Associates, San Diego, California.

1993 Results of an Archaeological Survey and Evaluation of Cultural Resources at the Stallion Oaks Ranch Project. Brian F. Smith and Associates, San Diego, California.

1992 Results of an Archaeological Survey and the Evaluation of Cultural Resources at the Ely Lot Split Project. Brian F. Smith and Associates, San Diego, California.

1991 The Results of an Archaeological Study for the Walton Development Group Project. Brian F. Smith and Associates, San Diego, California.

X. ATTACHMENT B

Project Maps:
General Location Map
USGS Project Location Map
Conceptual Site Plan

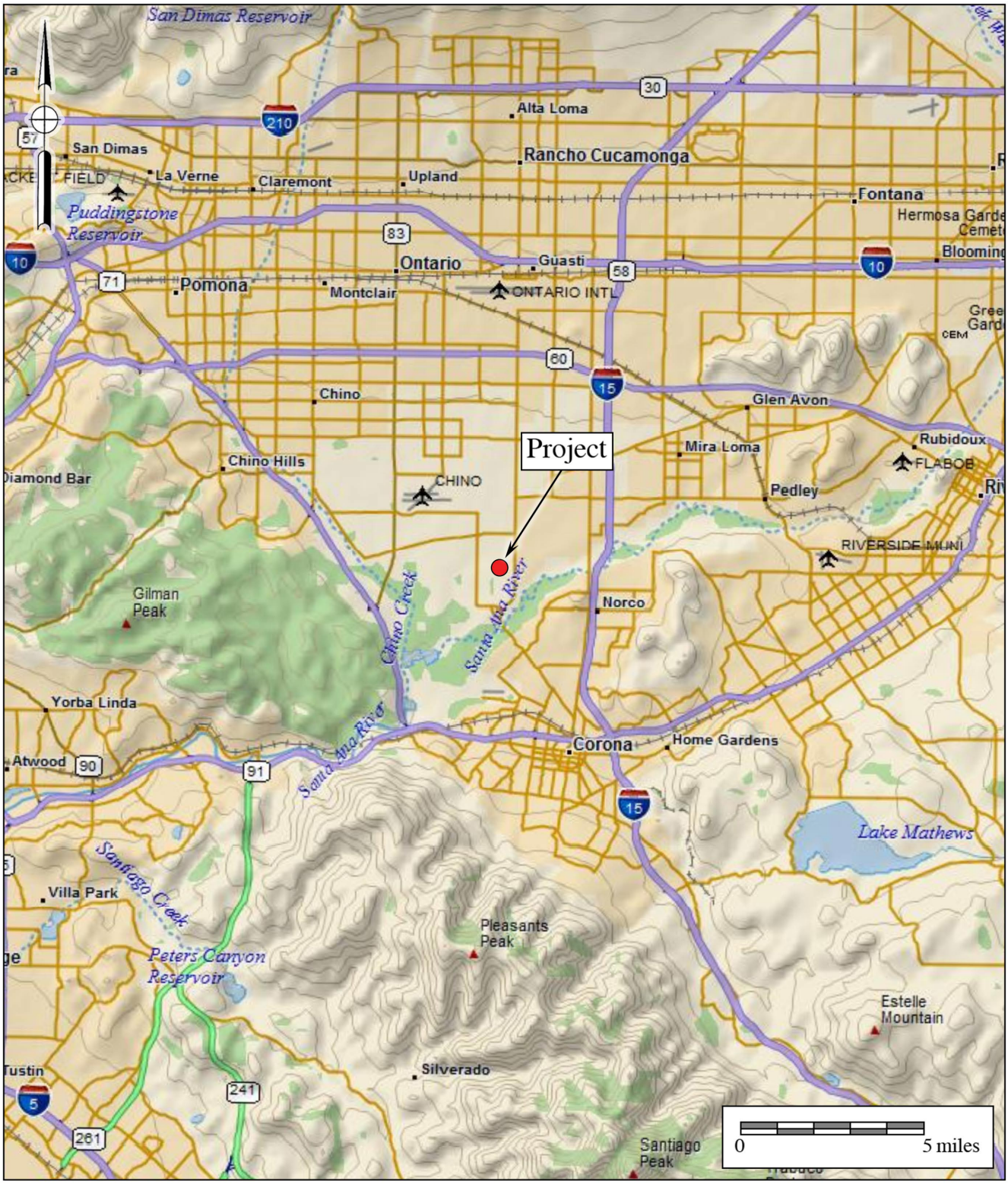

Figure 1

General Location Map

The Eastvale Self Storage Project

DeLorme (1:250,000)

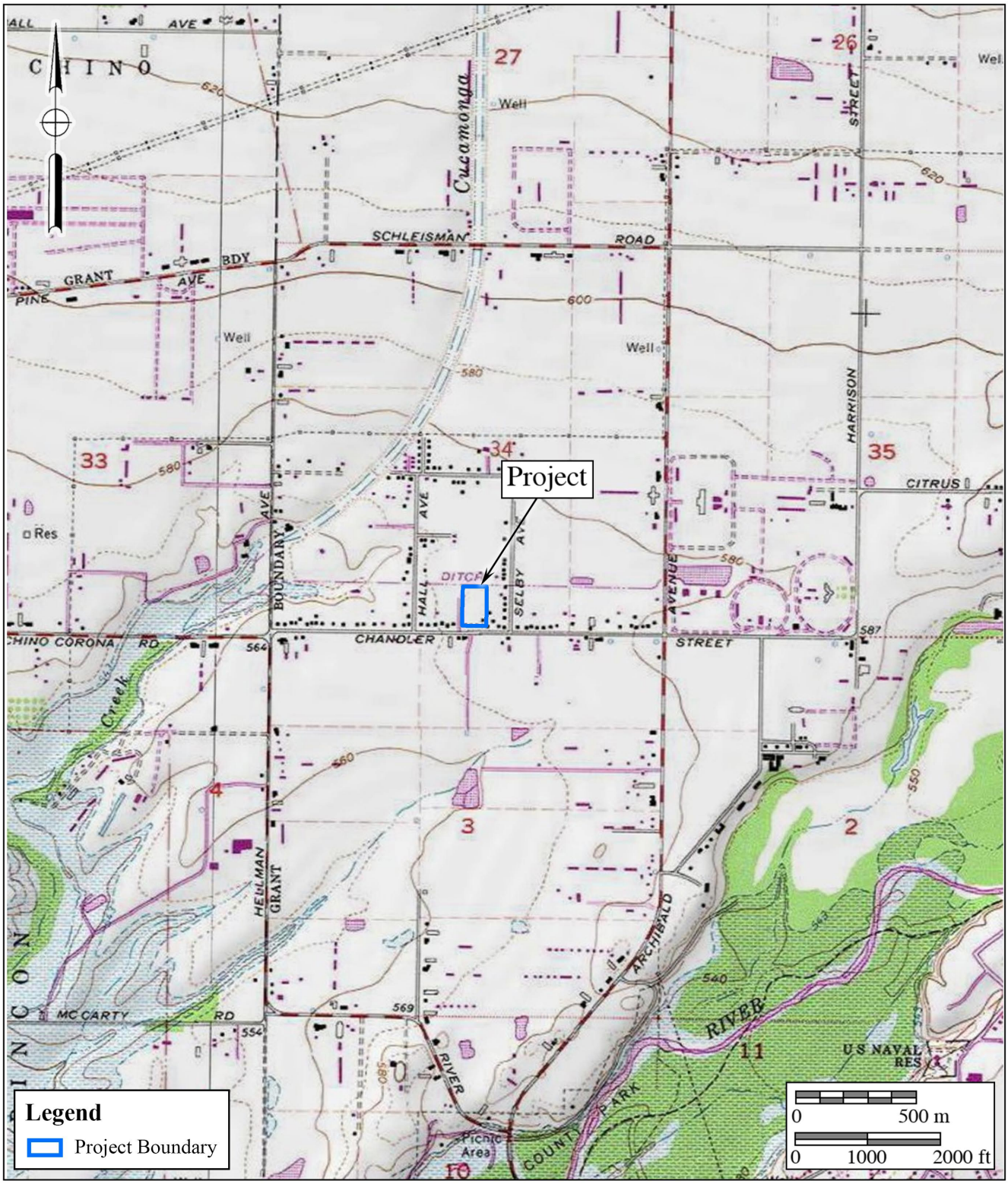

Figure 2

Project Location Map

The Eastvale Self Storage Project

USGS *Corona North* Quadrangle (7.5-minute series)

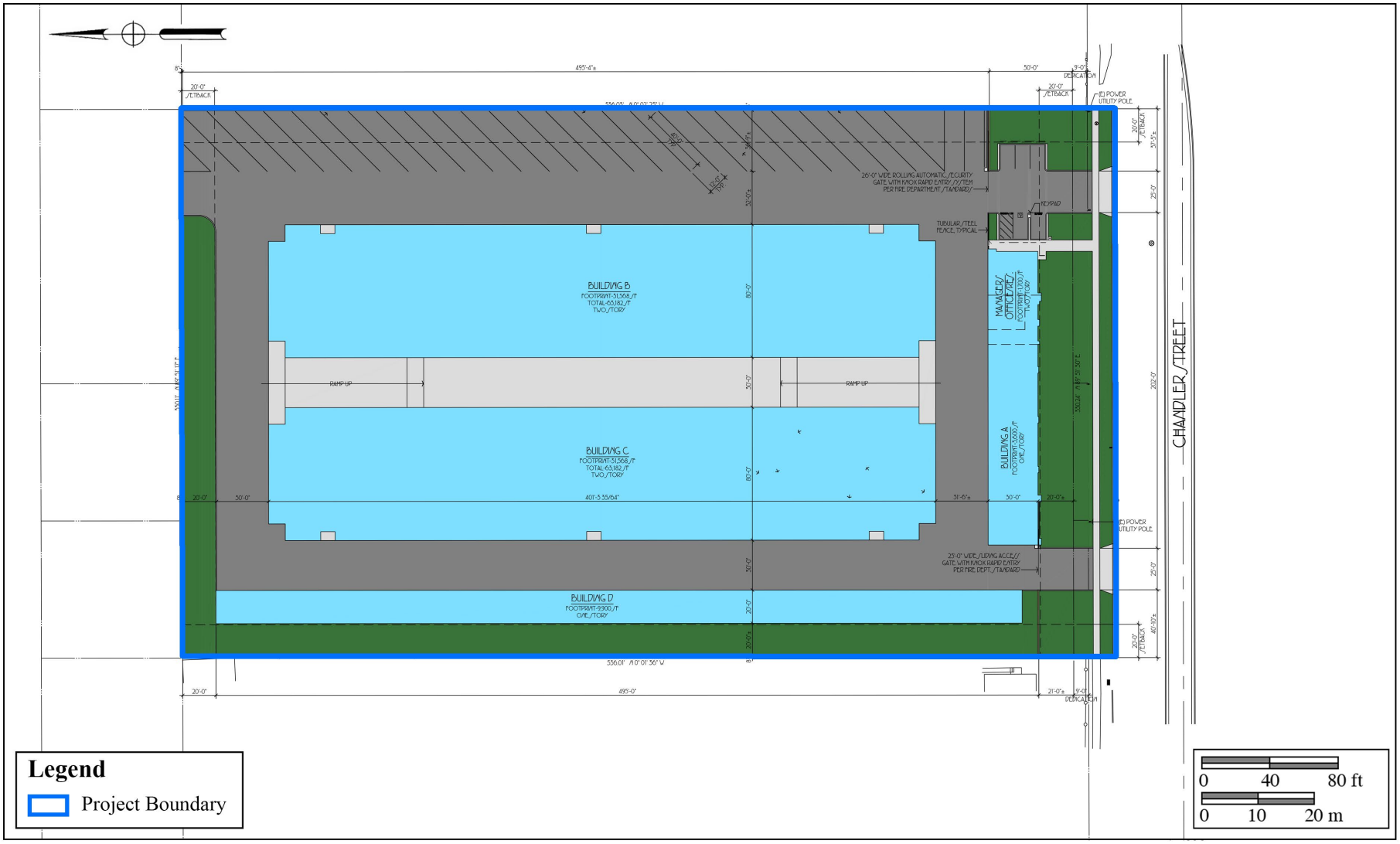

Figure 3

Conceptual Site Plan

The Eastvale Self Storage Project

XI. CONFIDENTIAL APPENDIX

Archaeological Records Search Results
NAHC Sacred Lands Search Results

(Deleted for Public Review; Bound Separately)

APPENDIX 9:
Historical Resources Evaluation

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HISTORICAL RESOURCES EVALUATION

Eastvale Self Storage Project
Eastvale, Riverside County, California

Prepared for:

Gossett Development
Garrett Gossett
garrettmgossett@gmail.com

Prepared by:

David Brunzell, M.A., RPA
Contributions by Dylan Williams, B.A.
BCR Consulting LLC
505 West 8th Street
Claremont, California 91711

Project No. GOS2001

Database Information:
Type of Study: Intensive
Resources Recorded: Historic-Period Residences at 14555, 14557, 14565, 14577, and 14587 Chandler Street
Keywords: Eastvale, Historic-period Houses
USGS Quadrangle: 7.5-minute *Corona North, California* (1981)

BCRCONSULTING LLC

February 25, 2020

MANAGEMENT SUMMARY

BCR Consulting LLC (BCR Consulting) is under contract to Gossett Development to conduct a Historical Resources Evaluation of the Eastvale Self Storage Project (the project) in the City of Eastvale, Riverside County, California. Research and intensive-level pedestrian field survey were conducted for the subject property pursuant to the California Environmental Quality Act (CEQA) according to City standards. These tasks identified five historic-period residences located within the three parcels that comprise the project site. These resources have been recorded and evaluated for California Register of Historical Resources (California Register) listing eligibility (i.e. CEQA significance). Each of the five resources is recommended not eligible for listing in the California Register and as such is not significant under CEQA. Based on the above results, BCR Consulting recommends a finding of no impacts to buildings that qualify as historical resources under CEQA for this project. BCR Consulting also recommends that no additional cultural resources work, monitoring, or mitigations associated with historic-period buildings are necessary. Please see Garrison and Smith (2019) for recommendations associated with archaeological resources.

If human remains are encountered during the undertaking, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

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FIGURES

APPENDIX

INTRODUCTION

BCR Consulting LLC (BCR Consulting) is under contract to Gossett Development to conduct a Cultural Resources Assessment of the 14555, 14577, and 14587 Chandler Street (the project) in the City of Eastvale, Riverside County, California. The work is being performed pursuant to the California Environmental Quality Act (CEQA). The project site is located in Section 34 of Township 2 South, Range 7 West, San Bernardino Baseline and Meridian. It is depicted on the United States Geological Survey (USGS) *Corona North, California* (1981) 7.5-minute topographic quadrangle (Figure 1).

CULTURAL SETTING

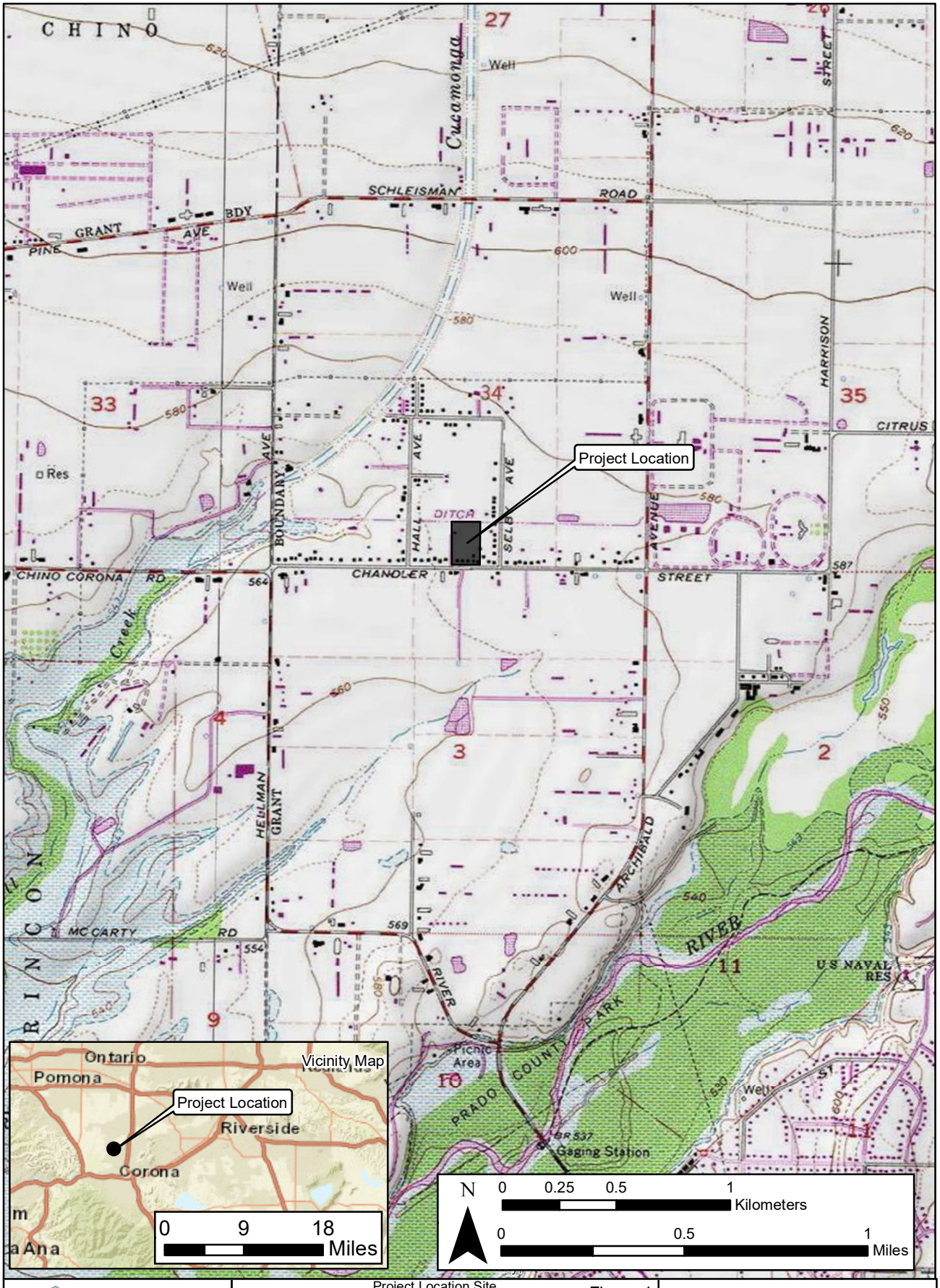
History

Historic-era California is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Spanish Period. The first European to pass through the area is thought to be a Spaniard called Father Francisco Garces. Having become familiar with the area, Garces acted as a guide to Juan Bautista de Anza, who had been commissioned to lead a group across the desert from a Spanish outpost in Arizona to set up quarters at the Mission San Gabriel in 1771 near what today is Pasadena (Beck and Haase 1974). Garces was followed by Alta California Governor Pedro Fages, who briefly explored the region in 1772. Searching for San Diego Presidio deserters, Fages had traveled through Riverside to San Bernardino, crossed over the mountains into the Mojave Desert, and then journeyed westward to the San Joaquin Valley (Beck and Haase 1974).

Mexican Period. In 1821, Mexico overthrew Spanish rule and the missions began to decline. By 1833, the Mexican government passed the Secularization Act, and the missions, reorganized as parish churches, lost their vast land holdings, and released their neophytes (Beattie and Beattie 1974).

American Period. The American Period, 1848–Present, began with the Treaty of Guadalupe Hidalgo. In 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. The cattle industry reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large pastoral estates in California, and demand for beef during the Gold Rush led to a cattle boom that lasted from 1849–1855. However, beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys. When the beef market collapsed, many California ranchers lost their ranchos through foreclosure. A series of disastrous floods in 1861–1862, followed by a significant drought diminished the economic impact of local ranching. This decline combined with ubiquitous agricultural and real estate developments of the late 19th century, set the stage for diversified economic pursuits that have continued to proliferate to this day (Beattie and Beattie 1974; Cleland 1941).



BCRCONSULTING LLC	Project Location Site Eastvale Self Storage Project Reference: ESRI; USGS Quad: Corona North, CA (1981)	Figure 1	Gossett Development

Local Sequence. Eastvale's history is closely tied to the surrounding cities: Corona, Ontario, Chino, and Norco (DeGrandpre 2018). An agricultural center had been established during the rancho (or Mexican) period and, being located on an alluvial plain at the nexus of three meandering watercourses, the region exhibited as much as four feet of fertile topsoil (USGS 1981). As a result, the area became known for successful orchard and row crops, and eventually (and perhaps most enduringly) dairy. Chino, which shares a boundary with Eastvale, remained agricultural throughout the depression and World War II, but by the 1950s semi-rural subdivisions and dairies began to define the economic landscape (Musselwhite 2005). Favorable zoning encouraged Dutch dairy-farmers to settle, resulting in the formation of the most productive milk-producing community in the United States. Encroaching suburban settlements and the resulting zone changes have since caused many dairies to relocate, resulting in a reconfiguration of many parcels from agricultural to a retail/bedroom community (ibid).

PERSONNEL

David Brunzell, M.A., RPA acted as the Project Manager and Principal Investigator for the current study. He also compiled the technical report. BCR Consulting Staff Historian Dylan Williams, B.A. completed archival research, filled out the Department of Park and Recreation (DPR) 523 Forms, and contributed to the technical report. The field survey was completed by Mr. Williams and BCR Consulting Staff Archaeologist Nicholas Shepetuk, B.A.

RESEARCH DESIGN

Please note that a cultural resources records search has been completed and archaeological resources have been addressed for this project under a separate title (see Garrison and Smith 2019). The current effort was completed pursuant to CEQA, the Public Resources Code (PRC) Chapter 2.6, Section 21083.2, and California Code of Regulations (CCR) Title 14, Chapter 3, Article 5, Section 15064.5. Additional research and the pedestrian cultural resources survey was performed to identify and document previously recorded or newly identified historic-period buildings within the project site boundaries, to determine whether those buildings are significant pursuant to the above-referenced regulations and standards, and to develop specific mitigation measures (if necessary) that will address potential impacts to existing or potential resources. Tasks pursued to achieve that end include:

- Review of the cultural resources records search completed during the archaeological assessment (ibid.) to summarize results of any studies conducted and the cultural resources recorded within a one-mile radius of the project boundaries
- Additional research through various local and regional resources
- Systematic pedestrian survey to identify and record historic-period buildings
- Evaluation of California Register listing eligibility for any historic-period buildings discovered
- Development of recommendations and/or mitigations (if necessary) for significant historic-period buildings documented within the project site, following CEQA
- Completion of DPR 523 forms for any historic-period buildings identified.

METHODS

Research

Records Search. A cultural resources records search was completed during the previous study at the South-Central Cultural Information Center (SCCIC) and the Eastern Information Center (EIC). Records search results from the archaeological assessment are summarized below.

Additional Research. BCR Consulting performed additional research through records of the General Land Office Maintained by the Bureau of Land Management, the Riverside County Assessor, the City Clerk for the city of Eastvale, and through various Internet resources.

Field Survey

An intensive-level cultural resources field survey of the subject property was conducted on January 21, 2019. The survey was conducted by walking around accessible areas along the perimeter of each residence. Historic-period buildings were recorded on DPR 523 forms, and digital overviews and detail photographs were taken at various points around the project site. Historic-period buildings were recorded per the California OHP *Instructions for Recording Historical Resources* in the field using:

- Detailed note taking for entry on DPR Forms (see Appendix A)
- Digital photography of all cultural resources (see Appendix A and B)

RESULTS

Research

Records Search. The cultural resources records search results from the archaeological assessment completed for the project site are provided below.

> The records search did not identify any previously recorded resources within the subject property; however, the search did identify 24 cultural resources within a one-mile radius of the project. Of the 24 cultural resources identified during the records search, three are prehistoric, two are multicomponent, and nineteen are historic. The prehistoric resources consist of a prehistoric artifact scatter, which reportedly was found by dairy farmers, and two prehistoric isolates. The two multicomponent sites consist of artifact scatters containing both prehistoric and historic artifacts. Two of the historic resources (P-33-016681 and SBR-12613H) are actually a single resource identified as the Southern Sierra Transmission Line recorded both with the EIC and the SCCIC. The remaining historic resources include the original location of Casa Orone, five single-family residences, eight single-family residences associated with ranch complexes, one commercial/residential complex, one dairy complex, and the Fuqua Ditch. In total, 57 cultural resource studies have been conducted within a one-mile radius of the proposed project. Of the previously conducted studies, one is mapped by the SCCIC as overlapping the subject property…while the EIC lists one located adjacent along Chandler Street….Both studies are general large linear projects and do not directly

address the project parcel or any potential resources within the subject property (Garrison and Smith 2019:14).

Additional Research. Additional research was performed for the project site to provide the following context for the area surrounding the subject property during the historic era (i.e. greater than 45 years ago) within its boundaries (see also Field Survey Results, below). Please see Appendix A for citations.

The subject property was originally part of a 160-acre parcel of land in the former Jurupa Rancho owned by the Stearns Ranchos Company. The company claimed 45,000 acres of land in the vicinity of Riverside and San Bernardino Counties that were amenable for agricultural interests. In 1895, parcel deeds and easements to establish ditches, flumes, or pipelines on the subject property were granted to the Jurupa Land and Water Company. Research did not indicate any property developments associated with this transaction, and the subject property was deeded to a private owner in 1899. In 1915, the subject property was part of the land deeded from the Locust Grove Farms Company to the Sterling Milk Company. County records indicate that the subject property was organized, sold, and developed as Lot 61 of the Persimmon Republic Acres subdivision. The subdivision was organized in 1925 comprising dozens of parcels between Hellman and Harrison Avenues, with Chandler Street as the southern boundary. Five historic-period houses were built on the property between 1932 and the 1960s. Details regarding specific construction dates are provided below and in Appendix A. Research has failed to indicate any owners, residents, builders, or architects that were historically important.

14555, 14557, and 14565 Chandler Street. Building 1 (at 14565 Chandler) was built in 1932 and its first recorded occupant was Clarence Brunner, a United States Air Force servicemember, as early as 1950. According to county records, Buildings 2 and 3 were both built on the subject property in 1950. Historic aerial photographs indicate that between the late 1940s and the 1960s, the areas surrounding and encompassing the subject property and associated buildings were increasingly developed with new residential and commercial properties, particularly along Chandler Street. Research did not reveal other occupants of the subject property nor those of individual residences. A title deed states that Frank Borges and the Borges Family Trust owned the subject property by 1979 before their title to the parcel was transferred to Ajusta Investments in 2014.

14577 Chandler Street. The historic-age residence on the subject property was built in 1966 at a time in which historic aerial photographs show numerous residential developments locally taking shape. Elfie and Frank Costa resided on the property at least as early as 1970 and are the first recorded residents. Research did not reveal any occupants between 1970 and 1990 nor after 2000. The property was leased by numerous residents between 1990 and 2000. A title deed states that Frank Borges and the Borges Family Trust owned the subject property by 1979 before Ajusta Investments acquired the property in 2014.

14587 Chandler Street. The historic-age residence on the subject property was built in 1966 at a time in which historic aerial photographs show numerous local developments taking shape. A title deed states that Frank Borges and the Borges Family Trust owned the

subject property by 1979 before their title to the parcel was transferred to Ajusta Investments in 2014. Francisco Borges, his wife Virginia, and their family resided on the property as early as 1975 and are the first recorded residents. The Borges retained the property and Mr. Borges lived there into the 2000s. Research did not reveal other owners or occupants prior to 1975.

Field Survey

The project site is primarily occupied by residential buildings on its southern half. It contains five historic-age residences on three lots along Chandler Street. The northern portion of the lots has never been developed. BCR Consulting's field survey was conducted in the accessible areas around the historic-age residences.

14555, 14557, and 14565 Chandler Street. This parcel is occupied by three single-family residences that are historic in age (i.e. over 45 years old). The property around the residences is graded and landscaped. The area to the north is vacant, overgrown, and is covered in debris. Buildings at 14555, 14557, and 14565 Chandler Street (Assessor Parcel Number [APN] 144-120-004) are early and mid-century-styled residences located in a paved and landscaped area with a driveway dividing residences at 14555 and 14557 Chandler Street to the east, and 14565 Chandler Street to the west. Research has failed to indicate a builder or architect for these buildings.

The residence at 14565 Chandler Street (Building 1) is a single-story wood frame house constructed in 1932. The roof is side-gabled with an intermediate pitch, composition shingles, and minimal overhang. Rafter tails are exposed. A small gabled porch covered in wood siding protrudes over the centered front door and is supported by wooden posts to create a small covered entryway. A central brick chimney is located at the peak of the roof, and fenestration consists of replacement aluminum windows and a wooden front door with screen door. The exterior walls have been covered in stucco. Approximately 30 feet northeast of the residence is a simple front-gabled detached garage of similar construction to the residence. The original garage door has been replaced. Both buildings are in fair condition. A small inaccessible cattle corral is located behind Building 1.

Buildings 2 (14555 Chandler Street) and 3 (14557 Chandler Street) were built concurrently in 1950, and both are in fair condition. Building 2 has a wooden frame and a low-pitched hipped roof with minimal overhang. The outer walls are stucco, the windows are aluminum framed, and a central brick chimney protrudes through the roof peak. The roof is covered in composition shingles. The inset front door in the southwest corner of the residence is covered by a small porch. The porch is sided with vertical wooden board and batten on either side of a wooden door. A detached wood-framed, stuccoed, two-car garage with a front gabled-roof is located immediately to the north. A small front-gabled modern shed is located to the west.

Building 3 is a wood-framed residence with a low-pitched gable-and-wing roof exhibiting minimal overhang. The outer walls are stucco, the windows are aluminum framed, and a central stucco-covered chimney protrudes through the roof peak. The roof is topped with composition shingles, and forms a small porch supported by wooden posts and over the

centered front door. A wood-framed stuccoed detached two-car garage with modern roll-up metal garage door is located to the west.

14577 Chandler Street. This parcel is occupied by a single-family residence that is historic in age (i.e. over 45 years old). The residence at 14577 Chandler Street (APN 144-120-003) exhibits a later mid-century architectural style. An inaccessible cattle corral is located behind this property. It is a single-story wood frame house. Shake shingles top the hipped roof, and the exterior siding is stucco with some flagstone near the front entrance. The residence also features an attached garage and a dirt corral area is located behind the residence to the north. These elements combined with documentation (see Additional Research above and Appendix A) to indicate a mid-20th century construction date. Archival research failed to indicate a builder or architect. Inquiries to the city of Eastvale for building and alteration permits did not specify alterations or additions. The residence is in fair condition.

14587 Chandler Street. This parcel is occupied by a single-family residence that is historic in age (i.e. over 45 years old). The residence at 14587 Chandler Street (APN 144-120-002) exhibits a later mid-century architectural style. It is a single-story wood frame stuccoed house with composition shingles that top the hipped roof. A short stone masonry planter straddles the front entrance. These elements combined with documentation (see Additional Research above and Appendix A) are consistent with a mid-20th century construction date. A detached garage is located to the rear (north) of the residence, accessed from Chandler Street by a paved driveway wrapping around the west side of the residence. Archival research failed to indicate a builder or architect. Inquiries to the city of Eastvale for building and alteration permits did not specify alterations or additions. The residence is in fair condition.

SIGNIFICANCE EVALUATIONS

During the field survey, five historic-period residences were identified. CEQA (PRC Chapter 2.6, Section 21083.2 and CCR Title 145, Chapter 3, Article 5, Section 15064.5) calls for the evaluation and recordation of historic and archaeological resources. The criteria for determining the significance of impacts to cultural resources are based on Section 15064.5 of the *CEQA Guidelines* and Guidelines for the Nomination of Properties to the California Register. Properties eligible for listing in the California Register and subject to review under CEQA are those meeting the criteria for listing in the California Register, National Register, or designation under a local ordinance.

Significance Criteria

California Register of Historical Resources. The California Register criteria are based on National Register criteria. For a property to be eligible for inclusion on the California Register, one or more of the following criteria must be met:

1. It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the U.S.;
2. It is associated with the lives of persons important to local, California, or U.S. history;

3. It embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of a master, possesses high artistic values; and/or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resources." (CCR 4852 [d][2]). The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.

California Register Evaluation

14555, 14557, and 14565 Chandler Street. Criterion 1: The residences at 14555, 14557, and 15565 Chandler Street fit within a context of pre-war agricultural and post-war residential development in the Chino Valley. However, the property and its constituent residences are not associated with important events related to the founding and/or development of these contexts. The property and its constituent residences are therefore not eligible for the California Register under Criterion 1. Criterion 2: Substantial research has not linked this parcel or its constituent residences with individuals who have been notable in local, state, or national history. Criterion 3: Building 1 was constructed in 1932. It does not exhibit any notable characteristics of its era, due to a minimal utilitarian design combined with alterations that have included the addition of stucco and window replacement. Buildings two and three are typical examples of many residences built in the post-war period. None of the three buildings embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual or possess high artistic values. Criterion 4: Extensive research has exhausted this resource's data potential, and as such the resource has not and is not likely to yield information important in prehistory or history. The subject property and its constituent historic-age buildings are therefore recommended not eligible under any of the four criteria for listing on the California Register, and as such are not recommended historical resources under CEQA.

14577 Chandler Street. Criterion 1: The property at 14577 Chandler Street fits within a context of post-war residential development of the Chino Valley, however it is not associated with important events related to the founding and/or development of the industry. It is therefore not eligible for the California Register under Criterion 1. Criterion 2: Substantial research has not linked the subject property with individuals who have been notable in local, state, or national history. Criterion 3: The house is a residential building typical of many residences built in the late post-war period. It does not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual or possess high artistic values. Criterion 4: Extensive research has exhausted this resource's data potential, and as such the resource has not and is not likely to yield information important in prehistory or history. The subject property and its constituent historic-age building are therefore recommended not eligible under any of the four criteria for listing on the California Register, and as such are not recommended historical resources under CEQA.

14587 Chandler Street. Criterion 1: The property at 14587 Chandler Street fits within a context of post-war residential development of the Chino Valley, however it is not associated with important events related to the founding and/or development of the industry. It is therefore not eligible for the California Register under Criterion 1. Criterion 2: Substantial research has not linked the subject property with individuals who have been notable in local, state, or national history. Criterion 3: The house is a residential building that has typical of many residences built in the post-war period. It does not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual or possess high artistic values. Criterion 4: Extensive research has exhausted this resource's data potential, and as such the resource has not and is not likely to yield information important in prehistory or history. The subject property and its constituent historic-age building are therefore recommended not eligible under any of the four criteria for listing on the California Register, and as such are not recommended historical resources under CEQA.

RECOMMENDATIONS

Based on the above results, BCR Consulting recommends a finding of no impacts to buildings that qualify as historical resources under CEQA for this project. BCR Consulting also recommends that no additional cultural resources work, monitoring, or mitigations associated with historic-period buildings are necessary. Please see Garrison and Smith (2019) for recommendations associated with archaeological resources.

If human remains are encountered during the undertaking, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

REFERENCES

Beattie, George W., and Helen P. Beattie
1974 *Heritage of the Valley: San Bernardino's First Century*. Biobooks: Oakland.

Beck, Warren A., and Ynez D. Haase
1974 *Historical Atlas of California*. Oklahoma City: University of Oklahoma Press.

Cleland, Robert Glass
1941 *The Cattle on a Thousand Hills—Southern California, 1850-80.* San Marino, California: Huntington Library.

DeGrandpre, Deanne
2018 *City of Eastvale: History.* Electronic Document, http://www.eastvaleca.gov/about-eastvale/history, accessed March 2, 2018.

Garrison, Andrew J. and Brian F. Smith
2019 *A Phase I Cultural Resource Study for the Eastvale Self Storage Project. Eastvale, California.* On File at BCR Consulting.

APPENDIX A

DPR523 FORMS

State of California — The Resources Agency **Primary #**
DEPARTMENT OF PARKS AND RECREATION **HRI #**

PRIMARY RECORD

Trinomial
NRHP Status Code 6Z

Other Listings
Review Code **Reviewer** **Date**

 *__Resource Name or #:__ APN 144-120-004

P1. Other Identifier: N/A

***P2. Location:** ☐ **Not for Publication** ☑ **Unrestricted**

***a. County:** Riverside

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Corona North, CA **Date:** 1981 **T**2S; **R**7W; Section 34**;** SBBM

c. Address: 14555, 14557, 14565 Chandler Street City: Eastvale Zip: 92880

d. UTM: Zone: N/A mE/ Elevation: 570' AMSL

e. Other Locational Data: The parcel is located on the north side of Chandler St. between Hall and Selby Avenues in Eastvale.

***P3a. Description:** This parcel is occupied by three single-family residences that are historic in age (i.e. over 45 years old). The property around the residences is graded and landscaped. The area to the north is vacant, overgrown, and is covered in debris. Buildings at 14555, 14557, and 14565 Chandler Street (Assessor Parcel Number [APN] 144-120-004) are early and mid-century-styled residences located in a paved and landscaped area with a driveway dividing residences at 14555 and 14557 Chandler Street to the east, and 14565 Chandler Street to the west. Research has failed to indicate a builder or architect for these buildings. The residence at 14565 Chandler Street (**Building 1**) is a single-story wood frame house constructed in 1932. The roof is side-gabled with an intermediate pitch, composition shingles, and little overhang from its eaves. Rafter tails are exposed. A small gabled porch covered in wood siding protrudes over the centered front door and is supported by wooden posts to create a small covered entryway. A brick chimney is located at the peak of the roof near the center of the building and fenestration consists of replacement aluminum windows and a wooden front door covered by a screen door. The exterior walls have been covered in stucco. Approximately 30 feet northeast of the residence is a simple front-gabled detached garage of similar construction to the residence. The original garage door has been replaced. Both buildings are in fair condition. A small inaccessible cattle corral is located behind Building 1. Buildings 2 (14555 Chandler Street) and 3 (14557 Chandler Street) were built concurrently in 1950. **Building 2** has a wooden frame and a low-pitched hipped roof with minimal overhang. The outer walls are stucco, the windows are aluminum framed, and a central brick chimney protrudes through the roof peak. Shingles are composition. The inset front door in the southwest corner of the residence is covered a small porch. The porch is sided with vertical wooden board and batten on either side of doorway. A detached wood-framed, stuccoed, two-car garage with a front gabled-roof is located immediately to the north. A small front-gabled modern shed is located to the west. **Building 3** is a wood-framed residence with a low-pitched gable-and-wing roof exhibiting minimal overhang. The outer walls are stucco, the windows are aluminum framed, and a central stucco-covered chimney protrudes through the roof peak. The roof is topped with composition shingles, and forms a small porch supported by wooden posts and over the centered front door. A wood-framed stuccoed detached two-car garage and modern roll-up door is located to the west.

***P3b. Resource Attributes:** Multiple-Family Residential

P5a. Photo or Drawing **(**Photo required for buildings, structures, and objects.)

***P4. Resources Present:**
☑ Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other

P5b. Description of Photo: Photo 1: Bldg 1, NW.

***P6. Date Constructed/ Age and Sources:** ☑Historic 1932, 1950 (see BSO, page 2). ☐ Prehistoric ☐ Both

***P7. Owner and Address:**

***P8. Recorded by:**
D. Williams
BCR Consulting LLC
Claremont, California 91711

***P9. Date:** 1/21/20

***P10. Survey Type:** Intensive.
***P11. Report Citation:** *Historical Resources Evaluation Eastvale Self Storage Project, Eastvale, Riverside County, California*

***Attachments:** ☐NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

 ***NRHP Status Code**: 6Z ***Resource Name or #** (Assigned by recorder) APN 144-120-004

B1. Historic Name: N/A
B2. Common Name: N/A
B3. Original Use: Single-Family Residences
B4. Present Use: Single-Family Residences
***B5. Architectural Style:** Minimal Traditional
***B6. Construction History:** Building 1 and its detached garage were built on the subject parcel in 1932. Buildings 2 and 3, and their respective detached garages, were built in 1950.
***B7. Moved?** ☑**No** ☐**Yes** ☐**Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme:** Agricultural, Residential Development
Area: Chino Valley **Period of Significance:** Early and Mid-20th Century
Property Type: Residential Properties **Applicable Criteria:** N/A
Applicable Criteria: N/A. **Additional Resource Attributes**: N/A
(Discuss importance in terms of historical/architectural context by theme, period, and geographic scope. Address Integrity.)

Eastvale History

Eastvale's history is closely tied to the surrounding cities: Corona, Ontario, Chino, and Norco (DeGrandpre 2018). An agricultural center had been established during the rancho (or Mexican) period and, being located on an alluvial plain at the nexus of three meandering watercourses, the region exhibited as much as four feet of fertile topsoil (USGS 1981). As a result, the area became known for successful orchard and row crops, and eventually (and perhaps most enduringly) dairy. Chino, which shares a border with Eastvale, remained agricultural throughout the depression and World War II, but by the 1950s semi-rural subdivisions and dairies began to define the economic landscape (Musselwhite 2005). Favorable zoning encouraged dairy-farmers to settle, resulting in the formation of the most productive milk-producing community in the United States. Encroaching suburban settlements and the resulting zone changes have since caused many dairies to relocate, resulting in a reconfiguration of many parcels from agricultural to a retail/bedroom community (ibid).

Subject Property History

The subject property was originally part of a 160-acre parcel of land in the former Jurupa Rancho owned by the Stearns Ranchos Company. The company claimed 45,000 acres of land in the vicinity of Riverside and San Bernardino Counties that were amenable for agricultural interests (San Francisco Examiner 1892). In 1895, parcel deeds and easements to establish ditches, flumes, or pipelines on the subject property were granted to the Jurupa Land and Water Company. Research did not indicate any property developments after this transaction, and the subject property was deeded to a private owner in 1899. In 1915, the subject property was part of the land deeded from the Locust Grove Farms Company to the Sterling Milk Company (First American Title Insurance Company [FATIC] 2018). County records indicate that the subject property was organized, sold, and developed as Lot 61 of the Persimmon Republic Acres subdivision. The subdivision was organized in 1925 as dozens of parcels between Hellman and Harrison Avenues, with Chandler Street as the southern boundary. Historic aerial photographs demonstrate that prior to 1950, the area surrounding and encompassing the subject property was primarily agricultural with scattered residential developments and unpaved roads.

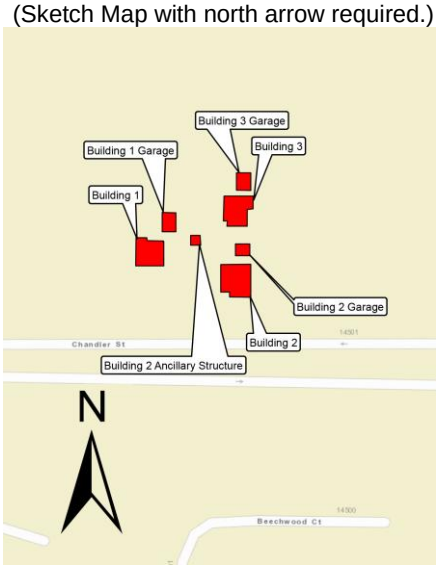
(Continued on Continuation Sheet, page 3).

***B12. References:**

DeGrandpre, Deanne. 2018. *City of Eastvale: History. (*http://www.eastvaleca.gov/about-eastvale/history).
First American Title Insurance Company. 2018. File No: NCS-968014-SA1.
Los Angeles Times. "[Article regarding Clarence Brunner's service in US Air Force]." 12/20/1951 (newspapers.com).
Musselwhite, Bryan. 2005. *Beet Sugar, Cows, and Bedrooms: The Transformation of Chino from a Rural Community to a Modern Suburb.* Cal Poly, Pomona.
Riverside County Assessor. 2020. Property Information for APN 144120004. On File with the Riverside County Assessor, County Clerk, Recorder.
San Francisco Examiner. "A Home Among Orange Groves." 8/18/1892 (newspapers.com).
United States Geological Survey. 1981. *Corona N. 7.5 Minute Topo Quadrangle.*
United States Department of Agriculture. 1938, 1948, 1959, 1967, 1994. Aerial Photos of Riverside County (historicaerials.com).
Ancestry.com. 2010. *U.S. Public Records Index, 1950-1993, Volume 2* [database on-line] (ancestry.com).

***B14. Evaluators:** David Brunzell, BCR Consulting, Claremont, California
***Date of Evaluation:** 1/23/20

(Sketch Map with north arrow required.)



***B10 (continued from page 2).**
Building 1 was built in 1932 and its first recorded occupant was Clarence Brunner, a United States Air Force servicemember, as early as 1950 (Los Angeles Times 1951). According to county records, Buildings 2 and 3 were also built on the subject property in 1950. Historic aerial photographs indicate that between the late 1940s and the 1960s, the areas surrounding and encompassing the subject property and associated buildings were increasingly developed with new residential and commercial properties, particularly along Chandler Street (United States Department of Agriculture 1938, 1948, 1959, 1967, 1994; Riverside County Assessor 2020). Research did not reveal other occupants of the subject property nor those of individual residences. A title deed states that Frank Borges and the Borges Family Trust owned the subject property as early 1979 before their title to the parcel was transferred to Ajusta Investments in 2014 (FATIC 2018).

Evaluation
California Register of Historical Resources requires that a significance criterion (1-4) be met for a resource to be eligible. A resource is eligible if (1) it is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; (2) it is associated with the lives of persons important in California's past; (3) it embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or (4) it has yielded or is likely to yield information important in prehistory or history. The California Register also requires that sufficient time has passed since a resource's period of significance (normally 45 years) to "obtain a scholarly perspective on the events or individuals associated with the resources" (CCR 4852 [d][2]). The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.

Criterion 1: The residences at 14555, 14557, and 15565 Chandler Street fit within a context of pre-war agricultural and post-war residential development in the Chino Valley. However, the property and its constituent residences are not associated with important events related to the founding and/or development of these contexts. The property and its constituent residences are therefore not eligible for the California Register under Criterion 1. Criterion 2: Substantial research has not linked this parcel or its constituent residences with individuals who have been notable in local, state, or national history. Criterion 3: Building 1 was constructed in 1932. It does not exhibit any notable characteristics of its era, due to a minimal utilitarian design combined with alterations that have included the addition of stucco and window replacement. Buildings two and three are typical examples of many residences built in the post-war period. None of the three buildings embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual or possess high artistic values. Criterion 4: Extensive research has exhausted this resource's data potential, and as such the resource has not and is not likely to yield information important in prehistory or history. The subject property and its constituent historic-age buildings are therefore recommended not eligible under any of the four criteria for listing on the California Register, and as such are not recommended historical resources under CEQA.
Thus BCR Consulting recommends the National Register of Historic Places (NRHP) Status Code "6Z".

Photo 2: Overview, detached wood frame garage belonging to Building 1 (View NW)

Photo 3: Overview, Building 2 built in 1950 (View NE)

Photo 4: Overview, detached garage and rear side of Building 2 (View E)

Photo 5: Overview, ancillary structure associated with Building 2 (View NE)

Photo 6: Overview, Building 3 with detached garage (View SE)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code | Reviewer | Date

 *Resource Name or #: APN 144-120-003

P1. Other Identifier: N/A

***P2. Location:** ☐ **Not for Publication** ☑ **Unrestricted**
***a. County:** Riverside
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Corona North, CA **Date:** 1981 **T**2S; **R**7W; Section 34**;** SBBM

c. Address: 14577 Chandler Street City: Eastvale Zip:
d. UTM: Zone: N/A mE/ Elevation: 570' AMSL
e. Other Locational Data: The subject property is located on the north side of Chandler Street between Hall Avenue and Selby Avenue in Eastvale.

***P3a. Description:** This parcel is occupied by a single-family residence that is historic in age (i.e. over 45 years old). The residence at 14577 Chandler Street (APN 144-120-003) exhibits a later mid-century architectural style. An inaccessible cattle corral is located behind this property. It is a single-story wood frame house. Shake shingles top the hipped roof, and the exterior siding is stucco with some flagstone near the front entrance. The residence also features an attached garage and a dirt corral area is located behind the residence to the north. These elements combined with documentation (see Additional Research above and Appendix A) to indicate a mid-20th century construction date. Archival research failed to indicate a builder or architect. Inquiries to the city of Eastvale for building and alteration permits did not specify alterations or additions. The residence is in fair condition.

***P3b. Resource Attributes:** Single-Family Residential

P5a. Photo or Drawing **(**Photo required for buildings, structures, and objects.)

***P4. Resources Present:**
☑ Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other

P5b. Description of Photo: (View, date, accession #) Photo 1: View N.

***P6. Date Constructed/ Age and Sources:** ☑Historic 1966 (see BSO, page 2). ☐ Prehistoric ☐ Both

***P7. Owner and Address:**

***P8. Recorded by:**
D. Williams
BCR Consulting LLC
Claremont, California 91711

***P9. Date:** 1/21/20

***P10. Survey Type:** Intensive.

***P11. Report Citation:** *Historical Resources Evaluation Eastvale Self Storage Project, Eastvale, Riverside County, California*

***Attachments:** ☐NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

B1. Historic Name: N/A
B2. Common Name: N/A
B3. Original Use: Single-Family Residence
B4. Present Use: Single-Family Residence
***B5. Architectural Style:** Minimal Traditional
***B6. Construction History:** The building was built in 1966, according to county records.
***B7. Moved? ☑No ☐Yes ☐Unknown Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme:** Residential Development
Area: Chino Valley **Period of Significance:** Mid-20th Century
Property Type: Residential Properties **Applicable Criteria:** N/A
Applicable Criteria: N/A. **Additional Resource Attributes**: N/A
(Discuss importance in terms of historical/architectural context by theme, period, and geographic scope. Address Integrity.)

Eastvale History

Eastvale's history is closely tied to the surrounding cities: Corona, Ontario, Chino, and Norco (DeGrandpre 2018). An agricultural center had been established during the rancho (or Mexican) period and, being located on an alluvial plain at the nexus of three meandering watercourses, the region exhibited as much as four feet of fertile topsoil (USGS 1981). As a result, the area became known for successful orchard and row crops, and eventually (and perhaps most enduringly) dairy. Chino, which shares a border with Eastvale, remained agricultural throughout the depression and World War II, but by the 1950s semi-rural subdivisions and dairies began to define the economic landscape (Musselwhite 2005). Favorable zoning encouraged dairy-farmers to settle, resulting in the formation of the most productive milk-producing community in the United States. Encroaching suburban settlements and the resulting zone changes have since caused many dairies to relocate, resulting in a reconfiguration of many parcels from agricultural to a retail/bedroom community (ibid).

Subject Property History

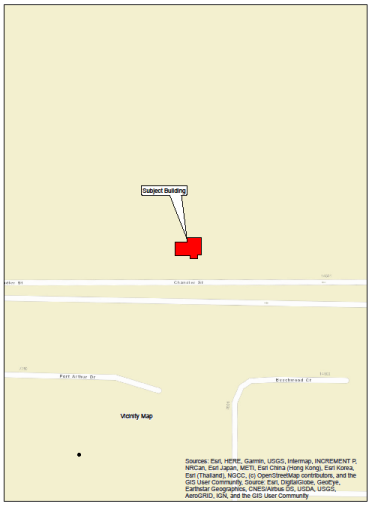
The subject property was originally part of a 160-acre parcel of land in the former Jurupa Rancho owned by the Stearns Ranchos Company. The company claimed to own 45,000 acres of land in the vicinity of Riverside and San Bernardino Counties that were amenable for agricultural interests (San Francisco Examiner 1892). In 1895, parcel deeds and easements to establish ditches, flumes, or pipelines on the subject property were granted to the Jurupa Land and Water Company. Research did not indicate any property developments after this transaction, and the subject property was deeded to a private owner in 1899. In 1915, the subject property was part of the land deeded from the Locust Grove Farms Company to the Sterling Milk Company (First American Title Insurance Company [FATIC] 2018). County records indicate that the subject property was organized, sold, and developed as Lot 61 of the Persimmon Republic Acres subdivision. The subdivision was organized in 1925 as dozens of parcels between Hellman and Harrison Avenues, with Chandler Street as the southern boundary. Historic aerial photographs demonstrate that prior to 1950, the area surrounding and encompassing the subject property was primarily agricultural with scattered residential developments and unpaved roads. A structure associated with the historic-age residence immediately east of the subject property was present in historic photographs, but this disappeared from view around the time that the current residence was built.
(Continued on Continuation Sheet, page 3).

***B12. References:**

DeGrandpre, Deanne. 2018. *City of Eastvale: History. (*http://www.eastvaleca.gov/ about-eastvale/history).
Department of Commerce-Bureau of the Census. 1940. Sixteenth Census of the
First American Title Insurance Company. 2018. File No: NCS-968014-SA1.
Musselwhite, Bryan. 2005. *Beet Sugar, Cows, and Bedrooms: The Transformation of Chino from a Rural Community to a Modern Suburb.* Cal Poly, Pomona.
Riverside County Assessor. 2020. Property Information for APN 144120003. On File with the Riverside County Assessor, County Clerk, Recorder.
United States Geological Survey. 1981. *Corona N. 7.5 Minute Topo Quadrangle.*
United States Department of Agriculture. 1938, 1948, 1959, 1967, 1994. Aerial Photos of Riverside County (historicaerials.com).
Ancestry.com. 2010. *U.S. Public Records Index, 1950-1993, Volume 2* [database on-line] (ancestry.com).

***B14. Evaluators:** David Brunzell, BCR Consulting, Claremont, California
***Date of Evaluation:** 1/23/20

(Sketch Map with north arrow required.)



***B10 (continued from page 2).**
The historic-age residence on the subject property was built in 1966 at a time in which historic aerial photographs show numerous residential developments locally taking shape. Elfie and Frank Costa resided on the property at least as early as 1970 and are the first recorded residents. Research did not reveal any occupants between 1970 and 1990 nor after 2000. The property was leased by numerous residents between 1990 and 2000. A title deed states that Frank Borges and the Borges Family Trust owned the subject property as early 1979 before Ajusta Investments acquired the property in 2014.

Evaluation
California Register of Historical Resources requires that a significance criterion (1-4) be met for a resource to be eligible. A resource is eligible if (1) it is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; (2) it is associated with the lives of persons important in California's past; (3) it embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or (4) it has yielded or is likely to yield information important in prehistory or history. The California Register also requires that sufficient time has passed since a resource's period of significance (normally 45 years) to "obtain a scholarly perspective on the events or individuals associated with the resources" (CCR 4852 [d][2]). The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.

Criterion 1: The property at 14577 Chandler Street fits within a context of post-war residential development of the Chino Valley, however it is not associated with important events related to the founding and/or development of the industry. It is therefore not eligible for the California Register under Criterion 1. Criterion 2: Substantial research has not linked the subject property with individuals who have been notable in local, state, or national history. Criterion 3: The house is a residential building typical of many residences built in the late post-war period. It does not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual or possess high artistic values. Criterion 4: Extensive research has exhausted this resource's data potential, and as such the resource has not and is not likely to yield information important in prehistory or history. The subject property and its constituent historic-age building are therefore recommended not eligible under any of the four criteria for listing on the California Register, and as such are not recommended historical resources under CEQA.

Photo 2: Overview of the residence (View NE)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code | Reviewer | Date

 *Resource Name or #: APN 144-120-002

P1. Other Identifier: N/A

***P2. Location:** ☐ **Not for Publication** ☑ **Unrestricted**
***a. County:** Riverside
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Corona North, CA **Date:** 1981 **T**2S; **R**7W; Section 34**;** SBBM

c. Address: 14587 Chandler Street City: Eastvale Zip:
d. UTM: Zone: N/A mE/ Elevation: 570' AMSL
e. Other Locational Data: The subject property is located on the north side of Chandler Street between Hall Avenue and Selby Avenue in Eastvale.

***P3a. Description:** This parcel is occupied by a single-family residence that is historic in age (i.e. over 45 years old). The residence at 14587 Chandler Street (APN 144-120-002) exhibits a later mid-century architectural style. It is a single-story wood frame stuccoed house with composition shingles that top the hipped roof. A short stone masonry planter straddles the front entrance. These elements combined with documentation are consistent with a mid-20th century construction date. A detached garage is located to the rear (north) of the residence, accessed from Chandler Street by a paved driveway wrapping around the west side of the residence. Archival research failed to indicate a builder or architect. Inquiries to the city of Eastvale for building and alteration permits did not specify alterations or additions. The residence is in fair condition.

***P3b. Resource Attributes:** Single-Family Residential

P5a. Photo or Drawing **(**Photo required for buildings, structures, and objects.)

***P4. Resources Present:**
☑ Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other

P5b. Description of Photo: (View, date, accession #) Photo 1: View N.

***P6. Date Constructed/ Age and Sources:** ☑Historic 1966 (see BSO, page 2). ☐ Prehistoric ☐ Both

***P7. Owner and Address:**

***P8. Recorded by:**
D. Williams
BCR Consulting LLC
Claremont, California 91711

***P9. Date:** 1/21/20

***P10. Survey Type:** Intensive.

***P11. Report Citation:** *Historical Resources Evaluation Eastvale Self Storage Project, Eastvale, Riverside County, California*

***Attachments:** ☐NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

B1. Historic Name: N/A
B2. Common Name: N/A
B3. Original Use: Single-Family Residence
B4. Present Use: Single-Family Residence
***B5. Architectural Style:** Minimal Traditional
***B6. Construction History:** The building was built in 1966, according to county records.
***B7. Moved?** ☑**No** ☐**Yes** ☐**Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme:** Residential Development
Area: Chino Valley **Period of Significance:** Mid-20th Century
Property Type: Residential Properties **Applicable Criteria:** N/A
Applicable Criteria: N/A. **Additional Resource Attributes**: N/A
(Discuss importance in terms of historical/architectural context by theme, period, and geographic scope. Address Integrity.)

Eastvale History

Eastvale's history is closely tied to the surrounding cities: Corona, Ontario, Chino, and Norco (DeGrandpre 2018). An agricultural center had been established during the rancho (or Mexican) period and, being located on an alluvial plain at the nexus of three meandering watercourses, the region exhibited as much as four feet of fertile topsoil (USGS 1981). As a result, the area became known for successful orchard and row crops, and eventually (and perhaps most enduringly) dairy. Chino, which shares a border with Eastvale, remained agricultural throughout the depression and World War II, but by the 1950s semi-rural subdivisions and dairies began to define the economic landscape (Musselwhite 2005). Favorable zoning encouraged dairy-farmers to settle, resulting in the formation of the most productive milk-producing community in the United States. Encroaching suburban settlements and the resulting zone changes have since caused many dairies to relocate, resulting in a reconfiguration of many parcels from agricultural to a retail/bedroom community (ibid).

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DeGrandpre, Deanne. 2018. *City of Eastvale: History. (*http://www.eastvaleca.gov/ about-eastvale/history).
Department of Commerce-Bureau of the Census. 1940. Sixteenth Census of the
First American Title Insurance Company. 2018. File No: NCS-968014-SA1.
Musselwhite, Bryan. 2005. *Beet Sugar, Cows, and Bedrooms: The Transformation of Chino from a Rural Community to a Modern Suburb.* Cal Poly, Pomona.
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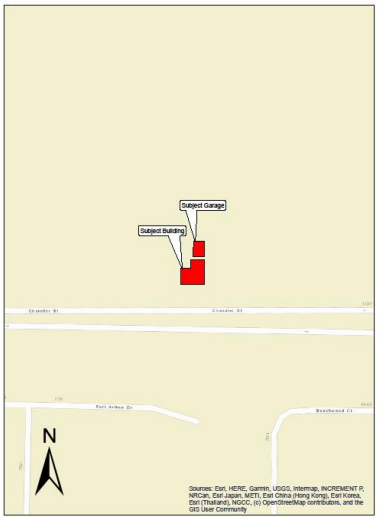
Ancestry.com. 2005. *U.S. Phone and Address Directories, 1993-2002* [database on-line] (ancestry.com).

***B14. Evaluators:** David Brunzell, BCR Consulting, Claremont, California
***Date of Evaluation:** 1/23/20

(Sketch Map with north arrow required.)



***B10 (continued from page 2).**

The historic-age residence on the subject property was built in 1966 at a time in which historic aerial photographs show numerous residential developments taking shape around the subject property. A title deed states that Frank Borges and the Borges Family Trust owned the subject property as early 1979 before their title to the parcel was transferred to Ajusta Investments in 2014. The Borges also owned the two parcels immediately east of the subject property (FATIC 2018). Francisco Borges, his wife Virginia, and their family resided on the property as early as 1975 and are the first recorded residents. Francisco Borges lived on the subject property into the 2000s (U.S. Phone and Address Directories, 1993-2002). Research did not reveal other owners or occupants of the subject property prior to 1975 nor after Borges.

Evaluation

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Photo 2: Overview of southeast and east elevations of the residence (View NW)

Photo 3: Overview of the detached garage and rear entrance of the residence (View E)

Photo 4: Overview of the two-carport detached garage (View E)

APPENDIX B

PROJECT PHOTOGRAPHS

Photo 1: Historic-period residence at 14555 Chandler Street (View NE)

Photo 2: West elevation of 14555 Chandler Street and detached garage (View E)

Photo 3: Historic-period residence at 14557 Chandler Street and detached garage (View SE)

Photo 4: Historic-period residence at 14565 Chandler Street and detached garage (View NW)

Photo 5: Close-up of detached garage at 14565 Chandler Street (View N)

Photo 6: Cattle corral behind 14565 Chandler Street (View NW)

Photo 7: Historic-period residence at 14577 Chandler Street (View N)

Photo 8: Attached garage at 14566 Chandler Street (View NE)

Photo 9: Historic-period residence at 14587 Chandler Street (View N)

Photo 10: Detached garage behind the residence at 14587 Chandler Street (View E)

APPENDIX 10:
Preliminary Soil Investigation, Liquefaction Evaluation and Infiltration Tests Report

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SOIL EXPLORATION COMPANY, INC.

Soil Engineering, Environmental Engineering, Materials Testing, Geology

September 26, 2019

Project No. 19138-01

TO: Gossett Development
207 Monarch Bay
Dana Point, CA 92626

ATTENTION: Garrett Gossett

SUBJECT: Preliminary Soil Investigation, Liquefaction Evaluation and Infiltration Tests Report, Proposed Two-Story Storage Facility, 14555, 14577 and 14587 Chandler Street (APN 144-120-002, -003 and -004), City of Eastvale, California

Introduction

In accordance with your authorization, Soil Exploration Co., Inc. has performed a preliminary soil investigation, liquefaction evaluation and infiltration tests for the subject site (see Figure 1, Site Location Map). The accompanying report presents a summary of our findings, conclusions, recommendations and limitations of our work for construction of the proposed two-story storage facility.

Scope of Work

- Review soils, seismic, geologic, groundwater data and maps in our files.
- Perform exploration of the site by means of three 8" diameter borings, 21.5 to 50 feet deep, at readily accessible locations.
- Field Engineer (California Registered RCE) for logging of the excavations, sampling of select soils, observation of excavation resistance, record SPT blow counts and water seepage (if any).
- Perform basic laboratory testing on select soil samples, expected to include moisture, density, expansion index, sieve analysis and corrosion potential (pH, chlorides, resistivity and water soluble sulfates).
- Perform digitized search of known faults within a 50-mile radius of the site.
- Determine California Building Code (CBC) 2016 seismic parameters for the site.
- Consult with project architect/civil design engineer.
- Perform four shallow infiltration tests at locations suggested by you.
- Prepare a report of our findings, conclusions and recommendations for site preparation, including overexcavation/removal depth, allowable bearing value, foundation/slab-on-grade depth/thickness recommendations, excavation characteristics, lateral earth pressures for retaining walls design, pavement thickness estimates for parking/driveways, liquefaction evaluation, general earthwork and grading specifications, California Building Code (2016) seismic design coefficients, Cai/OSHA soil classification and infiltration rate in inches/hour.

Existing Site Condition

The rectangular shaped, relatively flat site is located on the north side of Chandler Street, east of Hall Avenue, in the City of Eastvale, Riverside County, California. Chandler Street is a paved road with AC curbs. A chain link fence borders the site on the north side, a chain link fence and iron fence on the east side and a block wall on the west side. Existing houses, garages and sheds are located on the southerly portion of the site. An existing house is located on adjacent property to the west. Vegetation consists of dense weeds.

7535 Jurupa Ave., Unit C • Riverside, CA 92504 • Tel: (951) 688-7200 • Fax: (951) 688-7100
soilexploration@yahoo.com • www.soilexp.com

The approximate locations of the above and other features are shown on Exploratory Boring and Infiltration Test Location Map, Plate 1. The base map is plan prepared by MTH2 Engineering, Inc. of Riverside, California.

Proposed Development

We understand that a storage facility and associated parking and driveways are proposed at the site. The two new structures will be two-story masonry wall construction with floor slabs supported on prepared subgrade. No grading plans are available for review at this time. However based on the relatively flat topography of the site, modest cut or fill grading is anticipated and no cut or fill slopes are proposed.

Field Work

Three exploratory borings were drilled at the site on September 17, 2019, utilizing a B-53 mobile drill rig equipped with 8-inch diameter hollow stem auger. Refer to Plate 1 for boring locations. Standard Penetration Test (SPT) blow counts were recorded at regular intervals and utilized in determining the compactness/consistency of the earth materials.

In general, these borings revealed that the site is underlain by alluvial soils consisting of interbedded silty sand, sand with silt, silt/silt with sand, silty clay, silty clayey sand and sand (USCS "SM", "SP-SM", "ML", "CL-ML", "SC-SM" and "SP"). In general, the soils are dry to moist, medium dense to very dense and very stiff. More detailed descriptions of earth materials are presented in Geotechnical Boring Logs in Appendix B of this report.

Based on the USGS Geologic Map of the Corona North Quadrangle, the site area is underlain with very old channel deposits (see Figure 2).

Laboratory Testing

Laboratory tests were performed for selected soil samples. The tests consisted primarily of natural moisture contents, dry densities, sieve analysis and corrosion potential (pH, chlorides, resistivity and water soluble sulfates). Laboratory test results are presented in Appendix C and with Geotechnical Boring Logs in Appendix B.

Groundwater

Groundwater was not encountered in our exploratory borings to maximum explored depth of 50 feet below ground surface at the time this work was performed. Please note that a groundwater study is not within the scope of this work. However referenced Carson and Matti map indicates groundwater depth in the vicinity of the site to be 40± feet below ground surface.

Liquefaction Evaluation

Soil liquefaction is a process by which loose, saturated, fine granular (poorly graded) deposits, such as fine sands, lose a significant portion of their shear strength due to pore water pressure buildup resulting from cyclic loading, such as that caused by an earthquake. In general, liquefaction potential is higher when the groundwater table is less than 30 feet below ground surface. Soil liquefaction can lead to foundation bearing failures and excessive settlements.

Based on Riverside County GIS map, the site is located in an area of high liquefaction potential (see Figure 3).

Conclusions

- All debris, vegetation, weeds, existing old foundations, buried abandoned structures, buried utility/irrigation lines, undocumented fills, deleterious materials, etc. would require clearance from the proposed building/grading areas.

- The onsite soils, exclusive of oversize materials (larger than 6 inches, if any), debris and deleterious materials, etc., can be used as compacted fill.

- Overexcavation and recompaction of surficial soils should be anticipated to provide adequate and uniform support for the proposed structures.

- Subsequent to site preparation, use of shallow spread footing foundation appears feasible for the proposed construction.

- Near surface earth materials encountered during our subsurface exploration can be excavated with normal grading equipment in good working condition.

- Based on observation and classification, the expansion potential of the near-surface sandy soils at the site is expected to be very low (EI<20).

- The site is located approximately 3.84 miles from the Chino fault. The site is located in a region of generally high seismicity, as is all of Southern California. During its design life, the site is expected to experience moderate to strong ground motions from earthquakes on regional and/or nearby causative faults.

- There is a 2 percent probability in 50 years (2475 year return period) that peak ground acceleration at the site will exceed 0.553g (see Appendix D).

- No groundwater, seepage, wet or loose soil conditions were encountered in our exploratory boring locations drilled to a maximum depth of 50 feet. Based on Riverside County GIS map, the liquefaction potential at the site is high.

- The flooding potential of the site should be verified by the design civil engineer and considered in planning, design and construction.

Recommendations

Site Preparation and Grading

Site Clearance

All grading should be performed in accordance with the City of Eastvale Grading Ordinance and our General Earthwork and Grading Specifications presented in Appendix E, except as modified within the text of this report.

The grading/building area should be cleared of all debris, abandoned utility lines, underground structures, weeds, vegetable matter, undocumented fills, deleterious materials, etc. Cavities created during site clearance should be backfilled in a controlled manner.

Overexcavation/Grading

Subsequent to site clearance and debris removal, building areas extending at least 5 feet beyond the building lines in plan (including canopies, exterior walls, etc.) where practical should be overexcavated to remove near surface loose soils. Based on our exploration, we anticipate removals to extend to at least 4 feet below existing ground surface. Any loose, porous soils, etc. should be completely removed and recompacted if encountered in bottom of the grading areas. After the required removals, the bottom of the overexcavation should be scarified to a depth of at least 12 inches, watered to near optimum moisture and recompacted by utilizing heavy rubber tired equipment to at least 90 percent of the maximum dry density as determined by ASTM D1557-12, prior to placement of engineered fills.

New Pavement Areas

New pavement, ramps and driveway areas should be scarified to a depth of at least 12 inches, watered as necessary, and compacted to at least 95 percent relative compaction. The areas of pylon/sign foundations should be cleared form all vegetation and roots prior to construction. If loose soils are encountered in bottom of footing excavations, these soils should be removed and replaced with lean concrete or the footings deepened as necessary.

Compacted Fills/Imported Soils

Any soil to be placed as fill, whether presently onsite or import, should be approved by the soil engineer or his representative prior to their placement. All onsite soils to be used as fill should be cleansed of any roots or other deleterious materials. Cobbles larger than 6 inches in diameter should not be placed in the vicinity of foundations and utility lines. All fills should be placed in 6 to 8 inch loose lifts, watered or aerated to near optimum moisture content, mixed and compacted to at least 90 percent relative compaction. This is relative to the maximum dry density determined by ASTM D1557-12 Test Method.

Any imported soils should be sandy (preferably (USCS "SM" or "SW" and very low in expansion potential, EI<20) and approved by the soil engineer. The soil engineer or his representative should observe the placement of fill and take sufficient tests to verify the moisture content and the uniformity and degree of compaction obtained.

Foundation Design/Allowable Bearing Value

Based on the above site preparation recommendations, very low expansion potential of soils and anticipated moderate loads, an allowable bearing pressure of 2000 psf is recommended for the design of footings. This bearing pressure has been established based on the assumption that the footings will be embedded at least 18-inches below lowest adjacent firm grade and into the compacted fill mat, and measure at least 18-inches in width. This bearing value may be increased by 400 psf for each additional foot of width and/or depth to a maximum of 3000 psf. A further one-third increase in bearing value may be used when considering short term wind or seismic loads.

Continuous footings should be reinforced with at least two No. 5 bars at the top and two at the bottom. Please note foundation design is under the purview of structural design engineer and structural considerations may have other more stringent requirements, which would govern.

Concrete Slabs-On-Grade

Concrete floor slabs supported on prepared subgrade for office areas should be at least 4 inches thick. Slabs to receive flooring should be underlain by at least 10-mil thick Visqueen moisture barrier overlain by 2-inch layer of clean, rolled sand and underlain by additional 2 inches of rolled sand. Appropriate recommendations should be made by the project architect if crack sensitive floor covering is placed directly on the concrete slab.

All floor slabs should be reinforced with at least No. 3 rebar at 18-inches on center each way. Care should be taken by the contractor to insure that reinforcement is placed at slab mid-height. The use of concrete spacers to raise reinforcement of slabs is highly recommended. However, floor slab thickness and reinforcement should be evaluated by the structural engineer and designed in compliance with applicable codes for the proposed loading. Where slabs will support special loads, such as vibrating equipment, the use of forklifts or storage, etc., thicker slabs (6 inches or more) may be required and the structural engineer should consider these conditions. A subgrade modulus (k) value of 150 pci/inch may be considered in design.

All concrete flatwork, including slabs subgrade, should be verified to contain 1.2 times the soil optimum moisture content to a depth of 12 inches prior to placement of slab building materials. Moisture content should be tested in the field by the soil engineer.

Special Considerations

Excess soils generated from foundation excavations should not be placed on slabs subgrade without proper moisture and compaction. Slab subgrade should be verified to contain 1.2 times the soil optimum moisture content to a depth of 12 inches prior to placement of slab building materials. The addition of fiber mesh in the concrete and careful control of water/cement ratios may lessen the potential for slab cracking. In hot or windy weather, the contractor must take appropriate curing precautions after the placement of concrete. The use of mechanically compacted low slump concrete (not exceeding 4 inches at the time of placement) is recommended.

Concrete Joints

The joints spacing for concrete slabs should be determined by the project architect. Joints should be laid out top form approximately square panels (equal transverse and longitudinal joint spacing). Rectangular panels, with the long dimension no more than one-and-one-half times the short, may be used when square panels are not feasible. The depth of longitudinal and transverse joints should be one-fourth the depth of the slab thickness.

Joint layout should be adjusted so that the joints will line up with the corners of structures, small foundations and other built-in structures. Acute angles or small pieces of slab curves as a result of joints layout should not be permitted.

Concrete Curing

Fresh concrete should be cured by protecting it against loss of moisture, rapid temperature change and mechanical injury for at least 3 days after placement. Moist curing, waterproof paper, white polyethylene sheeting, white liquid membrane compound, or a combination thereof may be used. After finishing operations have been completed, the entire surface of the newly place concrete should be covered by whatever curing medium is applicable to local conditions and approved by the engineer. The edges of concrete slabs exposed by the removal of forms should be protected immediately to provide these surfaces with continuous curing treatment equal to the method selected for curing the slab surfaces. The contractor should have at hand, and ready to install before actual placement begins, the equipment needed for adequate curing of the concrete.

Lateral Earth Pressures/Retaining Walls

The following lateral equivalent fluid earth pressures and soil parameters in conjunction with the allowable bearing value of 2000 psf may be used for design of retaining walls with free draining level compacted backfills. Wall backfills should be compacted to at least 90 percent relative compaction. We recommend that drainage for retaining walls should be provided in accordance with Plate 2 of this report.

Active Earth Pressure (P_a)	35 pcf (EFP), drained, unbraced yielding walls
At Rest Pressure (P_o)	60 pcf (EFP), drained, braced non-yielding (part of building walls)
Allowable Lateral Bearing Value	300 psf (EFP), drained, maximum of 3000 psf (fill or firm native soil)
Horizontal Coefficient of Friction (μ)	0.35
Unit Soil Weight (γ_t)	120 pcf

Soil resistance developed against lateral structural movement can be obtained from the passive pressure and friction coefficient indicated above. For the calculation of passive resistance to lateral loads, the upper 12 inches of material in areas not protected by concrete flatwork or pavement should not be considered. These values may be increased by one-third when considering loads of short duration, including wind or seismic loads. The total resistance may be taken as the sum of the friction and passive resistance provided that the passive portion does not exceed two-thirds of the total resistance.

Expansion Index and Corrosion/Soluble Sulfates

Based on observation and soil classification, the expansion potential of the near surface sandy soils is anticipated to be very low (EI<20). Since soils will be mixed during grading, expansion index at select locations should be verified subsequent to completion of grading.

Results of tests performed by Cal Land Engineering, Inc. of Brea, California on a select soil sample indicate negligible soluble sulfate exposure (less than 0.1 percent water soluble sulfates by weight), pH of 9.27, chlorides of 230 ppm and resistivity of 1,200 ohm-cm (see Appendix C). Based on resistivity test results, soil is highly corrosive and ferrous metals/pipes/foundation slab reinforcement should be properly protected. Concrete, mix, placement and curing for concrete should comply with ACI guidelines. Tentatively we recommend Type II cement and concrete slump not exceeding 4 inches at the time of placement. If critical, these should be further verified by your structural or a corrosion engineer.

Seismic Consideration

The site is located approximately 3.84 miles from the Chino fault. Moderate to strong ground shaking can be expected at the site and there is a 2 percent probability in 50 years (2475 year return period) that the peak ground acceleration at the site will exceed 0.553g. The site soil profile is Class D. The structural engineer should consider City/County local codes, California Building Code (CBC) 2016 seismic data presented in this report (Appendix D), the latest requirements of the Structural Engineers Association of Southern California and any other pertinent data in selecting design parameters.

Groundwater

No groundwater and/or seepage were encountered during our subsurface work. The potential for rain or irrigation water perched on soil or locally seeping through from adjacent areas cannot be precluded. Our experience indicates that surface or near-surface groundwater conditions can develop in areas where groundwater conditions did not exist prior to site development, especially in areas where a substantial increase in surface water infiltration results from landscape irrigation. In addition, changes in local or regional water and management patterns, or both, can significantly raise the water table or create zones of perched water. We therefore recommend that landscape irrigation be kept to the minimum necessary to maintain plant vigor and any leaking pipes/sprinklers, etc. should be promptly repaired. The depth to the groundwater may fluctuate with seasonal changes and from one year to the next. We have no way of predicting future groundwater levels or perched water due to increase in surface water infiltration from rainfall or from landscape irrigation. Subdrains, horizontal drains, toe drains, French drains, heel drains or other devices may be recommended in future for graded areas that exhibit nuisance water seepage or perched water conditions.

Tentative Pavement Design

On the basis of laboratory classification and testing, we are of the opinion that the tentative new pavement design may be based on an R-value on the order of 40 (or better) corresponding to near surface soils. Considering this and based on typical traffic indices, the recommended pavement sections are outlined as follows:

AREA	TRAFFIC INDEX	PAVEMENT THICKNESS (AC over AB)
Parking	4	3" AC/4" AB
Driveways	5.5 to 6	3" AC/6" AB or 4" AC/4" AB

The upper at least 12 inches of the subgrade soils below new pavements should be compacted to at least 90 percent relative compaction. Imported Class 2 base should conform to Caltrans Standard Specifications and should be compacted to at least 95 percent of the maximum dry density. Maximum dry densities should be determined by the Standard Test Method designated ASTM D1557-12.

Erosion Control/Drainage/Planter Areas

The near surface sandy soils are subject to erosion. Positive drainage should be provided around the perimeter of all structures and all foundations toward streets or approved drainage devices. In addition, finish subgrade adjacent to exterior footings should be sloped down and away to facilitate surface drainage. Roof drainage should be collected and directed away from foundations via non-erosive devices. Water, either natural or by irrigation, should not be permitted to pond or saturate the foundation soils.

The developer should be made aware of the potential problems, which may develop when drainage is altered. Ponded water, leaking irrigation systems, over-watering or other conditions which could lead to ground saturation should be avoided. Area drainage collection should be directed toward the existing street or approved drainage devices.

Cal/OSHA Classification/Trench Excavations/Backfills

In general Cal/OSHA classification of onsite soils appears to be Type B.

Temporary trench excavations deeper than 5 feet should be shored or sloped at 1:1 or flatter in compliance with Cal/OSHA requirements:

a.) The shoring should be designed by a qualified engineer experienced in the shoring design.

b.) The tops of any temporary unshored excavations should be barricaded to prevent vehicle and storage loads within a 1:1 line projected upward from the bottom of the excavation or a minimum of 5 feet, whichever is greater. If the temporary construction embankments, including shored excavations, are to be maintained during the rainy season, berms are suggested along the tops of the excavations where necessary to prevent runoff from entering the excavation and eroding the slope faces.

c.) The soils exposed in the excavations should be inspected during excavation by the soils engineer so that modifications can be made if variations in the soil conditions occur.

d.) All unshored excavations should be stabilized within 30 days of initial excavation.

Backfills in the utility trenches should be compacted to at least 90 percent relative compaction. Onsite earth materials will be suitable for backfills. Clean sandy materials with sand equivalent value of at least 30 must be utilized for the pipe bedding and shading zone. Placement of the trench backfill in lifts and compaction by mechanical effort should be anticipated.

Foundation Plans Review/Additional Observations and Testing/Quality Control

Soil Exploration Company, Inc. should review the foundation plans and observe and/or test during the following stages of construction:

- During site clearance and removal of any obstructions.
- During all overexcavations, in-place processing of soils and all fill placement and compaction.
- During preparation, moisture conditioning, and compaction of subgrades/base for slabs-on-grade and pavement.
- Following footing excavations and prior to placement of footings materials.
- During all trench backfills and compaction.
- When any unusual conditions are encountered.

Final Report

A final grading control report, including geotechnical data gathered, should be prepared when rough grading is completed. The report should include all laboratory test results, a map showing all removal depths, location and depth/elevation of field density tests, test methods and final foundation and pavement design recommendations.

Limitation of Investigation

Our investigation was performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable Geotechnical Engineers practicing in this or similar locations. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report.

The field and laboratory test data are believed representative of the project site; however, soil conditions can vary significantly. As in most projects, conditions revealed during grading may be at variance with preliminary findings. If this condition occurs, the possible variations must be evaluated by the Project Geotechnical Engineer and adjusted as required or alternate design recommended.

This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractor carry out such recommendations in the field.

This firm does not practice or consult in the field of safety engineering. We do not direct the contractor's operations, and we cannot be responsible for other than our own personnel on the site; therefore, the safety of others is the responsibility of the contractor. The contractor should notify the owner if he considers any of the recommended actions presented herein to be unsafe.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge.

This report was prepared for the client based on client's needs, directions and requirements at the time. This report is not authorized for use by and is not to be relied upon by any party except the client with whom Soil Exploration Co., Inc. contracted for the work. Use of, or reliance on, this report by any other party is at that party's risk. Unauthorized use of or reliance on this report constitutes an agreement to defend and indemnify Soil Exploration Co., Inc. from and against any liability which may arise as a result of such use or reliance, regardless of any fault, negligence, or strict liability of Soil Exploration Co., Inc.

Closure

If you should have any questions regarding this report, please do not hesitate to call our office. We appreciate this opportunity to be of service.

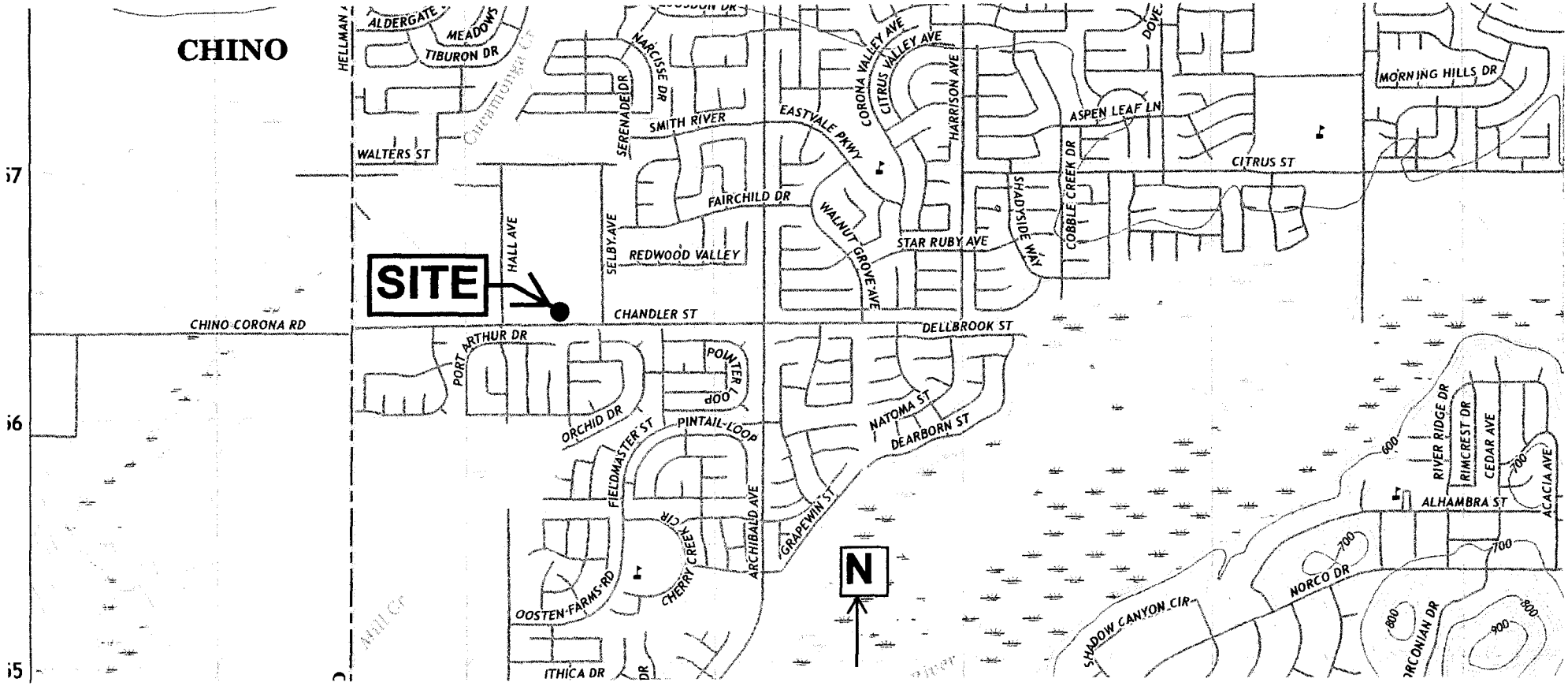
Very truly yours,
Soil Exploration Co., Inc.

Gene K. Luu, PE 53417
Project Engineer

Distribution: [1] Addressee

Attachments:

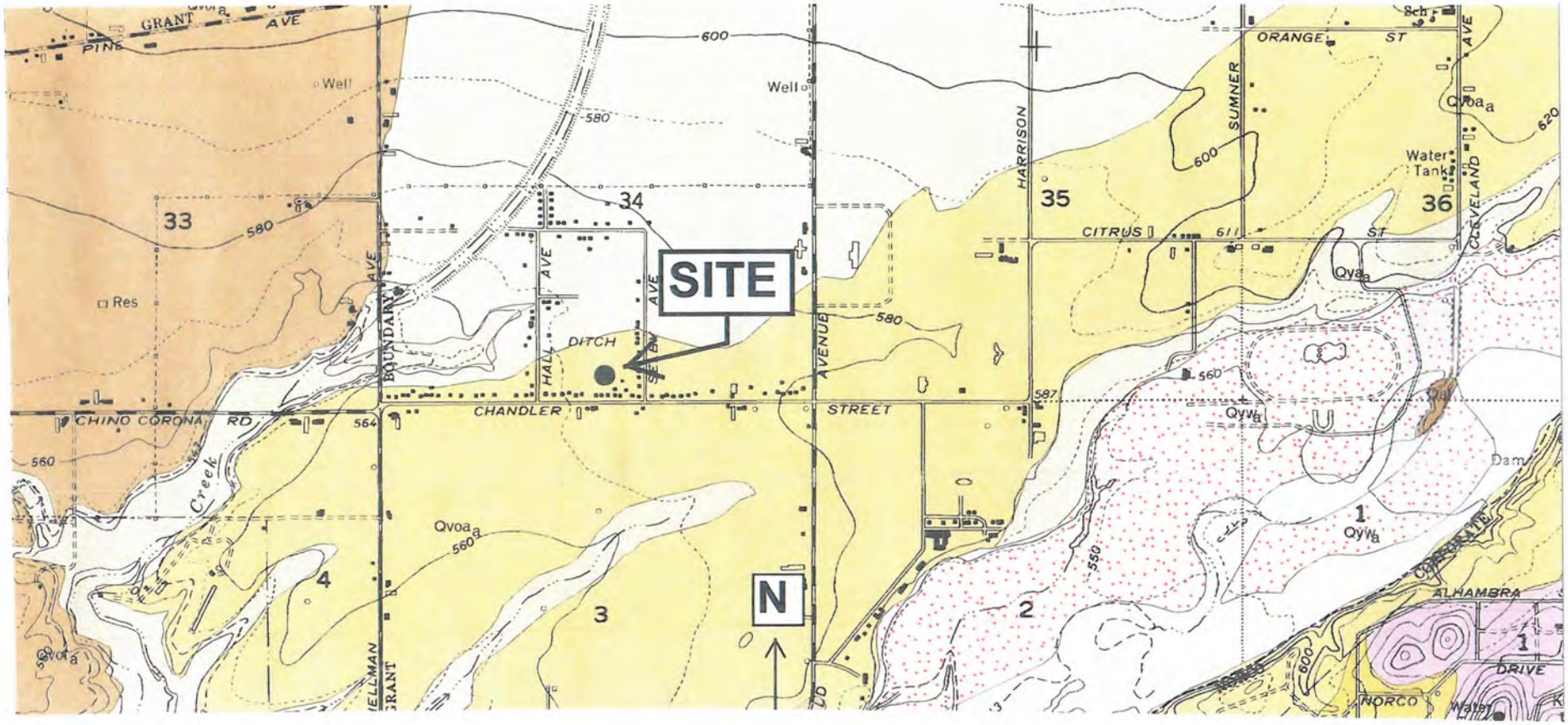
Figure 1	Site Location Map
Figure 2	USGS Geologic Map
Figure 3	Riverside County GIS Map
Figure 3	U.S. Geological Survey Faults Map
Plate 1	Exploratory Boring and Infiltration Test Location Map
Plate 2	Retaining Wall Backfill and Subdrain Detail
Appendix A	References
Appendix B	Geotechnical Boring Logs
Appendix C	Laboratory Test Results
Appendix D	USGS National Seismic Hazard Maps-Source Parameters and CBC (2016) Seismic Parameters
Appendix E	General Earthwork and Grading Specifications
Appendix F	Liquefaction Analysis Summary
Appendix G	Infiltration Test Procedure and Results



USGS/U.S. Topo/Corona North Quadrangle, California, 2018.

1 0 1/2 1 MILE

Figure 1



Base Map: USGS Geologic Map of the Corona North 7.5' Quadrangle, Riverside and San Bernardino Counties, California.

LEGEND:

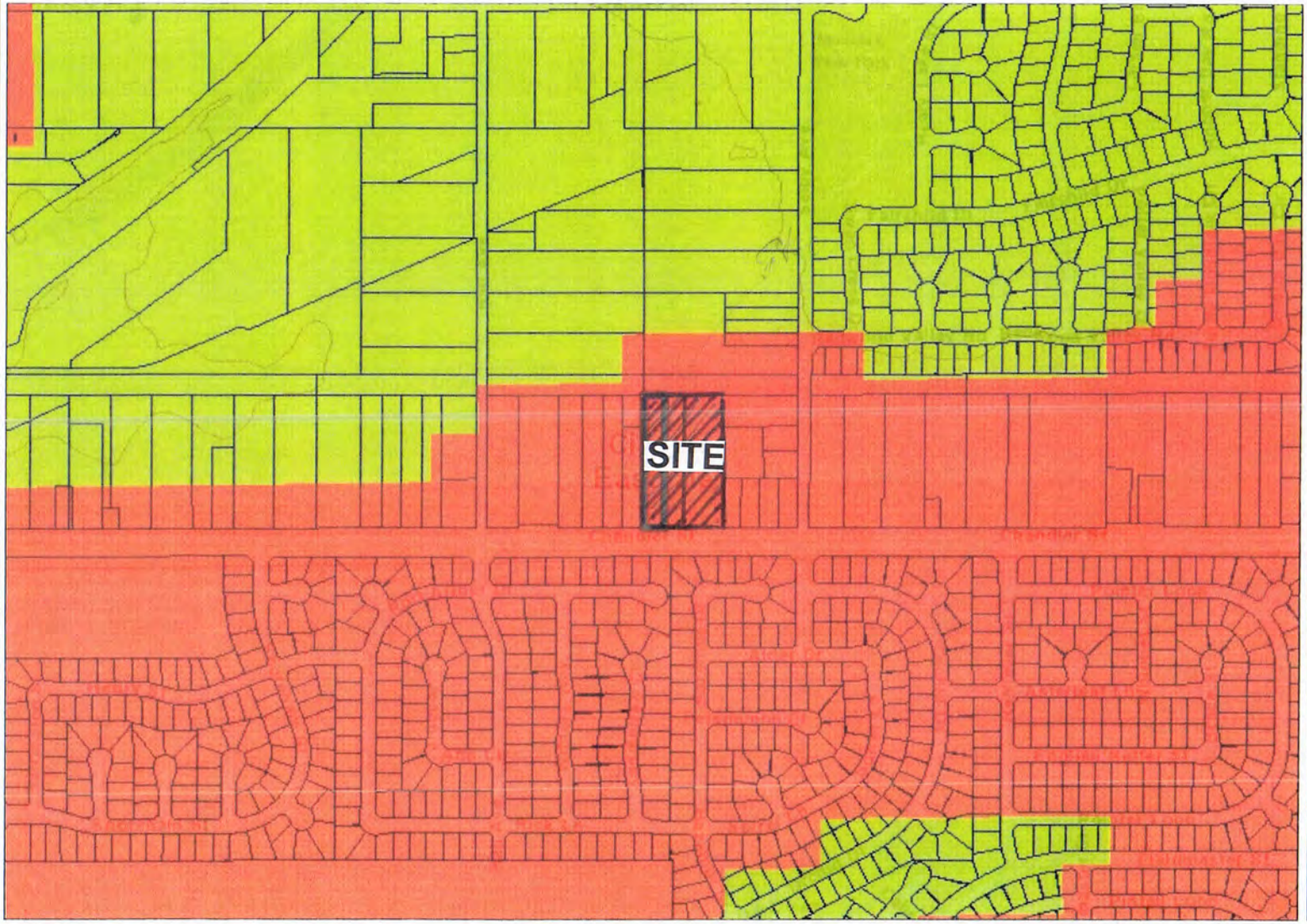
Qvoa: Very old alluvial channel deposits (early Pleistocene) – Gravel, sand, and silt; reddish brown, well-indurated, surfaces well-dissected.

a: Arenaceous (very coarse sand through very fine sand).

14555, 14577 and 14587 Chandler Street
City of Eastvale, California

Soil Exploration Co., Inc.
Project No.: 19138-01
Date: September 26, 2019
Figure: 2

Map My County Map



Legend

- Parcels
- Contours 20 ft interval (with 10
  - 20' CONTOUR
  - 100' INDEX CONTOUR
- Faults
  - OTHER AUTHORITY
  - ALQUIST-PRIOLO
  - RIVERSIDE COUNTY
- Fault Zones
  - OTHER FAULT ZONE
  - COUNTY FAULT ZONE
  - ELSINORE FAULT ZONE
  - SAN ANDREAS FAULT ZONE
  - SAN JACINTO FAULT ZONE
- Flood
- Liquefaction
  - Other Susceptibility
  - High
  - Low
  - Moderate
  - Very High
  - Very low
- Blueline Streams
- City Areas
- World Street Map

RCIT

0 752 1,505 Feet

IMPORTANT Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. The County of Riverside makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user.

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Notes

APN 144-120-002, 003, 004

Figure 3

U.S. Geological Survey 2014 Faults

9/7/2019, 9:56:54 AM

1:577,791

0 4 8 16 mi

0 5 10 20 km

NSHM 2014 Fault Sources

- Thrust
- Normal
- Unassigned
- Strike Slip

N

USGS, National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Figure 4

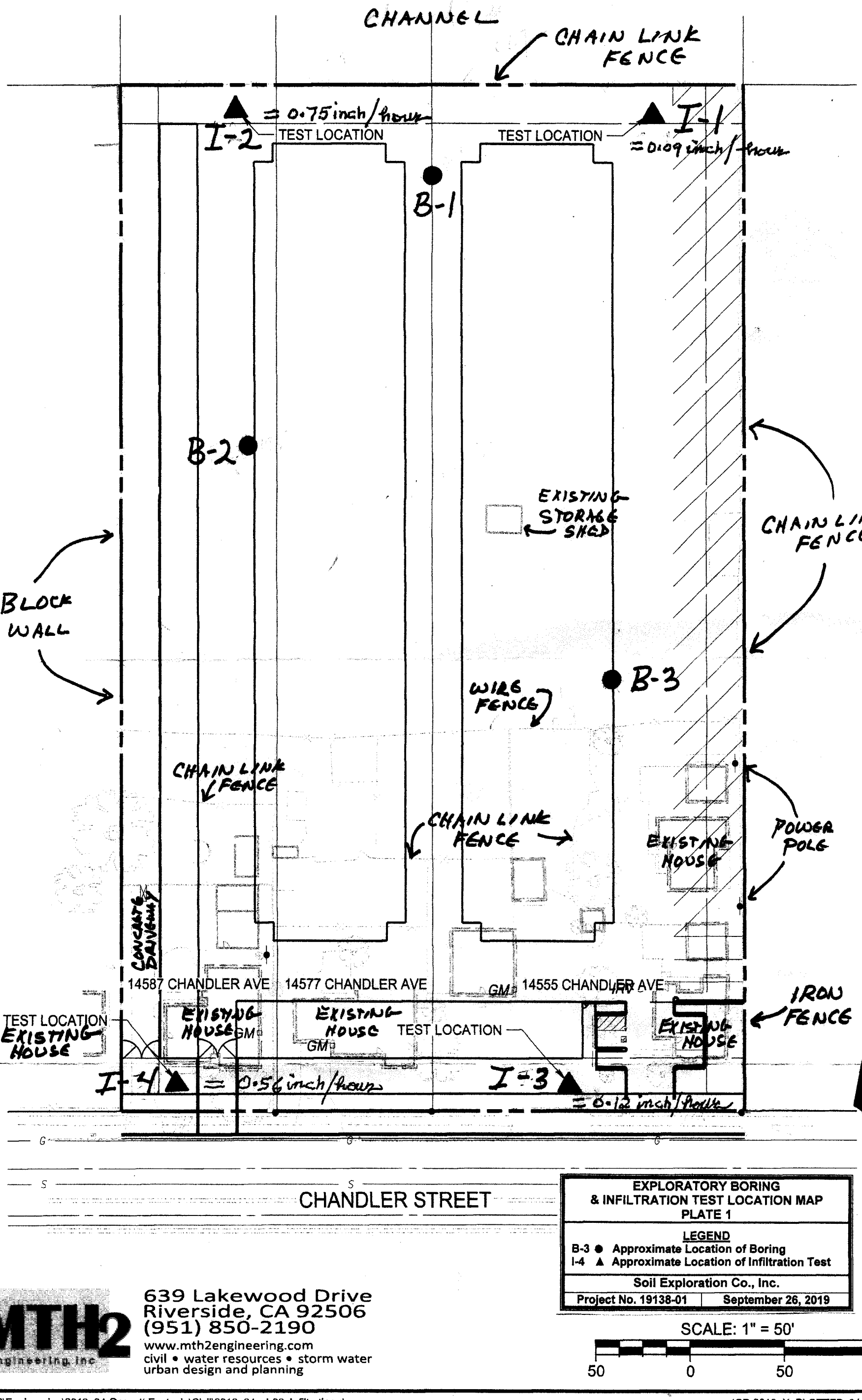
USGS

National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp. | USGS |

IN THE CITY OF EASTVALE

TEST LOCATIONS

GOSSETT DEVELOPMENT



EXPLORATORY BORING & INFILTRATION TEST LOCATION MAP PLATE 1	
LEGEND	
B-3 ● Approximate Location of Boring	
I-4 ▲ Approximate Location of Infiltration Test	
Soil Exploration Co., Inc.	
Project No. 19138-01	September 26, 2019

SCALE: 1" = 50'

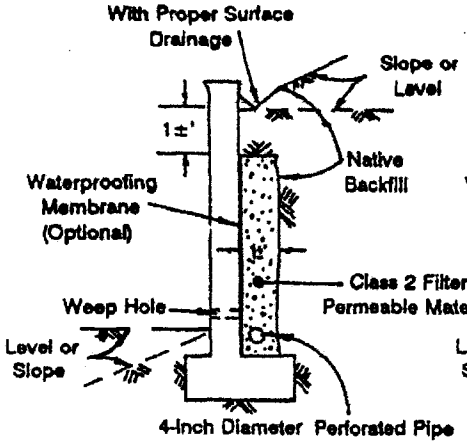
50 0 50 100

MTH2 engineering inc.

639 Lakewood Drive
Riverside, CA 92506
(951) 850-2190
www.mth2engineering.com
civil • water resources • storm water
urban design and planning

SUBDRAIN OPTIONS FOR NATIVE MATERIAL BACKFILL

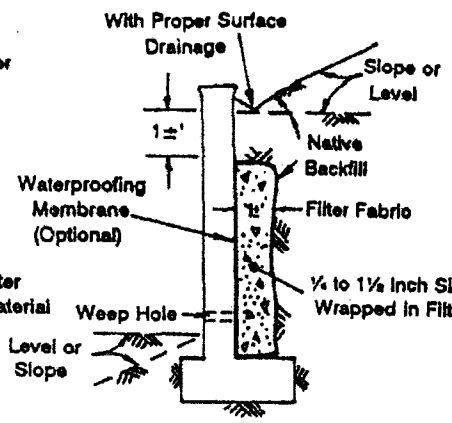
OPTION N2: Pipe Surrounded with Class 2 Material



Class 2 Filter Permeable Material Grading Per Caltrans Specifications

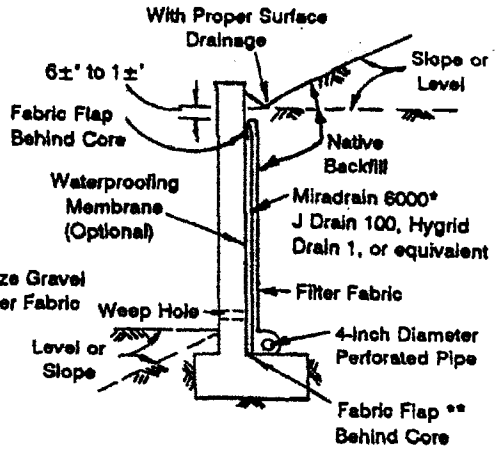
Sieve Size	Percent Passing
1"	100
3/4"	90-100
3/8"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

OPTION N1: Gravel Wrapped in Filter Fabric



Proper Outlet Should be Provided for Gravel Subdrain (See Notes)

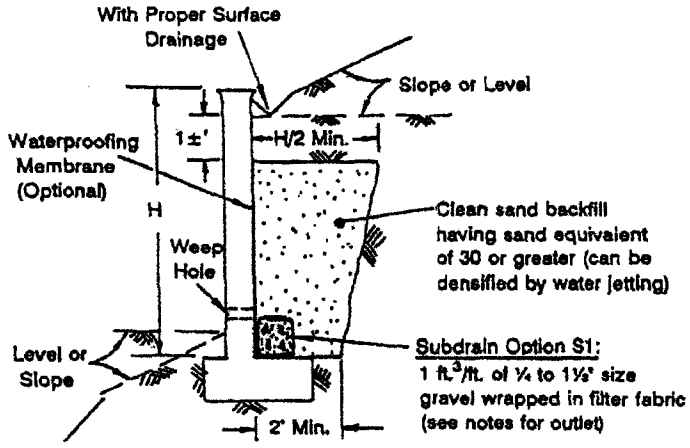
OPTION N3: Geotextile Drain

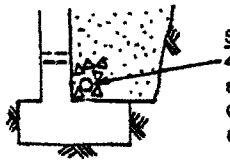


*Miradrain 6000 or J Drain 100 for non-waterproofed walls; Miradrain 6200 or J Drain 200 for completed waterproofed walls

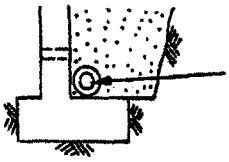
**Peel back the bottom fabric flap, place pipe next to core, wrap fabric around pipe and tuck behind core.

SUBDRAIN OPTIONS FOR CLEAN SAND BACKFILL





Subdrain Option S2:
4" diameter perforated pipe surrounded with 1 ft³/ft. of Class 2 filter material per Caltrans specifications as above



Subdrain Option S3:
4" diameter perforated pipe wrapped in filter fabric

Notes:

- Pipe type should be ASTM D1527 Acrylonitrile Butediene Styrene (ABS) SDR35 or ASTM D1785 Polyvinyl Chloride plastic (PVC), Schedule 40, Armco A2000 PVC, or approved equivalent. Pipe should be installed with perforations down.
- Filter fabric should be Mirafi 140N, 140NS, Supac 4NP, Amoco 4545, Trevira 1114, or approved equivalent.
- All drains should have a gradient of 1 percent minimum.
- Outlet portion for gravel subdrain should have a 4"-diameter pipe with the perforated portion inserted into the gravel approximately 2' minimum and the nonperforated portion extending approximately 1' outside the gravel. Proper sealing should be provided at the pipe insertion enabling water to run from the gravel portion into rather than outside the pipe.
- Waterproofing membrane may be required for a specific retaining wall such as a stucco or basement wall.
- Weephole should be 2" minimum diameter and provided at 25' minimum in length of wall. If exposure is permitted, weephole should be located at 3±" above finished grade. If exposure is not permitted such as for a wall adjacent to a sidewalk/curb, a pipe under the sidewalk to discharge through the curb face or equivalent should be provided, or for a basement-type wall, a proper subdrain outlet system should be provided. Open vertical masonry joints (i.e., omit mortar from joints of first course above finished grade) at 32" maximum intervals may be substituted for weepholes. Screening such as with a filter fabric should be provided for weepholes/open joints to prevent earth materials from entering the holes/joints.

RETAINING WALL BACKFILL AND SUBDRAIN DETAIL

Soil Exploration Co. Inc.

Plate: 2

APPENDIX A

REFERENCES

- CDMG, Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada, Dated February 1998.
- USGS Geologic Map of the Corona North 7.5' Quadrangle, Riverside and San Bernardino Counties, California.
- Riverside County GIS Map.
- U.S. Geological Survey Faults 2014.
- Department of the Interior, U.S. Geological Survey, Contour Map Showing Minimum Depth to Ground Water, Upper Santa Ana River Valley, California 1973-1979 (Sheet 2 of 2), By Scott E. Carson and Jonathan C. Matti, Dated 1985.
- Riverside County Stormwater Quality Best Management Practice, Design Handbook for Low Impact Development, Dated June 2014.

APPENDIX B

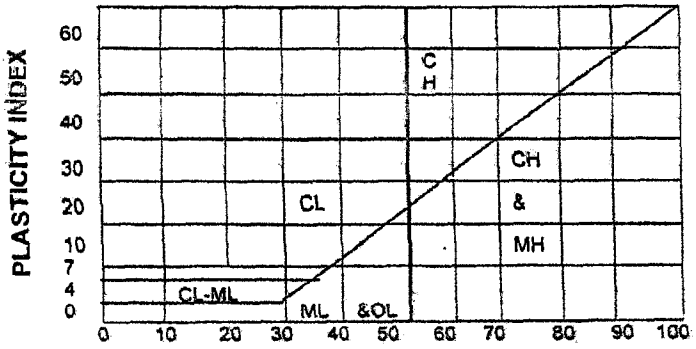
MAJOR DIVISIONS		SYMBOLS		TYPICAL NAMES
COARSE-GRAINED SOILS (More than ½ of soil < No. 200 sieve)	GRAVELS (More than ½ of coarse fraction > No. 4 sieve size)	GW		Well-graded gravels or gravel-sand mixtures, little or no fines
		GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
		GM		Silty gravels, gravel-sand-silt mixtures
		GC		Clayey gravels, gravel-sand-clay mixtures
	SANDS (More than ½ of coarse fraction < No. 4 sieve size)	SW		Well-graded sands or gravely sands, little or no fines
		SP		Poorly graded sands or gravelly sands, little or no fines
		SM		Silty sands, sand-salt mixtures
		SC		Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (More than ½ of soil < No. 200 sieve)	SILTS & CLAYS LL < 50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
		CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
		OL		Organic silts and organic silty clays of low plasticity.
	SILTS & CLAYS LL > 50	MH		Inorganic silts, caceous or diatonaceous fine sandy or silty soils, elastic silts
		CH		Inorganic clays of medium to high plasticity, organic silty clays, organic silts
		OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
	HIGHLY ORGANIC SOILS	Pt		Peat and other highly organic soils

CLASSIFICATION CHART

(UNIFIED SOIL CLASSIFICATION SYSTEM)

CLASSIFICATION	RANGE OF GRAIN SIZES	
	U.S. Standard Sieve Size	Grain Size in Millimeters
BOULDER	ABOVE 12"	ABOVE 305
COBBLES	3" to 12"	305 to 76.2
GRAVEL	3" to No. 4	762 to 4.76
COARSE	3" TO ¾"	76.2 to 19.1
FINE	¾" to No. 4	19.1 to 4.76
SAND	No. 4 to 200	4.76 to 0.074
COARSE	No. 4 to 10	4.76 to 2.00
MEDIUM	No. 10 to 40	2.00 to 0.420
FINE	No. 40 to 200	0.420 to 0.074
SILT & CLAY	BELOW No. 200	BELOW 0.074

GRAIN SIZE CHART



PLASTICITY CHART

Ring Sample	Bag Sample	NR No Recovery
SPT Sample	= Seepage	

Classification in accordance with ASTM D2487
Description and visual observation in accordance with ASTM D2488
All Sieve Sizes shown are US Standard
SPT Refusal is defined as one of the following:
10 blows for no apparent displacement
50 blows for less than 6 inches advancement
100 blows for 6 to 18 inches advancement

GEOTECHNICAL BORING LOGS

Drill Hole No. B-1

Date: September 17, 2019 **Project No.** 19138-01
Drilling Company: Larry Harklerode **Type of Rig:** B-53
Hole Diameter: 8" **Drive Weight:** 140 lbs. **Drop:** 30" **Elevation:** Existing Ground

DEPTH (feet)	TYPE OF TEST	SAMPLE TEST	BLOWS PER 6 INCH	DRY DENSITY (%)	MOISTURE (%)	SOIL CLASSIFICATION USCS	GEOTECHNICAL DESCRIPTION LOGGED BY: GL SAMPLED BY: GL
1						SM	**SILTY SAND:** Light brown, fine to medium grained, dry, dense
2							
3		X	17/19/20	-	7.3		Dry, dense % Passing No. 200 Sieve = 44
4							
5							
6		X	10/12/20	-	13.3		Slightly moist, dense
7							
8							
9							
10							
11		X	14/14/14	-	4.3	SP-SM	**SAND WITH SILT::** Yellowish/light brown, fine to medium grained, dry, medium dense % Passing No. 200 Sieve = 7
12							
13							
14							
15							
16		X	10/13/20	-	29.7	ML	**SILT WITH SAND:** Light grayish olive, slightly moist, dense % Passing No. 200 Sieve = 77
17							
18							
19							
20							
21		X	5/7/11	-	-	CL-ML	**SILTY CLAY:** Pale brown, moist, very stiff
22							
23							
24							
25							

GEOTECHNICAL BORING LOGS

Drill Hole No. B-1

Date: September 17, 2019 **Project No.** 19138-01
Drilling Company: Larry Harklerode **Type of Rig:** B-53
Hole Diameter: 8" **Drive Weight:** 140 lbs. **Drop:** 30" **Elevation:** Existing Ground

DEPTH (feet)	TYPE OF TEST	SAMPLE TEST	BLOWS PER 6 INCH	DRY DENSITY (%)	MOISTURE (%)	SOIL CLASSIFICATION USCS	GEOTECHNICAL DESCRIPTION LOGGED BY: GL SAMPLED BY: GL
26		X	8/10/15	-	19.3	SC-SM	**SILTY CLAYEY SAND:** Pale olive, moist, very stiff % Passing No. 200 Sieve = 46
27							
28							
29							
30							
31		X	10/9/10	-	-	CL-ML	**SILTY CLAY:** Pale brown, moist, very stiff
32							
33							
34							
35							
36		X	12/13/13	-	-		Moist, very stiff
37							
38							
39							
40							
41		X	9/13/16	-	40.7	ML	**SILT:** Light brown/gray/olive, slightly moist, medium dense % Passing No. 200 Sieve = 90
42							
43							
44							
45							
46		X	12/13/15	-	-	CL-ML	**SILTY CLAY:** Pale brown, moist, very stiff
47							
48							
49							TOTAL DEPTH = 50 FEET NO GROUNDWATER NO CAVING BORING BACKFILLED
50		X	10/13/18	-	-		

Soil Exploration Co., Inc.

GEOTECHNICAL BORING LOGS

Drill Hole No. B-2

Date: September 17, 2019
Drilling Company: Larry Harklerode
Hole Diameter: 8" **Drive Weight:** 140 lbs. **Drop:** 30"

Project No. 19138-01
Type of Rig: B-53
Elevation: Existing Ground

DEPTH (feet)	TYPE OF TEST	SAMPLE TEST	BLOWS PER 6 INCH	DRY DENSITY (%)	MOISTURE (%)	SOIL CLASSIFICATION USCS	GEOTECHNICAL DESCRIPTION LOGGED BY: GL SAMPLED BY: GL
1						SM	**SILTY SAND:** Light brown, fine to medium grained, slightly moist, medium dense
2							
3			9/16/20	113.0	10.9		Slightly moist, dense
4							
5							
6			18/25/45	98.0	5.2		Very dense
7						SP	**SAND:** Yellowish/light brown, fine to coarse grained, dry, very dense
8							
9							
10							
11		X	16/23/25	-	-		Dry, very dense
12							
13							
14							
15							
16		X	23/35/40	-	-		Dry, very dense
17							
18							
19							
20							
21		X	16/14/13	-	-	SM	**SILTY SAND:** Light brown, fine to medium grained, slightly moist, medium dense
22							
23							TOTAL DEPTH = 21.5 FEET NO GROUNDWATER NO CAVING BORING BACKFILLED
24							
25							

Soil Exploration Co., Inc.

GEOTECHNICAL BORING LOGS

Drill Hole No. B-3

Date: September 17, 2019 **Project No.** 19138-01
Drilling Company: Larry Harklerode **Type of Rig:** B-53
Hole Diameter: 8" **Drive Weight:** 140 lbs. **Drop:** 30" **Elevation:** Existing Ground

DEPTH (feet)	TYPE OF TEST	SAMPLE TEST	BLOWS PER 6 INCH	DRY DENSITY (%)	MOISTURE (%)	SOIL CLASSIFICATION USCS	GEOTECHNICAL DESCRIPTION LOGGED BY: GL SAMPLED BY: GL
1						SM	**SILTY SAND:** Light brown, fine to medium grained, slightly moist, medium dense
2							
3		X	9/11/13	-	9.7		Slightly moist, medium dense
4							
5							
6		X	7/9/12	-	12.7		Slightly moist, medium dense
7							
8							
9							
10							
11		X	8/13/24	-	-	SP	**SAND:** Yellowish/light brown, fine to medium grained, dry, dense
12							
13							
14							
15							
16		X	17/30/30	-	-		Pale brown, dry, very dense
17							
18							
19							
20							
21		X	25/30/36	-	-		Dry, very dense
22							
23							TOTAL DEPTH = 21.5 FEET NO GROUNDWATER NO CAVING BORING BACKFILLED
24							
25							

Soil Exploration Co., Inc.

APPENDIX C

14555, 14577 and 14587 Chandler Street
City of Eastvale, California

LABORATORY TEST RESULTS

SIEVE SIZE	B-1 @ 2' % PASSING	B-1 @ 10' % PASSING	B-1 @ 15' % PASSING	B-1 @ 25' % PASSING	B-1 @ 40' % PASSING
3/8"	100	100	100	100	-
No. 4	99	99	98	99	100
No. 8	94	96	94	95	99
No. 16	86	89	91	87	96
No. 30	76	66	87	79	94
No. 50	66	31	85	69	93
No. 100	57	13	82	58	91
No. 200	44	7	77	46	90
SIEVE ANALYSIS TEST DATA					

Cal Land Engineering, Inc.
dba Quartech Consultants
Geotechnical, Environmental & Civil Engineering

September 26, 2019

Soil Exploration Company Inc.
7535 Jurupa Avenue, Unit C
Riverside, California 92504

Attn: Mr. Gene Luu

RE: LABORATORY TEST RESULTS/REPORT
Client: MTH2 Engineering Inc.
Project: Sulfate
Project No.: 19138-01
QCI Job No.: 19-183-009g

Gentlemen:

We have completed the testing program conducted on sample for above project. The tests were performed in accordance with testing procedures as follows:

TEST	METHOD
Corrosion Potential	CT- 417, CT- 422, CT- 532 (643)

Enclosed is Summary of Laboratory Test Results.

We appreciate the opportunity to provide testing services to Soil Exploration Company Inc. Should you have any questions, please call the undersigned.

Sincerely yours,
Cal Land Engineering, Inc. (CLE)
dba Quartech Consultants (QCI)

Giovani Valdivia
Project Engineer

Enclosure

Cal Land Engineering, Inc.
dba Quartech Consultants
Geotechnical, Environmental, and Civil Engineering

Soil Exploration Company Inc.
7535 Jurupa Avenue, Suite C
Riverside, California 92504

QCI Project No.: 19-183-009g
Date: September 26, 2019
Summarized by: GV

Client: MTH2 Engineering Inc.
Project: Sulfate
Project No.: 19138-01

Corrosivity Test Results

Sample ID	Sample Depth (ft)	pH CT-532 (643)	Chloride CT-422 (ppm)	Sulfate CT-417 % By Weight	Resistivity CT-532 (643) (ohm-cm)
B-1	0-3	9.27	230	0.003	1,200

APPENDIX D

U.S. Geological Survey - Earthquake Hazards Program

2008 National Seismic Hazard Maps - Source Parameters

New Search

Distance in Miles	Name	State	Pref Slip Rate (mm/yr)	Dip (degrees)	Dip Dir	Slip Sense	Rupture Top (km)	Rupture Bottom (km)	Length (km)
3.84	Chino, alt 1	CA	1	50	SW	strike slip	0	9	24
3.86	Chino, alt 2	CA	1	65	SW	strike slip	0	14	29
6.92	Elsinore;W+GI+T+J+CM	CA	n/a	84	NE	strike slip	0	16	241
6.92	Elsinore;W+GI+T+J	CA	n/a	84	NE	strike slip	0	16	199
6.92	Elsinore;W	CA	2.5	75	NE	strike slip	0	14	46
6.92	Elsinore;W+GI+T	CA	n/a	84	NE	strike slip	0	14	124
6.92	Elsinore;W+GI	CA	n/a	81	NE	strike slip	0	14	83
8.17	Elsinore;GI+T+J	CA	n/a	86	NE	strike slip	0	17	153
8.17	Elsinore;GI	CA	5	90	V	strike slip	0	13	37
8.17	Elsinore;GI+T+J+CM	CA	n/a	86	NE	strike slip	0	16	195
8.17	Elsinore;GI+T	CA	5	90	V	strike slip	0	14	78
12.06	San Jose	CA	0.5	74	NW	strike slip	0	15	20
14.17	Cucamonga	CA	5	45	N	thrust	0	8	28
14.52	Sierra Madre Connected	CA	2	51		reverse	0	14	76
14.52	Sierra Madre	CA	2	53	N	reverse	0	14	57
15.68	Puente Hills (Coyote Hills)	CA	0.7	26	N	thrust	2.8	15	17
19.07	San Jacinto;SBV+SJV+A	CA	n/a	90	V	strike slip	0	16	134
19.07	San Jacinto;SBV+SJV+A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	241
19.07	San Jacinto;SBV+SJV+A+CC+B	CA	n/a	90	V	strike	0.1	15	215

						slip			
19.07	San Jacinto;SBV	CA	6	90	V	strike slip	0	16	45
19.07	San Jacinto;SBV+SJV+A+CC	CA	n/a	90	V	strike slip	0	16	181
19.07	San Jacinto;SBV+SJV+A+C	CA	n/a	90	V	strike slip	0	17	181
19.07	San Jacinto;SBV+SJV	CA	n/a	90	V	strike slip	0	16	88
21.45	San Jacinto;SJV+A+CC	CA	n/a	90	V	strike slip	0	16	136
21.45	San Jacinto;SJV	CA	18	90	V	strike slip	0	16	43
21.45	San Jacinto;SJV+A	CA	n/a	90	V	strike slip	0	17	89
21.45	San Jacinto;SJV+A+C	CA	n/a	90	V	strike slip	0	17	136
21.45	San Jacinto;SJV+A+CC+B	CA	n/a	90	V	strike slip	0.1	15	170
21.45	San Jacinto;SJV+A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	196
21.82	San Joaquin Hills	CA	0.5	23	SW	thrust	2	13	27
22.79	Elsinore;T+J+CM	CA	n/a	85	NE	strike slip	0	16	169
22.79	Elsinore;T+J	CA	n/a	86	NE	strike slip	0	17	127
22.79	Elsinore;T	CA	5	90	V	strike slip	0	14	52
23.16	S. San Andreas;BB+NM+SM+NSB+SSB+BG	CA	n/a	84		strike slip	0	14	321
23.16	S. San Andreas;NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	13	213
23.16	S. San Andreas;NSB+SSB+BG+CO	CA	n/a	79		strike slip	0.2	12	206
23.16	S. San Andreas;NM+SM+NSB	CA	n/a	90	V	strike slip	0	13	170
23.16	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	86		strike slip	0	14	442
23.16	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0.1	13	421
23.16	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	86		strike slip	0.1	13	479

23.16	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	548
23.16	S. San Andreas;BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	220
23.16	S. San Andreas;SM+NSB	CA	n/a	90	V	strike slip	0	13	133
23.16	S. San Andreas;SM+NSB+SSB+BG+CO	CA	n/a	83		strike slip	0.1	13	303
23.16	S. San Andreas;CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	279
23.16	S. San Andreas;BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	263
23.16	S. San Andreas;CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	322
23.16	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	384
23.16	S. San Andreas;CH+CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	341
23.16	S. San Andreas;CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	449
23.16	S. San Andreas;CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	85		strike slip	0	14	380
23.16	S. San Andreas;NM+SM+NSB+SSB+BG+CO	CA	n/a	84		strike slip	0.1	13	340
23.16	S. San Andreas;NM+SM+NSB+SSB+BG	CA	n/a	83		strike slip	0	14	271
23.16	S. San Andreas;BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	85		strike slip	0.1	13	390
23.16	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	512
23.16	S. San Andreas;NSB	CA	22	90	V	strike slip	0	13	35
23.16	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0.1	13	377
23.16	S. San Andreas;SM+NSB+SSB	CA	n/a	90	V	strike slip	0	13	176
23.16	S. San Andreas;SM+NSB+SSB+BG	CA	n/a	81		strike slip	0	13	234
23.16	S. San Andreas;NSB+SSB+BG	CA	n/a	75		strike slip	0	14	136
23.16	S. San Andreas;NSB+SSB	CA	n/a	90	V	strike slip	0	13	79
23.98	Puente Hills (Santa Fe Springs)	CA	0.7	29	N	thrust	2.8	15	11

24.61	Clamshell-Sawpit	CA	0.5	50	NW	reverse	0	14	16
25.62	S. San Andreas;NM+SM	CA	n/a	90	V	strike slip	0	14	134
25.62	S. San Andreas;CH+CC+BB+NM+SM	CA	n/a	90	V	strike slip	0	14	306
25.62	S. San Andreas;SM	CA	29	90	V	strike slip	0	13	98
25.62	S. San Andreas;CC+BB+NM+SM	CA	n/a	90	V	strike slip	0	14	243
25.62	S. San Andreas;BB+NM+SM	CA	n/a	90	V	strike slip	0	14	184
25.62	S. San Andreas;PK+CH+CC+BB+NM+SM	CA	n/a	90	V	strike slip	0.1	13	342
25.85	S. San Andreas;SSB+BG	CA	n/a	71		strike slip	0	13	101
25.85	S. San Andreas;SSB+BG+CO	CA	n/a	77		strike slip	0.2	12	170
25.85	S. San Andreas;SSB	CA	16	90	V	strike slip	0	13	43
26.21	Cleghorn	CA	3	90	V	strike slip	0	16	25
26.83	Raymond	CA	1.5	79	N	strike slip	0	16	22
28.57	San Jacinto;A+CC+B	CA	n/a	90	V	strike slip	0.1	15	152
28.57	San Jacinto;A+CC	CA	n/a	90	V	strike slip	0	16	118
28.57	San Jacinto;A+C	CA	n/a	90	V	strike slip	0	17	118
28.57	San Jacinto;A	CA	9	90	V	strike slip	0	17	71
28.57	San Jacinto;A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	178
29.28	Newport Inglewood Connected alt 2	CA	1.3	90	V	strike slip	0	11	208
29.36	Newport-Inglewood, alt 1	CA	1	88		strike slip	0	15	65
29.36	Newport Inglewood Connected alt 1	CA	1.3	89		strike slip	0	11	208
29.83	Elysian Park (Upper)	CA	1.3	50	NE	reverse	3	15	20
30.19	Puente Hills (LA)	CA	0.7	27	N	thrust	2.1	15	22

30.46	Newport-Inglewood (Offshore)	CA	1.5	90	V	strike slip	0	10	66
31.82	North Frontal (West)	CA	1	49	S	reverse	0	16	50
34.16	Verdugo	CA	0.5	55	NE	reverse	0	15	29
38.01	Hollywood	CA	1	70	N	strike slip	0	17	17
40.00	Palos Verdes Connected	CA	3	90	V	strike slip	0	10	285
40.00	Palos Verdes	CA	3	90	V	strike slip	0	14	99
40.76	Santa Monica Connected alt 2	CA	2.4	44		strike slip	0.8	11	93
45.88	Sierra Madre (San Fernando)	CA	2	45	N	thrust	0	13	18
45.93	S. San Andreas;BG+CQ	CA	n/a	72		strike slip	0.3	12	125
45.93	S. San Andreas;BG	CA	n/a	58		strike slip	0	13	56
46.56	San Gabriel	CA	1	61	N	strike slip	0	15	71
47.29	Santa Monica Connected alt 1	CA	2.6	51		strike slip	0	16	79
47.29	Santa Monica, alt 1	CA	1	75	N	strike slip	0	18	14
49.46	Coronado Bank	CA	3	90	V	strike slip	0	9	186

2016 CBC – SEISMIC PARAMETERS		
Site Coordinates	**Latitude**	**Longitude**
	33.9471	**-117.6018**
Mapped Spectral Response Acceleration	**S_S = 1.508**	**S_1 = 0.600**
Site Coefficients (Class "D")	**F_a = 1.00**	**F_v = 1.50**
Maximum Considered Earthquake (MCE) Spectral Response Acceleration	**S_{MS} = 1.508**	**S_{M1} = 0.900**
Design Spectral Response Acceleration Parameters	**S_{DS} = 1.005**	**S_{D1} = 0.600**
Seismic Design Category	**D**	
Peak Ground Acceleration (PGA)	**0.553g**	

References:

- Earthquake.usgs.gov/research/hazmaps/design
- 2016 California Building Code, California Code of Regulations, Title 24, Part 2, Volume 2 of 2, Section 1613, Earthquake Loads

APPENDIX E

GENERAL EARTHWORK AND GRADING SPECIFICATIONS

1.0 GENERAL INTENT

These specifications present general procedures and requirements for grading and earthwork as shown on the approved grading plans, including preparation of areas to be filled, placement of fill, installations of subdrains, and excavations. The recommendations contained in the geotechnical report are a part of the earthwork and grading specifications and shall supersede the provisions contained hereinafter in the case of conflict. Evaluations performed by the consultant during the course of grading may result in new recommendations which could supersede these specifications or the recommendations of the geotechnical report.

2.0 EARTHWORK OBSERVATIONS AND TESTING

Prior to the commencement of grading, a qualified geotechnical consultant (soils engineer and engineering geologist, and their representatives) shall be employed for the purpose of observing earthwork procedures and testing the fills for conformance with the recommendations of the geotechnical report and these specifications. It will be necessary that the consultant provide adequate testing and observations so that he may determine that the work was accomplished as specified. It shall be the responsibility of the contractor to assist the consultant and keep him apprised of work schedules and changes so that he may schedule his personnel accordingly.

It shall be the sole responsibility of the contractor to provide adequate equipment and methods to accomplish the work in accordance with applicable grading codes or agency ordinances, these specifications and approved grading plans. If, in the opinion of the consultant, unsatisfactory conditions, such as questionable soil, poor moisture conditions, inadequate compaction, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the consultant will be empowered to reject the work and recommend that construction be stopped until the unsatisfactory conditions are rectified.

Maximum dry density tests used to determine the degree of compaction will be performed in accordance with the American Society of Testing and Materials, test method ASTM D1557-12.

3.0 PREPARATION OF AREAS TO BE FILLED

3.1 Clearing and Grubbing

All brush, vegetation, and debris shall be removed or piled and otherwise disposed of.

3.2 Processing

The existing ground which is determined to be satisfactory for support of fill shall be scarified to a minimum depth of 6 inches. Existing ground which is not satisfactory shall be overexcavated as specified in the following section. Scarification shall continue until the soils are broken down and free of large clay lumps or clods and until the working surface is reasonably uniform and free of uneven features which would inhibit uniform compaction.

3.3 Overexcavation

Soft, dry, spongy, highly fractured or otherwise unsuitable ground, extending to such depth that surface processing cannot adequately improve the condition, shall be overexcavated down to firm ground, approved by the consultant.

3.4 Moisture Conditioning

Overexcavated and processed soils shall be watered, dried-back, blended, and/or mixed, as required to attain a uniform moisture content near optimum.

3.5 Recompaction

Overexcavation and processed soils which have been properly mixed and moisture-conditioned shall be recompacted to a minimum relative compaction of 90 percent.

3.6 *Benching*

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal : vertical), the ground shall be stepped or benched. The lowest bench shall be a minimum of 15 feet wide, shall be at least 2 feet deep, shall expose firm materials, and shall be approved by the consultant. Other benches shall be excavated in firm materials for a minimum width of 4 feet. Ground sloping flatter than 5:1 (horizontal : vertical) shall be benched or otherwise overexcavated when considered necessary by the consultant.

3.7 *Approval*

All areas to receive fill, including processed areas, removal areas and toe-of-fill benches shall be approved by the consultant prior to fill placement.

4.0 FILL MATERIAL

4.1 *General*

Material to be placed as fill shall be free of organic matter and other deleterious substances, and shall be approved by the consultant. Soils of poor gradation, expansion, or strength characteristics shall be placed in areas designated by consultant or shall be mixed with other soils to serve as satisfactory fill material.

4.2 *Oversize*

Oversize materials defined as rock, or other irreducible material with maximum dimension greater than 12 inches, shall not be buried or placed in fills, unless the location, materials, and disposal methods are specifically approved by the consultant. Oversize disposal operations shall be such that nesting of oversize material does not occur, and such that the oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 feet vertically of finish grade or within the range of future utilities or underground construction, unless specifically approved by the consultant.

4.3 *Import*

If importing of fill material is required for grading, the import material shall meet the requirements of Section 4.1.

5.0 FILL PLACEMENT and COMPACTION

5.1 *Fill Lifts*

Approved fill material shall be placed in areas prepared to receive fill in near-horizontal layers not exceeding 6 inches in compacted thickness. The consultant may approve thicker lifts if testing indicates the grading procedures are such that adequate compaction is being achieved with lifts of greater thickness. Each layer shall be spread evenly and shall be thoroughly mixed during spreading to attain uniformity of material and moisture in each layer.

5.2 *Fill Moisture*

Fill layers at a moisture content less than optimum shall be watered and mixed, and wet fill layers shall be aerated by scarification or shall be blended with drier material. Moisture conditioning and mixing of fill layers shall continue until the fill material is at a uniform moisture content at or near optimum.

5.3 *Compaction of Fill*

After each layer has been evenly spread, moisture-conditioned, and mixed, it shall be uniformly compacted to not less than 90 percent of maximum dry density. Compaction equipment shall be adequately sized and shall be either specifically designed for soil compaction or of proven reliability, to efficiently achieve the specified degree of compaction.

5.4 Fill Slopes

Compacting of slopes shall be accomplished, in addition to normal compacting procedures, by backrolling of slopes with sheepsfoot rollers at frequent increments of 2 to 3 feet in fill elevation gain, or by other methods producing satisfactory results. At the completion of grading, the relative compaction of the slope out to the slope face shall be at least 90 percent.

5.5 Compaction Testing

Field-tests to check the fill moisture and degree of compaction will be performed by the consultant. The location and frequency of tests shall be at the consultant's discretion. In general, the tests will be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of embankment.

6.0 SUBDRAIN INSTALLATION

Subdrain systems, if required, shall be installed in approved ground to conform to the approximate alignment and details shown on the plans or herein. The subdrain location or materials shall not be changed or modified without the approval of the consultant. The consultant, however, may recommend and upon approval, direct changes in subdrain line, grade or material. All subdrains should be surveyed for line and grade after installation and sufficient time shall be allowed for the surveys, prior to commencement of filling over the subdrain.

7.0 EXCAVATION

Excavations and cut slopes will be examined during grading. If directed by the consultant, further excavation or overexcavation and refilling of cut areas shall be performed, and/or remedial grading of cut slopes shall be performed. Where fill-over-cut slopes are to be graded, unless otherwise approved, the cut portion of the slope shall be made and approved by the consultant prior to placement of materials for construction of the fill portion of the slope.

8.0 TRENCH BACKFILLS

Trench excavations for utility pipes shall be backfilled under engineering supervision.

After the utility pipe has been laid, the space under and around the pipe shall be backfilled with clean sand or approved granular soil to a depth of at least one foot over the top of the pipe. The sand backfill shall be uniformly jetted into place before the controlled backfill is placed over the sand.

The onsite materials, or other soils approved by the soil engineer, shall be watered and mixed as necessary prior to placement in lifts over the sand backfill.

The controlled backfill shall be compacted to at least 90 percent of the maximum dry density as determined by the ASTM D1557-12 test method.

Field density tests and inspection of the backfill procedures shall be made by the soil engineer during backfilling to see that proper moisture content and uniform compaction is being maintained. The contractor shall provide test holes and exploratory pits as required by the soil engineer to enable sampling and testing.

APPENDIX F

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LIQUEFACTION ANALYSIS SUMMARY

****

Font: Courier New, Regular, Size 8 is recommended for this report.
Licensed to , 9/23/2019 11:57:55 AM

Input File Name: UNTITLED
Title: PROJECT NAME: MTH2 Engineering Inc.
Subtitle: Proj No. 19138-01

Surface Elev.=Existing Ground
Hole No.=B-1
Depth of Hole= 50.00 ft
Water Table during Earthquake= 40.00 ft
Water Table during In-Situ Testing= 55.00 ft
Max. Acceleration= 0.55 g
Earthquake Magnitude= 6.70

Input Data:
Surface Elev.=Existing Ground
Hole No.=B-1
Depth of Hole=50.00 ft
Water Table during Earthquake= 40.00 ft
Water Table during In-Situ Testing= 55.00 ft
Max. Acceleration=0.55 g
Earthquake Magnitude=6.70

1. SPT or BPT Calculation.
2. Settlement Analysis Method: Ishihara / Yoshimine
3. Fines Correction for Liquefaction: Idriss/Seed
4. Fine Correction for Settlement: During Liquefaction*
5. Settlement Calculation in: All zones*
6. Hammer Energy Ratio, Ce = 0.89
7. Borehole Diameter, Cb= 1
8. Sampling Method, Cs= 1
9. User request factor of safety (apply to CSR) , User= 1
   Plot one CSR curve (fs1=1)
10. Use Curve Smoothing: Yes*
* Recommended Options

In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.00	39.00	120.00	44.00
5.00	32.00	120.00	44.00
10.00	28.00	120.00	27.00
15.00	33.00	120.00	77.00
20.00	18.00	120.00	NoLiq
25.00	25.00	120.00	46.00
30.00	19.00	120.00	NoLiq
35.00	26.00	120.00	NoLiq
40.00	29.00	120.00	90.00
45.00	28.00	120.00	NoLiq
50.00	31.00	120.00	NoLiq

Output Results:

Settlement of Saturated Sands=0.35 in.
Settlement of Unsaturated Sands=0.21 in.
Total Settlement of Saturated and Unsaturated Sands=0.56 in.
Differential Settlement=0.279 to 0.368 in.

Depth ft	CRRm	CSRfs	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	2.67	0.36	5.00	0.35	0.21	0.56
5.00	2.67	0.36	5.00	0.35	0.21	0.55
10.00	2.67	0.35	5.00	0.35	0.19	0.54
15.00	2.67	0.35	5.00	0.35	0.17	0.52
20.00	0.31	0.34	5.00	0.35	0.11	0.46
25.00	2.00	0.34	5.00	0.35	0.11	0.46
30.00	0.28	0.33	5.00	0.35	0.00	0.35
35.00	2.00	0.32	5.00	0.35	0.00	0.35
40.00	2.00	0.30	5.00	0.35	0.00	0.35
45.00	0.31	0.31	1.00*	0.00	0.00	0.00
50.00	2.00	0.31	5.00	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units: Depth = ft, Stress or Pressure = atm (tsf), Unit Weight = pcf, Settlement = in.

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1 atm (atmosphere) = 1 tsf (ton/ft2)
CRRm Cyclic resistance ratio from soils
CSRsf Cyclic stress ratio induced by a given earthquake (with user

request factor of safety)

F.S.	Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated and Unsaturated Sands
NoLiq	No-Liquefy Soils

APPENDIX G

Infiltration Test (Percolation Test Procedure)

The tests were performed in accordance with referenced Riverside County Stormwater Quality Best Management Practice Design Handbook for Low Impact Development, dated June 2014.

Four 8-inch diameter, 4-feet deep test holes (I-1, I-2, I-3 and I-4) were drilled at suggested locations. The soil at the test locations was visually classified as silty sand (USCS "SM"). To mitigate any possible caving or sloughing of the test holes, a 6-inch diameter perforated pipe was placed in the hole. The bottom of the hole was covered with 2 inches of gravel.

The testing was conducted after presoaking. Two consecutive measurements showed that 6 inches of water seeped away in more than 25 minutes. The test was therefore run an additional 6 hours with measurements taken at 30 minute intervals. Water level was adjusted to 20 inches above the bottom of the test hole after each measurement. The drop that occurred during the final reading was used for design rate purposes.

Infiltration Test/Tabulated Test Results

Test No.	Depth of Test (feet)	Earth Material	Infiltration Rate (in/hr)
I-1	4	Silty Sand ("SM")	0.09
I-2	4	Silty Sand ("SM")	0.75
I-3	4	Silty Sand ("SM")	0.12
I-4	4	Silty Sand ("SM")	0.56

We recommend that a suitable factor of safety should be applied to the rate in design of the system.

INFILTRATION TEST DATA
(Boring Percolation Test Procedure)

Project: MTH2 Engineering INC Project No.: 1913P01 Date: 9/21/19
Test Hole No.: I-1 Tested By: ED Date: 9/21/19
Depth of Test Hole, DT: 4' USCS Soil Classification: SM
Diameter: 8" Presoak: yes

SANDY SOIL CRITERIA TEST

Trial No.	Time	Time Interval (min)	Initial Water Level (inches)	Final Water Level (inches)	Change in Water Level (inches)	Greater Than or Equal to 6" (Y/N)
1	10:15:06 10:40:06	25	28	28.875	0.875	N
2	10:42:25 11:07:25	"	"	"	"	"

Use Normal Sandy (Circle One) Soil Criteria

Trial No.	Start Time	Stop Time	Δt Time Interval (min.)	Do Initial Depth to Water(in.)	Df Final Depth to Water(in.)	ΔD Change in Water Level (in.)	Infiltration Rate (in./hr.)
1	11:07:55	11:37:55	30	28	28.5	0.5	
2	11:38:40	12:08:40	"	"	"	"	
3	12:09:01	12:39:01	"	"	"	"	
4	12:43:06	1:13:06	"	"	"	"	
5	1:14:17	1:44:17	"	"	"	"	
6	1:45:28	2:15:28	"	"	"	"	
7	2:19:39	2:49:39	"	"	"	"	
8	2:50:50	3:20:50	"	"	"	"	
9	3:22:02	3:52:02	"	"	"	"	
10	3:56:14	4:26:14	"	"	"	"	
11	4:27:26	4:57:26	"	"	"	"	
12	4:58:38	5:28:38	"	"	"	"	0.09

COMMENTS:

Infiltration Rate = $\frac{4 \times 60 \times 0.5}{30(4+(20+(20-0.5)))} = 0.09$ in/hr

INFILTRATION TEST DATA
(Boring Percolation Test Procedure)

Project: MTK2 Engineering INC Project No.: 1938-01 Date: 9/21/19
Test Hole No.: IT-2 Tested By: TD Date: 9/21/19
Depth of Test Hole, D_T: 4' USCS Soil Classification: SM
Diameter: 8" Presoak: yes

SANDY SOIL CRITERIA TEST

Trial No.	Time	Time Interval (min)	Initial Water Level (inches)	Final Water Level (inches)	Change in Water Level (inches)	Greater Than or Equal to 6" (Y/N)
1	10:17:18 10:42:18	25	28	32	4	N
2	10:46:00 11:11:00	11	11	31.875	3.875	Y

Use Normal Sandy (Circle One) Soil Criteria

Trial No.	Start Time	Stop Time	Δt Time Interval (min.)	Do Initial Depth to Water(in.)	D_f Final Depth to Water(in.)	ΔD Change in Water Level (in.)	Infiltration Rate (in./hr.)
1	11:13:19	11:43:19	30	28	31.875	3.875	
2	11:45:10	12:15:10	11	11	11	11	
3	12:16:50	12:46:50	11	11	11	11	
4	12:50:01	1:20:01	11	11	11	11	
5	1:22:12	1:52:12	11	11	11	11	
6	1:55:23	2:25:23	11	11	11	11	
7	2:27:34	2:57:34	11	11	11	11	
8	2:59:45	3:29:45	11	11	11	11	
9	3:30:56	4:00:56	11	11	11	11	
10	4:04:08	4:34:08	11	11	11	11	
11	4:35:20	5:05:20	11	11	11	11	
12	5:06:32	5:36:32	11	11	11	11	0.75

COMMENTS:
Infiltration Rate = $\frac{4 \times 60 \times 3.875}{30(4+(20+(20-3.875)))} = 0.75$ in/hr

INFILTRATION TEST DATA
(Boring Percolation Test Procedure)

Project: MTH2 Engineering INC. Project No.: 19138-01 Date: 9/21/19
Test Hole No.: I-3 Tested By: DP Date: 11
Depth of Test Hole, D_T: 4' USCS Soil Classification: SM
Diameter: 8" Presoak: Yes

SANDY SOIL CRITERIA TEST

Trial No.	Time	Time Interval (min)	Initial Water Level (inches)	Final Water Level (inches)	Change in Water Level (inches)	Greater Than or Equal to 6" (Y/N)
1	11:38:41 12:03:41	25	28	28.625	0.625	N
2	12:10:34 12:35:34	11	11	11	11	Y

Use Normal Sandy (Circle One) Soil Criteria

Trial No.	Start Time	Stop Time	Δt Time Interval (min.)	Do Initial Depth to Water(in.)	D_f Final Depth to Water(in.)	ΔD Change in Water Level (in.)	Infiltration Rate (in./hr.)
1	12:36:25	1:06:25	30	28	28.625	0.625	
2	1:07:36	1:37:36	11	11	11	11	
3	1:40:00	2:10:00	11	11	11	11	
4	2:11:01	2:41:01	11	11	11	11	
5	2:44:12	3:14:12	11	11	11	11	
6	3:15:23	3:45:23	11	11	11	11	
7	3:46:34	4:16:34	11	11	11	11	
8	4:18:45	4:48:45	11	11	11	11	
9	4:50:56	5:20:56	11	11	11	11	
10	5:21:08	5:51:08	11	11	11	11	
11	5:52:20	6:22:20	11	11	11	11	
12	6:23:32	6:53:32	11	11	11	11	0.12

COMMENTS:
Infiltration Rate = $\frac{4 \times 60 \times 0.625}{30(4+(20+(20-0.625)))} = 0.12$ in/hr

APPENDIX 11:
Paleontological Assessment

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PALEONTOLOGICAL ASSESSMENT FOR THE EASTVALE SELF STORAGE PROJECT

CITY OF EASTVALE
RIVERSIDE COUNTY, CALIFORNIA

APNs 144-020-002, -003, and -004

Prepared for:

Gossett Development, Inc.
238 West Mariposa Avenue
San Clemente, California 92672

Submitted to:

City of Eastvale
12363 Limonite Avenue, Suite 910
Eastvale, California 91752

Prepared by:

Brian F. Smith and Associates, Inc.
14010 Poway Road, Suite A
Poway, California 92064

November 4, 2019

Paleontological Database Information

Author:	Todd A. Wirths, M.S., Senior Paleontologist, California Professional Geologist No. 7588
Consulting Firm:	Brian F. Smith and Associates, Inc. 14010 Poway Road, Suite A Poway, California 92064 (858) 484-0915
Report Date:	November 4, 2019
Report Title:	Paleontological Assessment for the Eastvale Self Storage Project, City of Eastvale, Riverside County, California (APNs 144-020-002, -003, and -004)
Prepared for:	Gossett Development, Inc. 238 West Mariposa Avenue San Clemente, California 92672
Submitted to:	City of Eastvale 12363 Limonite Avenue, Suite 910 Eastvale, California 91752
Prepared by:	Brian F. Smith and Associates, Inc. 14010 Poway Road, Suite A Poway, California 92064
USGS Quadrangle:	*Corona North, California* (7.5 minute)
Study Area:	4.12 acres
Key Words*:*	Paleontological assessment; Pleistocene alluvial channel deposits; high paleontological sensitivity; county of Riverside; city of Eastvale.

I. INTRODUCTION AND LOCATION

A paleontological resources assessment has been completed for the proposed Eastvale Self Storage Project, located at 14555, 14577, and 14587 Chandler Street near the western edge of the city of Eastvale in Riverside County, California (Figures 1 and 2 in Attachment B). The project is bounded on the north by a drainage ditch and commercial, residential and vacant lots; on the east by more residential and vacant lots; on the west by commercial and residential lots, and on the south by Chandler Street and a newer residential neighborhood.

The project is within the lower half of Section 34, Township 2 South, Range 7 West on the U.S. Geological Survey 7.5-minute, 1:24,000-scale *Corona North, California* topographic quadrangle map (see Figure 2 in Attachment B). The project encompasses three parcels on 4.12 acres identified as Assessor's Parcel Numbers (APNs) 144-020-002, -003, and -004. The project proposes the development of a storage facility with associated improvements.

II. REGULATORY SETTING

The California Environmental Quality Act (CEQA), patterned after the National Environmental Policy Act (NEPA), is the overriding environmental document that sets the requirement for protecting California's cultural and paleontological resources. The document does not establish specific rules that must be followed, but mandates that governing permitting agencies (lead agencies) set their own guidelines for the protection of nonrenewable paleontological resources under their jurisdiction.

State of California

Under Guidelines for the Implementation of CEQA, as amended March 29, 1999 (Title 1, Chapter 3, California Code of Regulations: 15000 et seq.), procedures define the type of activities, persons, and public agencies required to comply with CEQA. In the Environmental Checklist, one of the questions to answer is, "Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" (Section 15023, Appendix G, Section XIV, Part a). The California Public Resources Code (PRC) Section 5097.5 states:

a) No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.
b) As used in this section, "public lands" means lands owned by, or under the

> jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

County of Riverside

According to County of Riverside Environmental Impact Report No. 521:

> The County of Riverside has existing programs in place that ensure applicable policies are imposed once a development proposal triggers a specific policy or policies. The need for specific policies is determined through subsequent CEQA analysis performed for site-specific projects. These measures are implemented, enforced and verified through their inclusion into project conditions of approval. (County of Riverside 2015)

For example, Policy OS 19.6 states:

> Whenever existing information indicates that a site proposed for development has high paleontological sensitivity as shown on Figure OS-8, a paleontological resource impact mitigation program (PRIMP) shall be filed with the County Geologist prior to site grading. The PRIMP shall specify the steps to be taken to mitigate impacts to paleontological resources. (County of Riverside 2015)

An online, interactive, paleontological sensitivity mapping database is maintained by the County of Riverside as a research tool to access the County's assignment of levels of paleontological sensitivity to the various geologic formations within the county (County of Riverside Land Information System n.d.). This is specifically addressed in Section V.

Paleontological resources are addressed under the 2008 Multipurpose Open Space Element of the Riverside County General Plan, Policy OS 19.9, which states:

> This policy requires that when existing information indicates that a site proposed for development may contain paleontological resources, a paleontologist shall monitor site grading activities, with the authority to halt grading to collect uncovered paleontological resources, curate any resources collected with an appropriate repository, and file a report with the Planning Department. (County of Riverside 2008)

The "SABER Policy" (Safeguard Artifacts Being Excavated in Riverside County), enacted in October 2011 by the Riverside County Board of Supervisors, requires that any paleontological resources found or unearthed in the county of Riverside be curated at the Western Science Center Museum on Searl Parkway in the city of Hemet.

III. GEOLOGY

On the geologic map of the 7.5-minute *Corona North* quadrangle (Figure 3 in Attachment B, after Morton and Gray 2002), the project is located within the northern reaches of the Perris Block, a graben-like feature bounded by the uplifted blocks of the San Jacinto Block (San Jacinto Mountains) to the northeast and the Santa Ana Block (Santa Ana Mountains) to the southwest. The blocks are demarcated by the San Jacinto and Elsinore fault zones, respectively (Woodford et al. 1971). The project is underlain by Quaternary (lower to middle Pleistocene Epoch, approximately 1.8 million to 125,000 year old) very old alluvial channel deposits (dark yellow area labeled "Qvoa" on Figure 3) of an ancient course of the Santa Ana River, characterized by well-indurated gravel, sands, and silt. The upper surfaces of these deposits are capped by moderate to well-developed pedogenic soils as much as two to three meters thick (Morton and Gray 2002).

IV. PALEONTOLOGICAL RESOURCES

Definition

Paleontological resources are the remains of prehistoric life that have been preserved in geologic strata. These remains are called fossils and include bones, shells, teeth, and plant remains (including their impressions, casts, and molds) in the sedimentary matrix, as well as trace fossils such as footprints and burrows. Fossils are considered older than 5,000 years of age (Society of Vertebrate Paleontology [SVP] 2010), but may include younger remains (subfossils) when viewed in the context of local extinction of the organism or habitat, for example. Fossils are considered a nonrenewable resource under state, county, and local guidelines (Section II of this report).

Fossil Records Search

Two museum collections and records searches for nearby projects (The Ranch at Eastvale Project, located approximately one and a half miles north of the Eastvale Self Storage Project, and the Chino Parcel Delivery Project, located approximately two miles north-northwest of the Eastvale Self Storage Project) were previously conducted by the Division of Geological Sciences at the San Bernardino County Museum (SBCM) in Redlands (Scott 2006, attached) and the Vertebrate Paleontology Section at the Natural History Museum of Los Angeles County (LACM) in Los Angeles (McLeod 2016, attached). Neither report revealed any previously recorded fossil localities from within the boundaries of the current project. However, McLeod (2016) did report a single locality along Sumner Avenue north of Limonite Avenue ("Cloverdale Road") in Eastvale that yielded a fossil specimen of whipsnake (*Masticophus*) at a depth of 9 to 11 feet. This locality is about two and a half miles northeast of the Eastvale Self Storage Project.

The closest known fossil localities to the project were collected during excavation of the Riverside County Flood Control and Water Conservation District's County Line Channel Project that paralleled the county line (Kennedy et al. 2005). The western end of the County Line Channel

Project terminated at the Cucamonga Creek Channel, about two miles to the north of the project. Pleistocene terrestrial mammal remains recovered from subsurface exposures interpreted to represent ancestral Santa Ana River fluvial (floodplain) sediments included extinct camel (*Camelops* cf. *hesternus*) and extant bighorn sheep (*Ovis canadensis*). The proximity of all of these localities to the proposed project demonstrates the high paleontological sensitivity of the Pleistocene alluvial and alluvial fan sediments in the shallow subsurface in this region.

V. PALEONTOLOGICAL SENSITIVITY

Overview

The degree of paleontological sensitivity of any particular area is based on a number of factors, including the documented presence of fossiliferous resources on a site or in nearby areas, the presence of documented fossils within a particular geologic formation or lithostratigraphic unit, and whether or not the original depositional environment of the sediments is one that might have been conducive to the accumulation of organic remains that might have become fossilized over time. Late Quaternary (Holocene, or "modern") alluvium is generally considered to be geologically too young to contain significant nonrenewable paleontological resources (*i.e.,* fossils) and is thus typically assigned a "low" paleontological sensitivity. Pleistocene (> 11,000-year-old) alluvial and alluvial fan deposits in the Inland Empire, however, often yield important Ice Age terrestrial vertebrate fossils, such as extinct mammoths, mastodons, giant ground sloths, extinct species of horse, bison, camel, saber-toothed cats, and others (Jefferson 2009a, 2009b). These Pleistocene sediments are thus accorded a "high" paleontological resource sensitivity.

Professional Standards

The Society of Vertebrate Paleontology (2010) drafted guidelines outlining procedures that include:

> [E]valuating the potential for impacts of a proposed action on paleontological resources and for mitigating those impacts. Impact mitigation includes pre-project survey and salvage, monitoring and screen washing during excavation to salvage fossils, conservation and inventory, and final reports and specimen curation. The objective of these procedures is to offer standard methods for assessing potential impacts to fossils and mitigating these impacts.

The guidelines include four categories of paleontological sensitivity for geologic units (formations) that might be impacted by a proposed project, as listed below:

- *High Potential:* Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered.

- *Undetermined Potential:* Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment, and that further study is needed to determine the potential of the rock unit.
- *Low Potential:* Rock units that are poorly represented by fossil specimens in institutional collections or based upon a general scientific consensus that only preserve fossils in rare circumstances.
- *No Potential:* Rock units that have no potential to contain significant paleontological resources, such as high-grade metamorphic rocks and plutonic igneous rocks.

County Assessment

A "paleontological sensitivity map" generated by the Riverside County Transportation and Land Management Agency (Figure 4 in Attachment B) in October 2019 ranks the general project area as having a "High Sensitivity (High A)," which is based on the occurrence of fossils or trace fossils that may occur on or below the surface. The category High A indicates that fossils are likely to be encountered at or below the surface, and may be impacted by construction activities" (County of Riverside Land Information System n.d.).

The high paleontological sensitivity ranking (High A) encompasses all of the mapped Quaternary sediments within the project. These types of Quaternary sediments often yield important Ice Age fossils such as large terrestrial vertebrates (*e.g.,* bison, mammoth, mastodon, horse, camel, giant ground sloth, short-faced bear, saber-toothed cat, and others [*e.g.,* Jefferson 2009a, 2009b]). The fossil vertebrates recovered from the adjacent County Line Channel Project (Kennedy et al. 2005) further supports the high paleontological sensitivity ranking for the proposed Eastvale Self Storage Project.

VI. RECOMMENDATIONS

The existence of Quaternary very old alluvial channel sediments across the project, the high paleontological resource sensitivity (High A) assigned to the Quaternary exposures, the numerous fossil collections made from older alluvial and alluvial fan deposits across the Inland Empire (*e.g.,* Jefferson 2009a, 2009b; Scott 2006; McLeod 2016), and the Quaternary fossil mammal remains recovered from the nearby County Line Channel Project (Kennedy et al. 2005) support the recommendation that full-time paleontological monitoring starting from the surface in undisturbed formational sediments be required during all mass grading, excavation (utility trenching, etc.), and drilling activities to mitigate any adverse impacts (loss or destruction) to potential nonrenewable paleontological resources. A paleontological mitigation, monitoring, and reporting program (MMRP) consistent with the provisions of CEQA, the County of Riverside, and the guidelines of the SVP (2010) should be implemented for any mass grading and excavation-related activities, including utility trenching and boring activities, during site preparations for the construction of the proposed Eastvale Self Storage Project. The proposed MMRP is outlined

below.

1) Monitoring of mass grading and excavation activities in areas identified as likely to contain paleontological resources by a qualified paleontologist or paleontological monitor. Full-time monitoring will be conducted in areas of grading or excavation in undisturbed, very old alluvial channel sediments (Qvoa on Figure 3). Paleontological monitors will be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor must be empowered to temporarily halt or divert equipment to allow for the removal of abundant or large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or if present, are determined upon exposure and examination by qualified paleontological personnel to have a low potential to contain or yield fossil resources.
2) Paleontological salvage during trenching and boring activities is typically from the generated spoils and does not delay the trenching or drilling activities. Fossils are collected and placed in cardboard flats or plastic buckets and identified by field number, collector, and date collected. Notes are taken on the map location and stratigraphy of the site, and the site is photographed before it is vacated and the fossils are removed to a safe place. On mass grading projects, any discovered fossil site is protected by red flagging to prevent it from being overrun by earthmovers (scrapers) before salvage begins. Fossils are collected in a similar manner, with notes and photographs being taken before removing the fossils. Precise location of the site is determined with the use of handheld GPS units. If the site involves a large terrestrial vertebrate, such as large bone(s) or a mammoth tusk, that is/are too large to be easily removed by a single monitor, Brian F. Smith and Associates, Inc. will send a fossil recovery crew in to excavate around the find, encase the find within a plaster jacket, and remove it after the plaster is set. For large fossils, use of the contractor's construction equipment is solicited to help remove the jacket to a safe location before it is returned to our laboratory facility for preparation.
3) Particularly small invertebrate fossils typically represent multiple specimens of a limited number of organisms, and a scientifically suitable sample can be obtained from one to several five-gallon buckets of fossiliferous sediment. If it is possible to dry screen the sediment in the field, a concentrated sample may consist of one or two buckets of material. For vertebrate fossils, the test is usually the observed presence of small pieces of bones within the sediments. If present, as many as 20 to 40 five-gallon buckets of sediment can be collected and returned to a separate facility to wet-screen the sediment. In the laboratory, individual fossils are cleaned of extraneous matrix, any breaks are repaired, and the specimen, if needed, is stabilized by soaking in an archivally approved acrylic hardener (e.g., a solution of acetone and Paraloid B-72).
4) Preparation of recovered specimens to a point of identification and permanent preservation,

including screen washing sediments to recover small invertebrates and vertebrates, if necessary. Preparation of individual vertebrate fossils is often more time-consuming than for accumulations of invertebrate fossils.

5) Identification and curation of specimens into a professional, accredited public museum repository with a commitment to archival conservation and permanent retrievable storage (*e.g.*, the Western Science Center Museum, 2345 Searl Parkway, Hemet, California 92543). The paleontological program should include a written repository agreement prior to the initiation of mitigation activities.
6) Preparation of a final monitoring and mitigation report of findings and significance, including lists of all fossils recovered and necessary maps and graphics to accurately record their original location. The report, when submitted to the appropriate lead agency (City of Eastvale), will signify satisfactory completion of the project program to mitigate impacts to any paleontological resources.

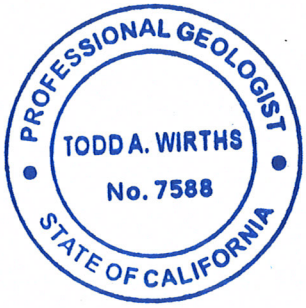
VII. CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this paleontological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief, and have been compiled in accordance with CEQA criteria.

November 4, 2019

Todd A. Wirths
Senior Paleontologist
California Professional Geologist No. 7588

Date



VIII. ATTACHMENT A

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Resume

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Mitigation Guidelines Revision Committee: http://vertpaleo.org/Membership/Member-Ethics/SVP_Impact_Mitigation_Guidelines.aspx.

Woodford, A.O., Shelton, J.S., Doehring., D.O., and Morton, R.K. 1971. Pliocene-Pleistocene History of the Perris Block, southern California. Geological Society of America Bulletin, v. 82, p. 3421-3448, 18 figs.

Todd A. Wirths, MS, PG

Senior Paleontologist

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Education

Master of Science, Geological Sciences, San Diego State University, California **1995**

Bachelor of Arts, Earth Sciences, University of California, Santa Cruz **1993**

Associate of Arts, Geological Sciences, Santa Barbara City College **1992**

Professional Certifications

Professional Geologist, California (#7588), 2003
Riverside County Approved Paleontologist
San Diego County Qualified Paleontologist
Orange County Certified Paleontologist (applied, 2019)
OSHA HAZWOPER 40-hour trained; current 8-hour annual refresher

Professional Memberships

Board member, San Diego Geological Society
San Diego Association of Geologists (President, 2012; Vice President, 2011)
South Coast Geological Society

Publications

Picacho and the Cargo Muchachos: Guns, Gold, and Geology of Eastern Imperial County, California: San Diego Associations of Geologists/Sunbelt Publications, 2012 (1st ed.), 2014 (2nd ed.).
"*Picacho, the Golden Road*," Dezert Magazine, Winter, 2013.

Experience

Senior Paleontologist **October 2012–Present**
Brian F. Smith and Associates, Inc. **Poway, California**

Mr. Wirths serves as the director of the paleontology department at BFSA. Mr. Wirths oversees all phases of project-related paleontology, including management of field and junior staff, planning, organizing, and implementing monitoring projects, research, report drafting, regulatory compliance, and laboratory oversight. Mr. Wirths directs or performs resource mitigation monitoring of construction sites, fossil salvage activities, paleontological field surveys and assessments, laboratory fossil preparation and curation. He has drafted dozens of technical reports, including paleontological assessments, site reports, and paleontological resource impact mitigation program (PRIMP) reports. Mr. Wirths created and implemented BFSA-specific fossil-recovery data sheets for field use by monitoring staff. The field

experience of Mr. Wirths includes the use of Trimble GPS data recording, burlap and plaster techniques, collection of microfossils, and wet and dry-screening techniques. Mr. Wirths provides expert identification of fossil marine invertebrates.

Lead Geological/Paleontological Consultant **November 2011–February 2009**
Cogstone Resource Management **San Diego and Orange, California**

Mr. Wirths conducted on-site paleontological monitoring, drafted/evaluated RFP responses, work plans, and reports; planned, organized, and implemented projects, and trained and supervised junior staff. Field localities include projects in Calaveras, Merced, Tulare, San Joaquin, Kern, San Bernardino, Los Angeles, and Riverside Counties. At the Highway 99 Caltrans expansion project near Merced, Mr. Wirths recovered dozens of Rancholabrean-age vertebrate fossils using plaster and burlap casting techniques.

Paleontological/Geological Monitor **February 2011–November 2011**
San Diego Natural History Museum **San Diego, California**

Oversaw construction and development sites for fossil resources and logged and interpreted geology during drilling and trenching activities/recovery of fossils. Monitoring projects include the SDG&E Sunrise Powerlink, several SDG&E Wood to Steel projects, San Diego City College expansion, The Bishops School, and the Prebys Cardiovascular Institute.

Project Manager/Geologist **March 2010–February 2011**
Wirths Consulting **San Diego, California**

Provided environmental consulting services for Apex Companies, H.M. Pitt Labs, Ninyo & Moore, and TRC Solutions, providing project management, reporting, and certified professional field oversight, designing/budgeting an *in situ* chemical oxidation project, and obtaining a City of San Diego business license.

Senior Project Manager **April 2007–August 2009**
ETIC Engineering, Inc. **Santa Diego, California**

Operated as senior project manager for 10 ExxonMobil retail sites, designed and implemented assessment and remediation projects (including project forecasting/budgeting, managing subcontractors, and composing work plans), composed work plans, assessment reports, and corrective action plans, and managed/mentored staff-level associates.

Project Manager **January 2000–April 2007**
TRC Solution, Inc./TRC Alton Geoscience **San Diego and Imperial Counties, California**

Operated as project manager for various projects throughout San Diego County, including ExxonMobil Oil Corporation and Unocal Corporation remediation activities, BNSF Railway Company groundwater assessment and remediation, and Ultramar/Valero, Inc., which involved supervising/managing on-site personnel, collecting/managing soils, groundwater, and wood samples, writing reports, and conducting remediation feasibility testing and remedial planning.

Staff Geologist **May 1997–September 2000**
IT Corp./Pacific Environmental Group **San Diego, Orange, and Los Angeles Counties, California**

Tracked progress of excavation and delineation of impact, sampled/managed soil, and conducted drilling and groundwater monitoring/well installation activities.

Selected Technical Reports

Glover, Amy, Todd **Wirths**, and Sherri Gust

2012 *Paleontological assessment for the Paradise Creek Housing Development, National City, San Diego County, California.* Prepared for The Related Companies of California, Irvine, CA, by Cogstone Resource Mgt., Inc.

Gust, Sherri, Kim Scott, and Todd **Wirths**

2012 *Paleontological resources assessment for the WECC Path 42 Project in Riverside County, California.* Prepared for Southern California Edison, Monrovia, CA, by Cogstone Resource Mgt., Inc.

Horne, Melinda, Todd **Wirths**, and Amy Glover

2012 *Paleontological and cultural resources assessment for the town of Yucca Valley General Plan update, San Bernardino County, California.* Prepared for The Planning Center – DC&E, Santa Ana, CA, by Cogstone Resource Mgt., Inc.

Wirths, Todd A., and Sherri Gust

2012 *Paleontological resources assessment for the Truckhaven geothermal expansion project, Imperial County, California.* Prepared for NGP Truckhaven, LLC, Reno, NV, by Cogstone Resource Mgt., Inc.

Kennedy, George L., and Todd A. **Wirths**

2013 *Paleontological Monitoring Report, Aztec Court Apartments, 6237 Montezuma Road, San Diego, San Diego County, California.* Prepared for Warmington Residential California, Inc., Southern California Division. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2013 *Paleontological Monitoring Report, Citywide Sewer Pump Station Upgrades, Group II, Pump Station 60A, Scripps Ranch neighborhood, City of San Diego, San Diego County, California (PTS No. 31233 and WBS No. S-00304).* Prepared for Ortiz Corporation General Engineering Contractors. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2013 *Paleontological Resource Impact Mitigation Program (PRIMP), Rancho Paseo de Valencia, City of Corona and unincorporated Riverside County, California (Tentative Tract Map 34760; APNs 114-040-019, 114-040-020, 275-100-003, and 275-100-004).* Prepared for Rancho Paseo de Valencia. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2013 *Paleontological monitoring report, Casa Aldea Phase II, University City Village Apartments, 6112, 6122, and 6132 Gullstrand Street, University City, San Diego, San Diego County (LDR No. 98-0408, PTS No. 303550).* Prepared for Wise River Builders, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2013 *Paleontological Resource Assessment, Ballpark Village Development, East Village, San Diego, San Diego County, California.* Prepared for Ballpark Village, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2013 *An Updated Phase I Paleontological Resources Assessment for Tentative Tract Maps 36484 and 36485, Audie Murphy Ranch, City of Menifee, County of Riverside, California.* Prepared for Brookfield Residential. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2013 *Paleontological Resource Impact Mitigation Program (PRIMP), Ridge Park project, city of Temecula, Riverside County, California (APNs 922-210-049; 940-310-013, 940-310-015, and 940-310-016; 940-310-044 through 940-310-048; and 940-320-001 through 940-320-007).* Prepared for Ambient Communities. Report on file at Brian F. Smith and Associates, Inc., Poway, CA.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Monitoring Report, Chino Desalter Phase III Expansion Project, 11301 Harrel Street, City of Jurupa Valley, Riverside County, California.* Prepared for W.M. Lyles Co. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological resource and monitoring assessment, proposed Avanti North housing development, Lancaster, Los Angeles County, California (Tentative Tract Map No. 53229).* Prepared for Avanti North, LP. Report on file at Brian F. Smith and Associates, Inc., Poway, CA.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological monitoring report for the Montezuma Trunk Sewer project, College and Mid-Cities Community Plan Areas, San Diego, San Diego County, California (Project No. 240104).* Prepared for Ortiz Corporation General Engineering Contractors. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological resource impact assessment for the Lake Ranch project site, unincorporated Riverside County, California (APNs 270-060-010, 270-160-001, 270-170-010, 270-170-011, and 270-180-010; TR 36730).* Prepared for Christopher Development Group. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Resource Impact Mitigation Program (PRIMP) for the Menifee Heights Development, City of Menifee, Riverside County, California (Tract No. 32277).* Prepared for CV Communities, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Resource Assessment, Shoshone Valley Road solar array project, Twentynine Palms, San Bernardino County, California (APNs 613-233-01, -02, -03, -04, -27, -28, -29, and -30).* Prepared for Ecos Energy, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, CA.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Resource Assessment, Utah Trail solar array project, Twentynine Palms, San Bernardino County, California (APNs 621-281-22 through 621-281-25).* Prepared for Ecos Energy, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Monitoring Report, San Diego Community College District, César Chávez Campus, Barrio Logan, San Diego, California.* Prepared for San Diego Community College District. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Monitoring Report, Sewer and Water Group 761, Uptown Community Plan Area, San Diego, San Diego County, California.* Prepared for Burtech Pipeline. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Resource Impact Mitigation Program (PRIMP) for the Blessed Teresa of Calcutta Catholic Parish project site, French Valley, unincorporated Riverside County, California (APN 480-040-044; Project No. PP24903).* Prepared for Blessed Teresa of Calcutta Catholic Parish, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Resource Impact Mitigation Program (PRIMP), Salton City Landfill Expansion Project, unincorporated Imperial County, California (SCH No. 2010071072).* Prepared for Burrtec Waste Industries, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Resource Impact Mitigation Program (PRIMP) for the Yates Road housing development site, Tract Map TR 36437, northeast of Murrieta, unincorporated Riverside County, California (APNs 467-390-001 through 467-390-016).* Prepared for CV Communities, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Monitoring Report, Construction of the Park and G Project, East Village, Downtown San Diego, San Diego County, California.* Prepared for Oliver McMillan. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Monitoring Report, Construction of Pinnacle 15th & Island Project, East Village, Downtown San Diego, San Diego County, California.* Prepared for Pinnacle International Development, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., N. Scott Rugh, and Todd A. **Wirths**

2012 *Paleontological Monitoring Report, Construction of 13th & Market Project, East Village, Downtown San Diego, San Diego County, California.* Prepared for The Hanover Company. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., N. Scott Rugh, and Todd A. **Wirths**

2013 *Paleontological Monitoring Report, Ariel Suites, Little Italy, City of San Diego, San Diego County, California.* Prepared for Ariel Suites, LP. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., N. Scott Rugh, and Todd A. **Wirths**

2013 *Paleontological Monitoring Report, Village Lindo Paseo Dormitories, SDSU College Area, City of San Diego, San Diego County, California.* Prepared for Village Lindo Paseo, L.P. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., N. Scott Rugh, and Todd A. **Wirths**

2013 *Paleontological Monitoring Report, Grit Processing Improvements Project, Point Loma Wastewater Treatment Plant, San Diego, San Diego County, California (Sewer WO No. 176001; WBS No. S-00315).* Prepared for Archer Western Contractors. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., N. Scott Rugh, and Todd A. **Wirths**

2013 *Paleontological Monitoring Report, Harbor Drive Trunk Sewer, City of San Diego, San Diego County, California (Project No. 38789).* Prepared for Burtech Pipeline. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., Todd A. **Wirths,** and Brian F. Smith

2013 *Paleontological and Archaeological Monitoring and Mitigation Report, Lake Forest Sports Park, City of Lake Forest, Orange County, California.* Prepared for Road Builders, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2013 *Negative Paleontological Monitoring and Mitigation Report, San Clemente Senior Housing Project, 2350 South El Camino Real, City of San Clemente, Orange County, California (CUP No. 06-065; APN 060-032-04)*. Prepared for Primus Building Solutions. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Wirths, Todd A., and George L. Kennedy

2014 *Paleontological Monitoring Report, Sewer Main Replacement Group Job 685 (Part of Sewer and Water Group Job 685 (Part of Sewer and Water Group 3014), City Heights Neighborhood of the City of San Diego, San Diego County, California (Project No. 131446; Sewer WBS No. B-00333).* Prepared for Ortiz Corporation General Engineering Contractors. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Wirths, Todd A., and George L. Kennedy

2015 *Paleontological Monitoring Report, 951 South Beach Boulevard Project, La Habra, Orange County, California (MND No. 14-01).* Prepared for Fairfield 951 Beach, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2015 *Paleontological Monitoring Report, Casa Aldea Lots 4 & 6, Fairbanks Ranch-Santaluz Area, Northern San Diego, California.* Prepared for Wise River Builders, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2015 *Paleontological Monitoring Report, Pendry Hotel San Diego, Gaslamp Quarter, Downtown San Diego, California.* Prepared for The Robert Green Company. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Wirths, Todd A., and George L. Kennedy

2016 *Paleontological Monitoring Report, The Rey Project, 840 B Street, Downtown San Diego, San Diego County, California.* Prepared for Blue/WP San Diego, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**
2016 *Paleontological Monitoring Report, Atmosphere Affordable Housing Project, 1453 Fourth Avenue, Downtown San Diego, San Diego County, California.* Prepared for Wakeland Housing & Development Corp. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Wirths, Todd A., and George L. Kennedy
2017 *Paleontological Monitoring Report, Ballpark Village, Lower East Village, Downtown San Diego, California.* Prepared for Ballpark Village, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Wirths, Todd A., and George L. Kennedy
2017 *Paleontological Monitoring Report, 460 16th Street, East Village, Downtown San Diego, San Diego County, California.* Prepared for Lennar Multifamily Communities, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Wirths, Todd A., and George L. Kennedy
2017 *Paleontological Resource Impact Mitigation Program (PRIMP) for the La Habra North Project, La Habra, Orange County, California (Tract Map 17809).* Prepared for City Ventures. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**
2017 *Paleontological Monitoring Report, Imagine Coachella project at the Jordan Christian Academy, West of Coachella in Unincorporated Riverside County, California.* Prepared for M-13 Construction, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**
2017 *Paleontological Monitoring Report, Kettner and Ash Condominiums Project, Columbia District of Downtown San Diego, San Diego County, California.* Prepared for Bosa Development California, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., Todd A. **Wirths,** and N. Scott Rugh
2018 *Paleontological Monitoring Report, Manning Canyon Sewer and Water Replacement Project, Linda Vista, City of San Diego, San Diego County, California.* Prepared for Red Tail Monitoring & Research, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., Todd A. **Wirths,** and N. Scott Rugh
2018 *Paleontological Monitoring Report, Westfield University Towne Center Expansion Project, Phase 2A, La Jolla Village Drive, San Diego, San Diego County, California.* Prepared for Westfield UTC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Wirths, Todd A., and George L. Kennedy
2018 *Negative Paleontological Monitoring Report, Verizon Capistrano Depot Project, 32400 Paseo Adelanto, San Juan Capistrano, Orange County, California (CUP No. 16-003; APN 668-10-023).* Prepared for Trileaf Environmental and Property Consultants. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., Todd A. **Wirths,** and N. Scott Rugh
2019 *Paleontological Monitoring Report, Saint Demiana Coptic Orthodox Church, Santaluz-Torrey Highlands Neighborhood, San Diego, San Diego County, California.* Prepared for Barnhart-Reese Construction, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

IX. ATTACHMENT B

Project Maps:
General Location Map
USGS Project Location Map
Geologic Map
Paleontological Sensitivity Map

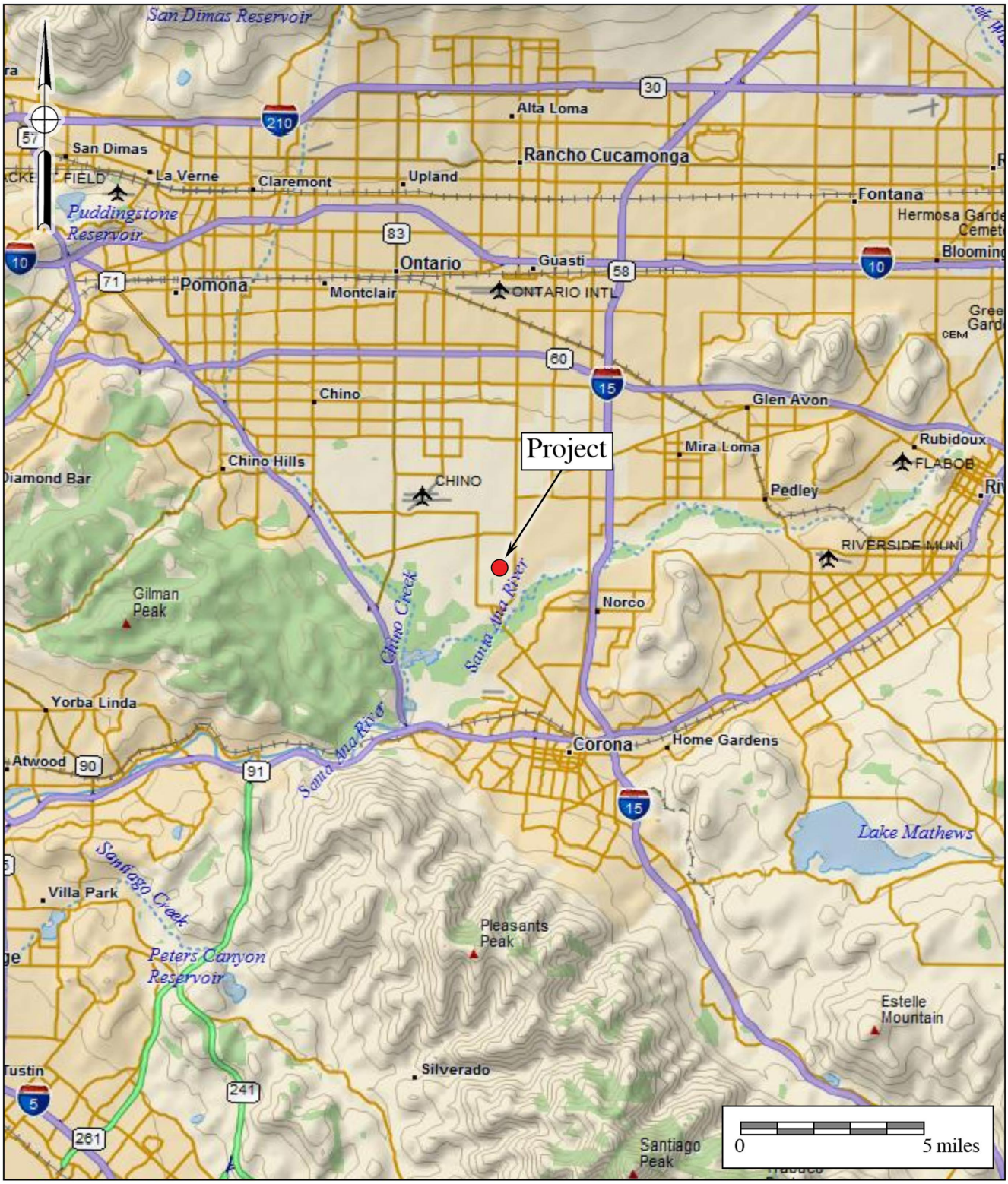

Figure 1

General Location Map

The Eastvale Self Storage Project

DeLorme (1:250,000)

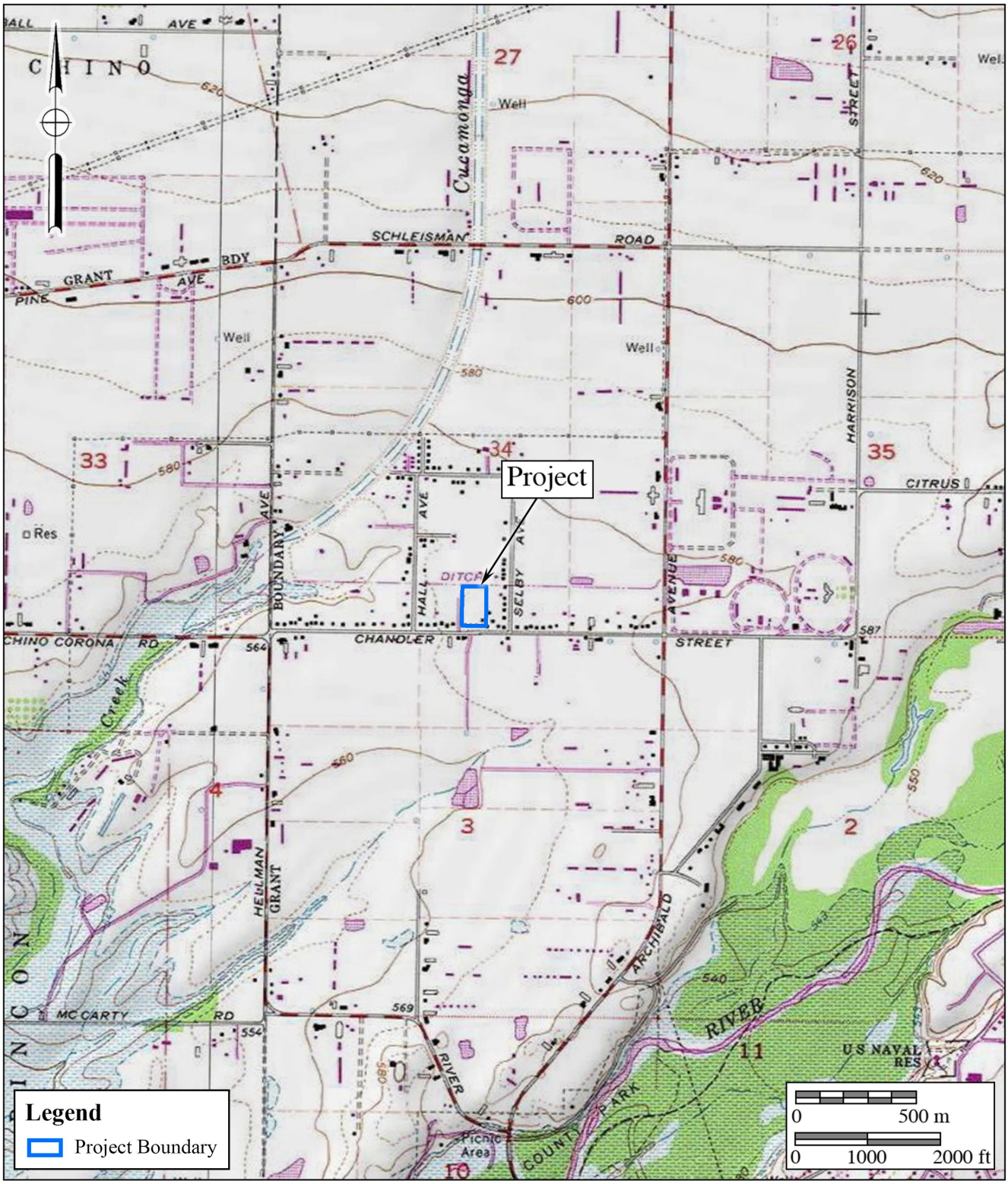

Figure 2

Project Location Map

The Eastvale Self Storage Project

USGS *Corona North* Quadrangle (7.5-minute series)

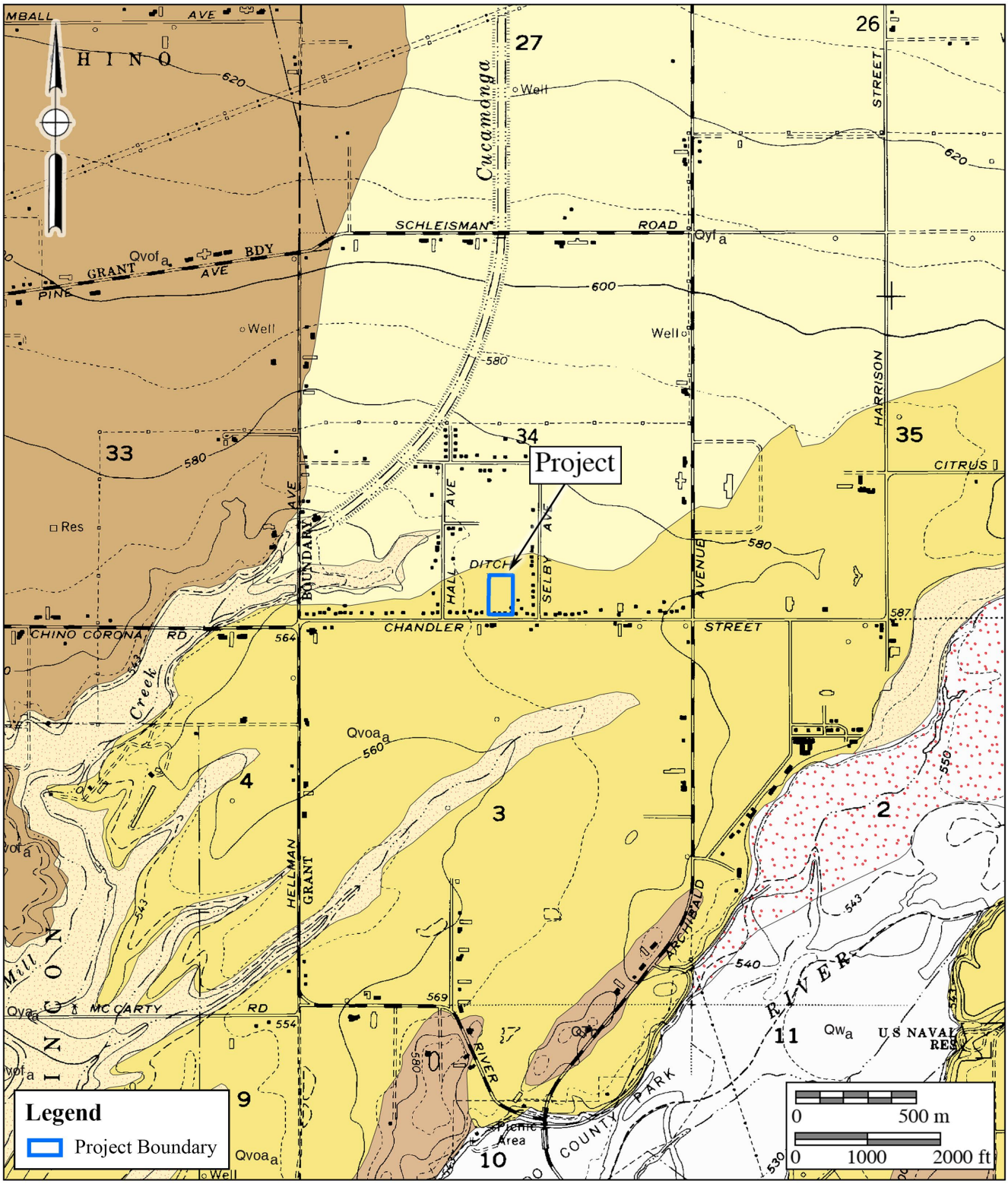

Figure 3

Geologic Map

The Eastvale Self Storage Project

Geology after Morton and Gray (2002)

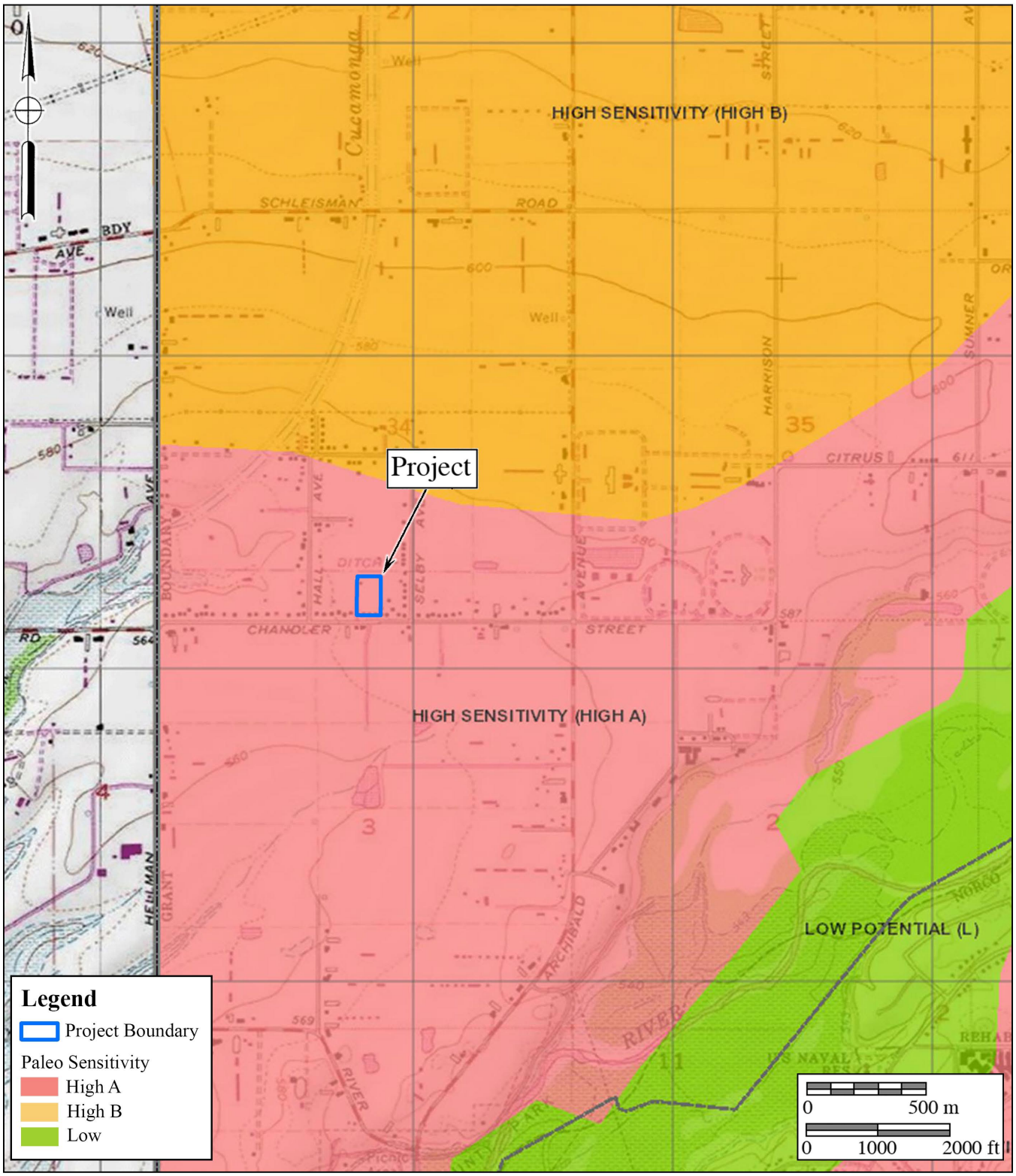

Figure 4

Paleontological Sensitivity Map

The Eastvale Self Storage Project

X. ATTACHMENT C

Paleontological Records Search Results

SAN BERNARDINO COUNTY MUSEUM
2024 Orange Tree Lane • Redlands, California USA 92374-4560
(909) 307-2669 • Fax (909) 307-0539 • www.sbcountymuseum.org

COUNTY OF SAN BERNARDINO
PUBLIC AND SUPPORT
SERVICES GROUP

ROBERT L. McKERNAN
Director

6 July 2006

CRM Tech
attn: Laura Shaker
4472 Orange Street
Riverside, CA 92501

re: **PALEONTOLOGY LITERATURE AND RECORDS REVIEW, THE RANCH AT EASTVALE, RIVERSIDE COUNTY, CALIFORNIA**

Dear Dr. Laura,

The Division of Geological Sciences of the San Bernardino County Museum (SBCM) has completed a literature and records search for the above-referenced ~120-acre project in Eastvale, Riverside County, California. The proposed study area is located in the northwestern quadrant of section 27, Township 2 South, Range 7 West, San Bernardino Base and Meridian, as seen on the Corona North, California 7.5' United States Geological Survey topographic quadrangle map (1967 edition, photorevised 1981).

Previous mapping of the Eastvale region (Rogers, 1965; Morton and Gray, 2002) indicates that the proposed project property is situated upon surface exposures of very old alluvial fan deposits of early Pleistocene age (= unit **Qvof**), overlain in the eastern portion of the property by Holocene fan sediments (= **Qyf**). The Holocene alluvium has low potential to contain nonrenewable paleontologic resources, and so is assigned low paleontologic sensitivity. However, the Pleistocene alluvial fan deposits have high potential to contain significant nonrenewable paleontologic resources. Similar Pleistocene alluvial sediments elsewhere throughout Riverside County and the Inland Empire have been reported to yield significant fossils of extinct animals from the Ice Ages (Jefferson, 1991; Reynolds and Reynolds, 1991; Woodburne, 1991; Springer and Scott, 1994; Pajak and others, 1996; Scott, 1997; Springer and others, 1998, 1999). Fossils recovered from these Pleistocene sediments represent extinct taxa including mammoths, mastodons, ground sloths, dire wolves, sabre-toothed cats, large and small horses, large and small camels, and bison, as well as plant macro- and microfossils (Jefferson, 1991; Reynolds and Reynolds, 1991; Woodburne, 1991; Springer and Scott, 1994; Scott, 1997; Springer and others, 1998, 1999; Anderson and others, 2002). These Pleistocene sediments are therefore assigned high paleontologic sensitivity.

For this review, I conducted a search of the Regional Paleontologic Locality Inventory (RPLI) at the SBCM. The results of this search indicate that no previously recorded paleontologic resource localities are present within the boundaries of the proposed development property, nor from within at least one mile in any direction.

Recommendations

The results of the literature review and the check of the RPLI at the SBCM demonstrate that excavation in conjunction with development has high potential to adversely impact significant nonrenewable paleontologic resources present within the boundaries of the proposed Ranch at Eastvale property. A qualified vertebrate paleontologist must be retained to develop a program to mitigate impacts to such resources. This mitigation program should be consistent with the provisions of the California Environmental Quality Act (Scott and Springer, 2003), as well as with regulations currently implemented by the County of Riverside and the proposed guidelines of the Society of Vertebrate Paleontology. This program should include, but not be limited to:

1. Monitoring of excavation in areas identified as likely to contain paleontologic resources by a qualified paleontologic monitor. Areas requiring monitoring include all previously-undisturbed Pleistocene older alluvial sediments present within the boundaries of the property, both at the surface and at depth. Paleontologic monitors should be equipped to salvage fossils as they are unearthed, to avoid construction delays, and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. If the potentially-fossiliferous units described herein are determined upon exposure and examination by qualified paleontologic personnel to have low potential to contain fossil resources, monitoring may be reduced or eliminated.

2. Preparation of all recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Preparation and stabilization of all recovered fossils are essential in order to fully mitigate adverse impacts to the resources (Scott and others, 2004).

3. Identification and curation of specimens into an established, accredited museum repository with permanent retrievable paleontologic storage (e.g., SBCM). These procedures are also essential steps in effective paleontologic mitigation (Scott and others, 2004) and CEQA compliance (Scott and Springer, 2003). The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities. Mitigation of adverse impacts to significant paleontologic resources is not considered complete until such curation into an established museum repository has been fully completed and documented.

4. Preparation of a report of findings with an appended itemized inventory of specimens. The report and inventory, when submitted to the appropriate Lead Agency along with confirmation of the curation of recovered specimens into an established, accredited museum repository, will signify completion of the program to mitigate impacts to paleontologic resources.

References

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Rogers, T.H., 1965. Geologic map of California, Santa Ana sheet. California Division of Mines and Geology. Scale 1:250,000.

Scott, E., 1997. A review of *Equus conversidens* in southern California, with a report on a second, previously-unrecognized species of Pleistocene small horse from the Mojave Desert. Journal of Vertebrate Paleontology 17(3): 75-A.

Scott, E. and K. Springer, 2003. CEQA and fossil preservation in southern California. The Environmental Monitor, Fall 2003, p. 4-10, 17.

Scott, E., K. Springer and J.C. Sagebiel, 2004. Vertebrate paleontology in the Mojave Desert: the continuing importance of "follow-through" in preserving paleontologic resources. In M.W. Allen and J. Reed (eds.) The human journey and ancient life in California's deserts: Proceedings from the 2001 Millennium Conference. Ridgecrest: Maturango Museum Publication No. 15, p. 65-70.

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Springer, K.B., E. Scott, J.C. Sagebiel and K.M. Scott, 1999. A late Pleistocene lake edge vertebrate assemblage from the Diamond Valley, Riverside County, California. Journal of Vertebrate Paleontology 19(3): 77-A.

Woodburne, M.O., 1991. The Cajon Valley, *in* Inland Southern California: the last 70 million years, M.O. Woodburne, S.F.B. Reynolds, and D.P. Whistler, eds. Redlands, San Bernardino County Museum Special Publication 38(3&4), p. 41-43.

Please do not hesitate to contact us with any further questions you may have.

Sincerely,

Eric Scott, Curator of Paleontology
Division of Geological Sciences
San Bernardino County Museum

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325
Fax: (213) 746-7431
e-mail: smcleod@nhm.org

8 March 2016

Brian F. Smith & Associates, Inc.
14010 Poway Road, Suite A
Poway, CA 92064

Attn: George L. Kennedy, Ph.D., Senior Paleontologist

re: Paleontological Resources Records Search for the proposed Chino Parcel Delivery Project, BFSA project # 16-018, in the City of Chino, San Bernardino County

Dear Dr. Kennedy:

I have thoroughly searched our paleontology collection records for the locality and specimen data for the proposed Chino Parcel Delivery Project, BFSA project # 16-018, in the City of Chino, San Bernardino County as outlined on the portions of the Prado Dam and Corona North USGS topographic quadrangle maps that you sent to me via e-mail on 24 February 2016. We do not have any vertebrate fossil localities that lie directly within the proposed project boundaries, but we do have fossil vertebrate localities nearby from the same sedimentary deposits that occur in the proposed project area.

Most of the proposed project area has surface deposits that consist of younger Quaternary Alluvium, derived broadly as alluvial fan deposits from the San Bernardino Mountains to the north. These deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers, and we do not have any localities nearby from these deposits. In the southwestern portion of the proposed project area though, on both sides of the drainage, there are surface exposures of older Quaternary Alluvium, likewise derived predominately of alluvial fan deposits from the San Bernardino Mountains to the north, and these deposits underlie the younger Quaternary Alluvium in the drainage and elsewhere in the proposed project area. Our closest fossil vertebrate locality from similar older Quaternary deposits is LACM 7811, due east of the northern portion of the proposed project area west of Mira Loma east of Archibald Avenue

along Sumner Road north of Cloverdale Road, that produced a fossil specimen of whipsnake, *Masticophis*, at a depth of 9 to 11 feet below the surface. Further to the south-southeast of the proposed project area, on the northwestern side of Corona west of Cota Street between Railroad Street and Harrington Street, our vertebrate fossil locality LACM 1207 produced a fossil specimen of deer, *Odocoileus*.

Shallow excavations in the younger Quaternary Alluvium exposed in most of the proposed project area are unlikely to uncover significant fossil vertebrate remains. Deeper excavations there that extend down into the older Quaternary sediments, however, as well as any excavations in the older Quaternary Alluvium exposed in the southwestern portion of the proposed project area, may well encounter significant vertebrate fossils. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains while not impeding development. Sediment samples should also be collected from the finer-grained deposits in the proposed project area and processed to determine their small fossil potential. Any fossils collected should be placed in an accredited scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

APPENDIX 12:
Phase 1 Environmental Site Assessment

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Prepared for:

Gossett Development
207 Monarch Bay Drive
Dana Point, California 92629

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT

Residential Property
14555-14587 Chandler Street
Eastvale, Riverside County, California 92880

Prepared by:

The Phase One Group
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1.0 EXECUTIVE SUMMARY

1.1 FINDINGS

The Phase One Group has performed a Phase 1 Environmental Site Assessment (Phase 1 ESA) in general accordance with the scope and limitations of ASTM Practice E1527-13 of the Residential Property located at 14555-14587 Chandler Street, in the City of Eastvale, Riverside County, California 92880 (the "subject property"). The Phase 1 Environmental Site Assessment is designed to provide Gossett Development with an assessment concerning environmental conditions as they exist at the subject property. Any exceptions to or deletions from this scope of work are described in the report.

The site inspection was performed by Mr. Mark E. Smith, Environmental Professional, a representative of The Phase One Group, on September 25, 2019. The subject property is located at 14555-14587 Chandler Street, in the City of Eastvale, Riverside County, California 92880.

The subject property is located on the north side of Chandler Street, approximately 298 feet west of the intersection of Chandler Street and Selby Avenue. A flood control channel borders the north side of the subject property. The subject property consists of a total of three parcels of land totaling approximately 4.089-acres identified by the Riverside County Assessor as Assessor's Parcel Numbers (APNs) 144-120-002, 144-120-003 and 144-120-004. The subject property is a residential property improved with five single-story, single-family dwellings, four detached garages, a storage shed, and an open storage structure. The dwellings are addressed 14555, 14557, 14565, 14577 and 14587 Chandler Street and the dwellings range from approximately 1,200 to 2,100 square feet in size. The remainder of the subject property contains yards associated with the on-site dwellings and undeveloped pastureland equipped with a few pens for cows and goats. No evidence of the use of reportable quantities of hazardous materials and petroleum products was observed at the subject property. However, a total of six, unlabeled 55-gallon drums containing an unknown substance were observed stored along the eastern perimeter of the subject property. No evidence of spills or staining was observed on the ground surrounding the drums.

Based on a review of historical sources, the subject property appeared to be developed with the existing dwelling addressed 14565 Chandler Street and what appears to be a few storage structures and the remainder of the subject property appeared to be undeveloped pastureland from prior to 1931 until 1964, when the existing dwellings and detached garages addressed 14555, 14557 and 14577 Chandler Street were built. By 1967, the dwelling addressed 14587 Chandler Street was built. The subject property continued to appear to be used for residential purposes and undeveloped pastureland until prior to 1980 when pens appear to have been added to the undeveloped pastureland portion of the subject property. The subject property continues to be used for residential purposes, undeveloped pastureland and pens for cows and goats to present day.

The subject property is not listed in the Envirosite Corporation (Envirosite) environmental database report.

The subject property is located within a residential area of Eastvale. The vicinity of the subject property can be described as a flood control channel, followed by a residential property (7730 Selby Avenue) to the north; vacant land (14545 Chandler Street), a storage yard (no address identified) and a residential property (7745 Selby Avenue) to the east; Chandler Street, followed by several dwellings (7701 and 7711 Port Arthur Drive, 7817 Hazelnut Drive, and 14558 and 14570 Beechwood Court) to the south; and two residential properties (14601 and 14611 Chandler Street) to the west.

The adjacent properties are not listed in the Envirosite environmental database report.

1.2 CONCLUSIONS

The Phase One Group has performed a Phase 1 Environmental Site Assessment in conformance with the scope and limitations of ASTM Standard E1527-13 of the Residential Property located at 14555-14587 Chandler Street, in the City of Eastvale, Riverside County, California 92880 (the "subject property"). Any exceptions to or deletions from this practice are described in Section 2.0 of this report. This assessment has revealed no evidence of recognized environmental conditions (RECs), historical recognized environmental conditions (HRECs), or controlled recognized environmental conditions (CRECs) in connection with the subject property.

An environmental issue refers to environmental concerns identified by The Phase One Group which do not qualify as RECs; however warrant further discussion. The following environmental issues were identified during the course of this assessment:

- During the site visit, a total of six, unlabeled 55-gallon drums containing an unknown substance were observed stored along the eastern perimeter of the subject property. No evidence of spills or staining was observed on the ground surrounding the drums.

- Drinking water for the subject property is provided by one private groundwater well located on the central portion of the subject property. Mr. Eric P. Bento, real estate agent, Bento Management & Realty, did not provide The Phase One Group with information regarding the on-site groundwater well, including recent groundwater sampling results or the schedule and frequency of sampling. Mr. Bento was not aware of any regional issues with drinking water. Mr. Bento also did not provide well construction information.

- Sanitary discharges for the five on-site dwellings are directed to on-site septic systems. The presence of the on-site septic systems is not anticipated to adversely impact the subject property due to its presumed use for domestic purposes only.

- The on-site dwellings and former dairy farm building were built from the 1930s-1960s. The Phase One Group has conducted a limited, visual evaluation of accessible areas for the presence of suspect asbestos-containing materials (ACMs) at the subject property. The objective of this visual survey was to note the presence and condition of suspect ACMs observed. Suspect ACMs observed at the subject property included spray-applied ceiling material, wallboard/drywall and vinyl floor tile/mastic. The suspect ACMs appeared to be in undamaged condition.

- The on-site dwellings and former dairy farm building were built from the 1930s-1960s. Based on the ages of the subject property buildings (pre-1978), there is a potential that lead-based paint (LBP) is present. Interior and exterior painted surfaces were observed in overall undamaged condition.

1.3 RECOMMENDATIONS

As a result of this assessment, The Phase One Group recommends the following:

- The six, unlabeled 55-gallon drums stored at the subject property should be collected and properly disposed of by a certified hazardous waste hauler.

- The on-site septic systems associated with the five on-site dwellings should be properly closed and removed following current regulatory procedures and guidelines prior to any planned redevelopment of the subject property and connection to the City of Eastvale sewer system.

- Prior to redevelopment of the subject property, the on-site groundwater well should be properly closed and abandoned following current regulatory procedures and guidelines.

- Based on the construction dates of the subject property dwellings (1930s-1960s), a comprehensive asbestos survey of suspect asbestos-containing material (ACM) of construction materials at the subject property is recommended prior to any renovation or demolition activities to confirm the presence or absence of asbestos to prevent potential exposure to workers and/or building occupants.

- Based on the construction dates of the subject property dwellings and former dairy farm building (1930s-1960s), a comprehensive lead-based paint survey (LBP) survey of construction materials at the subject property is recommended prior to any renovation or demolition activities to confirm the presence or absence of LBP to prevent potential exposure to workers and/or building occupants.

This summary is not to be used alone. This report must be read in its entirety.

2.0 INTRODUCTION

2.1 PURPOSE

The purpose of this Phase 1 Environmental Site Assessment (Phase 1 ESA) is to identify existing or potential Recognized Environmental Conditions (as defined by ASTM Standard E1527-13) affecting the subject property that: 1) constitute or result in a material violation or a potential material violation of any applicable environmental law; 2) impose any material constraints on the operation of the subject property or require a material change in the use thereof; 3) require clean-up, remedial action or other response with respect to Hazardous Substances or Petroleum Products on or affecting the subject property under any applicable environmental law; 4) may affect the value of the subject property; and 5) may require specific actions to be performed with regard to such conditions and circumstances. The information contained in the Phase 1 ESA report will be used by Client to: 1) evaluate its legal and financial liabilities for transactions related to foreclosure, purchase, sale, loan origination, loan workout or seller financing; 2) evaluate the subject property's overall development potential, the associated market value and the impact of applicable laws that restrict financial and other types of assistance for the future development of the subject property; and/or 3) determine whether specific actions are required to be performed prior to the foreclosure, purchase, sale, loan origination, loan workout or seller financing of the subject property.

This Phase 1 ESA was performed to permit the User to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on scope of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) liability (hereinafter, the "landowner liability protections," or "LLPs"). ASTM Standard E1527-13 constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined at 42 U.S.C. §9601(35)(B).

2.2 SCOPE OF WORK

The scope of work for this Phase 1 ESA is in general accordance with the requirements of ASTM Standard E1527-13. This assessment included: 1) a property and adjacent site reconnaissance; 2) interviews with key personnel; 3) a review of historical sources; 4) a review of environmental regulatory agency records; and 5) a review of an environmental regulatory database report provided by a third-party vendor. The Phase One Group contacted local agencies, such as environmental health departments, fire departments and building departments, in order to determine any current and/or former hazardous substances usage, storage and/or releases of hazardous substances on the subject property. Additionally, The Phase One Group researched information on the presence of Activity and Use Limitations (AULs) at these agencies. As defined by ASTM E1527-13, AULs are the legal or physical restrictions or limitations on the use of, or access to, a site or facility: 1) to reduce or eliminate potential exposure to hazardous substances or petroleum products in the soil or groundwater on the subject

property; or 2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment. These legal or physical restrictions, which may include institutional and/or engineering controls (IC/ECs), are intended to prevent adverse impacts to individuals or populations that may be exposed to hazardous substances and petroleum products in the soil or groundwater on the property.

If requested by Client, this Phase 1 ESA report may also include the identification, discussion of, and/or limited sampling of asbestos-containing materials (ACMs), lead-based paint (LBP), mold and/or radon.

2.3 REPORT RELIANCE

This assessment was performed at the request of Gossett Development utilizing methods and procedures consistent with good commercial or customary practices designed to conform to acceptable industry standards. This report may be distributed to and relied upon by Gossett Development, its successors and assigns and Conduit to be assigned by Gossett Development, its successors and assigns with respect to a loan upon the project, together with any rating agency or issuer or purchaser of any security collateralized or otherwise backed up by such loan. The independent conclusions The Phase One Group's best professional judgment based on the conditions that existed and the information and data available to us during the course of this assignment. Factual information regarding operations, conditions, and test data provided by Gossett Development, owner, or its representative has been assumed to be correct and complete.

2.4 LIMITATIONS

The information presented in this Phase 1 ESA report is based on the agreed upon scope of work as noted above. The Phase One Group makes no warranties or guarantees as to the accuracy or completeness of information obtained from information provided or compiled by others. It is possible that information exists beyond the scope of this investigation. Also, changes in subject property use may have occurred sometime in the past due to variations in rainfall, temperature, water usage, economic, agricultural or other factors. Limited site specific information was made available to The Phase One Group about the subject property. Additional information that was not found or available to The Phase One Group at the time of writing the report, may result in a modification of the conclusions and recommendations presented. This report is not a legal opinion. The services performed by The Phase One Group have been conducted in a manner consistent with the level of care ordinarily exercised by members of our profession currently practicing under similar conditions. No other warranty, expressed or implied, is made.

The Phase One Group notes that all surficial environmental assessments are inherently limited in the sense that conclusions are drawn and recommendations developed from information obtained from limited research and site evaluation. Subsurface conditions were not field investigated as part of this study and may differ from the conditions implied by the surficial observations. Additionally, the passage of time may result in a change in the environmental characteristics at this site and surrounding properties.

The Phase One Group notes that no investigation can absolutely rule out the existence of any hazardous materials at a given site. This assessment has been based upon prior site history and observable conditions and activities. Existing hazardous materials and contaminants can escape detection using these methods.

The work performed in conjunction with this assessment and the data developed are intended as a description of available information at the dates and location given. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated. In addition, this report is not intended as a regulatory agency compliance/safety audit or for the purpose of ensuring that all applicable permits and/or operating procedures are current and/or appropriate.

The Phase One Group recommends that any periodic review of any property should include an update of information on environmental conditions in the area. The Phase One Group notes that no soils, groundwater, or potable water testing for the presence of hazardous substances was performed for this assessment.

2.5 LIMITING CONDITIONS

The findings and conclusions contain all of the limitations inherent in these methodologies that are referred to in ASTM E1527-13.

Specific limitations and exceptions to this Phase 1 ESA are more specifically set forth below:

- Interviews with the past owners, operators and occupants were not reasonably ascertainable and thus constitute a data gap. Based on information obtained from other historical sources (as discussed in Section 5.1.2), this data gap is not expected to alter the findings of this investigation.

- The Phase One Group was not able to document the historical use of the subject property prior to 1931. The following sources were reviewed during the course of this assessment and found to be limited: aerial photographs were not available prior to 1931; Sanborn fire insurance map coverage was not available for the subject property; and historical topographic maps and historical city directories were not reasonably ascertainable from local agencies. This data failure is not considered critical and does not change the conclusions of this report, as the 1931 historical aerial photograph shows the subject property as developed with the existing dwelling addressed 14565 Chandler Street and what appeared to be a few storage structures and the remainder of the subject property appeared to be undeveloped pastureland.

3.0 PROPERTY DESCRIPTION

3.1 PROPERTY LOCATION AND DESCRIPTION

3.1.1 Type of Property

The subject property is located on the north side of Chandler Street, approximately 298 feet west of the intersection of Chandler Street and Selby Avenue. A flood control channel borders the north side of the subject property. The subject property consists of a total of three parcels of land totaling approximately 4.089-acres identified by the Riverside County Assessor as Assessor's Parcel Numbers (APNs) 144-120-002, 144-120-003 and 144-120-004. The subject property is a residential property improved with five single-story, single-family dwellings, four detached garages, a storage shed, and an open storage structure. The dwellings are addressed 14555, 14557, 14565, 14577 and 14587 Chandler Street and the dwellings range from approximately 1,200 to 2,100 square feet in size. The remainder of the subject property contains yards associated with the on-site dwellings and undeveloped pastureland equipped with a few pens for cows and goats. No evidence of the use of reportable quantities of hazardous materials and petroleum products was observed at the subject property. However, a total of six, unlabeled 55-gallon drums containing an unknown substance were observed stored along the eastern perimeter of the subject property. No evidence of spills or staining was observed on the ground surrounding the drums.

3.1.2 Improvements

The subject property is a residential property improved with five single-story, single-family dwellings, four detached garages, a storage shed, and an open storage structure. The dwellings are addressed 14555, 14557, 14565, 14577 and 14587 Chandler Street and the dwellings range from approximately 1,200 to 2,100 square feet in size. The remainder of the subject property contains yards associated with the on-site dwellings and undeveloped pastureland equipped with a few pens for cows and goats.

3.1.3 Current Property Use

At the time of The Phase One Group's site visit, the subject property was improved with five single-story, single-family dwellings, four detached garages, a storage shed, and an open storage structure. The dwellings are addressed 14555, 14557, 14565, 14577 and 14587 Chandler Street and the dwellings range from approximately 1,200 to 2,100 square feet in size. The remainder of the subject property contains yards associated with the on-site dwellings and undeveloped pastureland equipped with a few pens for cows and goats. No evidence of the use of reportable quantities of hazardous materials and petroleum products was observed at the subject property. However, a total of six, unlabeled 55-gallon drums containing an unknown substance were observed stored along the eastern perimeter of the subject property. No evidence of spills or staining was observed on the ground surrounding the drums.

4.0 USER PROVIDED INFORMATION

Pursuant to ASTM E1527-13, The Phase One Group requested the following site information from Gossett Development (User of this report).

4.1 TITLE RECORDS

The Phase One Group requested title records from the User; however, title records were not available and were not provided to The Phase One Group for review.

4.2 ENVIRONMENTAL LIENS OR ACTIVITY USE LIMITATIONS

The Phase One Group requested information from the User regarding knowledge of environmental liens, activity and use limitations for the subject property. The User, Gossett Development, was not aware of any environmental liens associated with the subject property.

4.3 SPECIALIZED KNOWLEDGE

The Phase One Group inquired with the site contact regarding any specialized knowledge of environmental conditions associated with the subject property. The User, Gossett Development, was not aware of any environmental conditions associated with the subject property. In addition, the site contact, Mr. Eric P. Bento, real estate agent, Bento Management & Realty, was not aware of any environmental conditions associated with the subject property.

4.4 COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

The Phase One Group inquired with the User regarding any specialized knowledge of environmental conditions associated with the subject property. The User, Gossett Development, was not aware of any environmental conditions associated with the subject property. In addition, the site contact, Mr. Eric P. Bento, real estate agent, Bento Management & Realty, was not aware of any environmental conditions associated with the subject property.

4.5 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

The Phase One Group inquired with the site contact regarding any knowledge of reductions in property value due to environmental issues. The User, Gossett Development, was not aware of any valuation reductions associated with the subject property. In addition, the site contact, Mr. Eric P. Bento, real estate agent, Bento Management & Realty, was not aware of any valuation reductions associated with the subject property.

4.6 OWNER, PROPERTY MANAGER AND OCCUPANT INFORMATION

According to the Riverside County Assessor, the current subject property owner is identified as Ajusta Inv, who has owned the subject property since March 2015. Mr.

Eric P. Bento, real estate agent, Bento Management & Realty, was interviewed and provided property specific information. At the time of The Phase One Group's site visit, the subject property was improved with five single-story, single-family dwellings, four detached garages, a storage shed, and an open storage structure. The dwellings are addressed 14555, 14557, 14565, 14577 and 14587 Chandler Street and the dwellings range from approximately 1,200 to 2,100 square feet in size. The remainder of the subject property contains yards associated with the on-site dwellings and undeveloped pastureland equipped with a few pens for cows and goats. No evidence of the use of reportable quantities of hazardous materials and petroleum products was observed at the subject property. However, a total of six, unlabeled 55-gallon drums containing an unknown substance were observed stored along the eastern perimeter of the subject property. No evidence of spills or staining was observed on the ground surrounding the drums.

4.7 PRIOR REPORTS

No prior reports issued for the subject property by others were provided to The Phase One Group for review.

4.8 REASON FOR PERFORMING PHASE 1 ESA

The Phase One Group understands that the findings of this study will be used by Gossett Development for environmental due diligence purposes.

5.0 RECORDS REVIEW

5.1 GENERAL PUBLIC RECORDS

5.1.1 Physical Setting Sources

5.1.1.1 Topography

The United States Geological Survey (USGS), Corona North, California Quadrangle 7.5 minute series topographic map was reviewed for this ESA. This map was published by the Geological Survey in 1981. According to the contour lines on the topographic map, the subject property is located approximately 574 feet above Mean Sea Level (msl). The contour lines in the area of the subject property slopes gently to the south-southwest. The subject property is depicted on the map is denoted as developed with several small structures and undeveloped.

5.1.1.2 Geology/Soils

According to information obtained from the US Geological Survey (USGS), the Subject is located within the Peninsular Ranges Geomorphic Province of California. The Peninsular Ranges is a series of ranges is separated by northwest trending valleys, subparallel to faults branching from the San Andreas Fault. The trend of topography is similar to the Coast Ranges, but the geology is more like the Sierra Nevada, with granitic rock intruding the older metamorphic rocks. The Peninsular Ranges extend into lower California and are bound on the east by the Colorado Desert. The Los Angeles Basin and the island group (Santa Catalina, Santa Barbara, and the distinctly terraced San Clemente and San Nicolas islands), together with the surrounding continental shelf (cut by deep submarine fault troughs), are included in this province.

Based on information obtained from the USDA Natural Resources Conservation Service Web Soil Survey online database, the subject property is mapped as Chino silt loam (Cb) and Waukena fine sandy loam, saline-alkali (Wb). The Chino series consists of alluvium derived from mixed sources and is poorly drained with a high available water storage capacity. The Waukena series consists of alluvium derived from granite and is moderately well drained with a moderate available water storage capacity.

5.1.1.3 Hydrology

According to California's Groundwater: Bulletin 118, published by the State of California Department of Water Resources, the subject property is located in the Hydrologic Region South Coast, Upper Santa Ana Valley Groundwater Basin, Temescal Subbasin. The Temescal Subbasin underlies the southwest part of upper Santa Ana Valley. On the north, the subbasin is bounded by the Chino Subbasin, marked by the Santa Ana River and a set of low hills of crystalline rock

near Norco. The eastern part of the subbasin is bounded by nonwater-bearing crystalline rocks of the El Sobrante de San Jacinto and La Sierra Hills. The subbasin is bounded on the west by the Santa Ana Mountains and the south by the Elsinore Groundwater Basin at a constriction in the alluvium of Temescal Wash. The nearest surface water in the vicinity of the subject property is Cucamonga Creek, located approximately 0.43-mile northeast of the subject property. No settling ponds, lagoons, surface impoundments, wetlands or natural catch basins were observed at the subject property during this assessment.

The subject property is equipped with one private groundwater well, located on the central portion of the subject property. However, according to available information, a public water system operated by the Jurupa Community Services District serves the subject property vicinity. According to a representative of the Jurupa Community Services District, shallow groundwater directly beneath the subject property is not utilized for domestic purposes. The source of public water for the Jurupa Community Services District is groundwater wells.

According to environmental documentation posted on the State Water Resources Control Board, GeoTracker website (http://geotracker.swrcb.ca.gov), the depth and direction of groundwater in the vicinity of the subject property is inferred to be present at approximately 25 to 50 feet below ground surface (bgs) and flow toward the south-southwest.

5.1.2 Historical Use Information

5.1.2.1 Prior Uses of Property

Based on a review of historical sources, the subject property appeared to be developed with the existing dwelling addressed 14565 Chandler Street and what appears to be a few storage structures and the remainder of the subject property appeared to be undeveloped pastureland from prior to 1931 until 1964, when the existing dwellings and detached garages addressed 14555, 14557 and 14577 Chandler Street were built. By 1967, the dwelling addressed 14587 Chandler Street was built. The subject property continued to appear to be used for residential purposes and undeveloped pastureland until prior to 1980 when pens appear to have been added to the undeveloped pastureland portion of the subject property. The subject property continues to be used for residential purposes, undeveloped pastureland and pens for cows and goats to present day.

5.1.2.2 Recorded Land Title Records

Environmental liens recorded against the subject property were not reported to The Phase One Group.

5.1.2.3 Chain of Title

A 50-year chain-of-title was not requested for this study. Historical use of the subject property was researched using other standard historical sources.

5.1.2.4 Aerial Photographs

Available aerial photographs dated 1931, 1938, 1948, 1952, 1960, 1965, 1970, 1976, 1980, 1985, 1994, 2002, 2005, 2009, 2012, 2014, 2016 and 2018, from Envirosite Corporation (Envirosite) were reviewed for this Phase 1 ESA. The photographs are discussed below.

Date: **1931**
Source: **USDA**
Description: The 1931 aerial photograph showed the subject property appearing to be developed with the existing dwelling addressed 14565 Chandler Street and what appears to be a few storage structures and the remainder of the subject property appears to be undeveloped pastureland. The adjacent property to the north appears to be undeveloped pastureland. The adjacent property to the east appears to be undeveloped pastureland. The adjacent property to the south across Chandler Street appears to be undeveloped pastureland. The adjacent property to the west appears to be undeveloped pastureland.

Date: **1938**
Source: **USDA**
Description: The 1938 aerial photograph showed no changes to the subject property or the adjoining properties as compared to the 1931 aerial photograph.

Date: **1948**
Source: **USGS**
Description: The 1948 aerial photograph showed the subject property appearing to be developed with the existing dwelling addressed 14565 Chandler Street and what appears to be a few storage structures and the remainder of the subject property appears to be undeveloped pastureland. The adjacent property to the north appears to be undeveloped pastureland. The adjacent property to the east appears to be developed with residential properties and undeveloped pastureland. The adjacent property to the south across Chandler Street appears to be undeveloped pastureland. The adjacent property to the west appears to be undeveloped pastureland.

Date: **1952**
Source: **USGS**
Description: The 1952 aerial photograph showed no changes to the subject property or the adjoining properties as compared to the 1948 aerial photograph.

Date: 1960
Source: USDA
Description: The 1960 aerial photograph showed the subject property appearing to be developed with the existing dwelling addressed 14565 Chandler Street and what appears to be a few storage structures and the remainder of the subject property appears to be undeveloped pastureland. The adjacent property to the north appears to be undeveloped pastureland. The adjacent property to the east appears to be developed with residential properties and undeveloped pastureland. The adjacent property to the south across Chandler Street appears to be developed for agricultural purposes as row crops and a dairy farm. The adjacent property to the west appears to be undeveloped pastureland.

Date: 1965
Source: USDA
Description: The 1965 aerial photograph showed the subject property appearing to be developed with the existing dwelling addressed 14565 Chandler Street, the existing dwellings addressed 14555, 14557 and 14577 Chandler Street, and what appears to be a few storage structures and the remainder of the subject property appears to be undeveloped pastureland. The adjacent property to the north appears to be undeveloped pastureland. The adjacent property to the east appears to be developed with residential properties and undeveloped pastureland. The adjacent property to the south across Chandler Street appears to be developed for agricultural purposes as row crops and a dairy farm. The adjacent property to the west appears to be undeveloped pastureland.

Date: 1970
Source: USGS
Description: The 1970 aerial photograph showed the subject property appearing to be developed with the existing dwelling addressed 14565 Chandler Street, the existing dwellings addressed 14555, 14557, 14577 and 14587 Chandler Street, and what appears to be a few storage structures and the remainder of the subject property appears to be undeveloped pastureland. The adjacent property to the north appears to be undeveloped pastureland. The adjacent property to the east appears to be developed with residential properties and undeveloped pastureland. The adjacent property to the south across Chandler Street appears to be developed for agricultural purposes as row crops and a dairy farm. The adjacent property to the west appears to be developed with the two existing residential properties.

Date: **1976**
Source: **USGS**
Description: The 1976 aerial photograph showed the subject property appearing to be developed with the existing dwelling addressed 14565 Chandler Street, the existing dwellings addressed 14555, 14557, 14577 and 14587 Chandler Street, and what appears to be a few storage structures and the remainder of the subject property appears to be undeveloped pastureland. The adjacent property to the north across a flood control channel appears to be developed with a residential property and undeveloped pastureland. The adjacent property to the east appears to be developed with residential properties and undeveloped pastureland. The adjacent property to the south across Chandler Street appears to be developed for agricultural purposes as row crops and a dairy farm. The adjacent property to the west appears to be developed with the two existing residential properties.

Date: **1980**
Source: **USGS**
Description: The 1976 aerial photograph showed the subject property appearing to be developed with the existing dwelling addressed 14565 Chandler Street, the existing dwellings addressed 14555, 14557, 14577 and 14587 Chandler Street, and what appears to be pens and a few storage structures and the remainder of the subject property appears to be undeveloped pastureland. The adjacent property to the north across a flood control channel appears to be developed with a residential property and undeveloped pastureland. The adjacent property to the east appears to be developed with residential properties and undeveloped pastureland. The adjacent property to the south across Chandler Street appears to be developed for agricultural purposes as row crops and a dairy farm. The adjacent property to the west appears to be developed with the two existing residential properties.

Date: **1985**
Source: **NHAP**
Description: The 1985 aerial photograph showed no changes to the subject property or the adjoining properties as compared to the 1980 aerial photograph

Date: **1994**
Source: **DOQ**
Description: The 1994 aerial photograph showed no changes to the subject property or the adjoining properties as compared to the 1985 aerial photograph.

Date: **2002**
Source: **DOQ**
Description: The 2002 aerial photograph showed the subject property appearing to be developed with the existing dwelling addressed 14565 Chandler Street, the existing dwellings addressed 14555, 14557, 14577 and 14587 Chandler Street, and what appears to be a few storage structures and the remainder of the subject property appears to be undeveloped pastureland. The adjacent property to the north across a flood control channel appears to be developed with a residential property. The adjacent property to the east appears to be developed with residential properties and undeveloped pastureland. The adjacent property to the south across Chandler Street appears to be developed for agricultural purposes as row crops and a dairy farm. The adjacent property to the west appears to be developed with the two existing residential properties.

Date: **2005**
Source: **NAIP**
Description: The 2005 aerial photograph showed the subject property appearing to be developed with the existing dwelling addressed 14565 Chandler Street, the existing dwellings addressed 14555, 14557, 14577 and 14587 Chandler Street, and what appears to be a few storage structures and the remainder of the subject property appears to be undeveloped pastureland. The adjacent property to the north across a flood control channel appears to be developed with a residential property. The adjacent property to the east appears to be developed with residential properties and undeveloped pastureland. The adjacent property to the south across Chandler Street appears to be under development with the existing dwellings. The adjacent property to the west appears to be developed with the two existing residential properties.

Date: **2009**
Source: **NAIP**
Description: The 2009 aerial photograph showed the subject property appearing to be developed with the existing dwelling addressed 14565 Chandler Street, the existing dwellings addressed 14555, 14557, 14577 and 14587 Chandler Street, and what appears to be a few storage structures and the remainder of the subject property appears to be undeveloped pastureland. The adjacent property to the north across a flood control channel appears to be developed with a residential property. The adjacent property to the east appears to be developed with residential properties and undeveloped pastureland. The adjacent property to the south across Chandler Street appears to be developed with the existing dwellings. The adjacent property to the west appears to be developed with the two existing residential properties.

Date: 2012
Source: NAIP
Description: The 2012 aerial photograph showed no changes to the subject property or the adjoining properties as compared to the 2009 aerial photograph.

Date: 2014
Source: NAIP
Description: The 2014 aerial photograph showed no changes to the subject property or the adjoining properties as compared to the 2012 aerial photograph

Date: 2016
Source: NAIP
Description: The 2016 aerial photograph showed no changes to the subject property or the adjoining properties as compared to the 2014 aerial photograph.

Date: 2018
Source: NAIP
Description: The 2018 aerial photograph showed no changes to the subject property or the adjoining properties as compared to the 2016 aerial photograph.

5.1.2.5 Fire Insurance Maps

Sanborn maps were originally created in the late 1800s and early 1900s for assessing fire insurance liability in urbanized areas of the United States. These maps include detailed town and building information.

The Phase One Group reviewed Sanborn Fire insurance maps available on-line from The Seattle Public Library's collection on September 25, 2019. Sanborn map coverage was not available for the subject property.

5.1.2.6 Historical City Directories

Historical city directories were not readily available at the time of the assessment. The historical use of the subject property was researched through other standard historical sources.

5.1.2.7 Building Permit Records

The Phase One Group visited the City of Eastvale Public Works Department, Building Safety Division for building information on the subject property. According to the Building Safety Department, no building permit records were on-file under the subject property address.

5.1.2.8 Planning Records

The Phase One Group visited the City of Eastvale Planning Department for information on the subject property in order to identify Activity Use Limitations (AULs) associated with the subject property. According to records reviewed, the subject property is zoned A-1 – Light Agriculture.

5.1.2.9 Other Maps

The Phase One Group performed a review of the Flood Insurance Rate Map, published by the Federal Emergency Management Agency. According to Community Panel Number 06065C 0678G, dated August 28, 2008, the subject property is located in Zone X, an area of minimal flood hazard.

The Phase One Group researched the State of California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR), DOGGR Online Mapping System (http://maps.conservation.ca.gov/doms) for information regarding oil and gas development. According to the DOGGR Online Mapping System, no oil or gas wells are located on or adjacent to the subject property.

5.1.3 Properties and Areas Surrounding the Property

5.1.3.1 Current Uses of Adjoining Properties

The current use of adjoining properties was observed from the subject property as follows:

North	Flood control channel, followed by a residential property (7730 Selby Avenue)
East	Vacant land (14545 Chandler Street), a storage yard (no address identified) and a residential property (7745 Selby Avenue)
South	Chandler Street, followed by several dwellings (7701 and 7711 Port Arthur Drive, 7817 Hazelnut Drive, and 14558 and 14570 Beechwood Court)
West	Two residential properties (14601 and 14611 Chandler Street)

5.1.3.2 Past Uses

Based on a review of the historical aerial photographs, the adjacent properties were historically undeveloped pastureland, land developed for agricultural purposes as row crops, a dairy farm and developed with dwellings prior to the current improvements.

5.1.3.3 Current Use of Surrounding Areas

The subject property is located in a residential area of the City of Eastvale. None of the adjoining properties are expected to have posed an environmental concern to the subject property.

In addition, based on the findings of this assessment, vapor migration is not expected to represent a significant environmental concern at this time.

5.2 ENVIRONMENTAL RECORDS REVIEWS

5.2.1 Mapped Database Records Search

Information from standard federal and state environmental record sources is provided through Envirosite Corporation (Envirosite). Data from governmental agency lists are updated and integrated into one database, which is updated as these data are released. This integrated database also contains postal service data in order to enhance address matching. Records from one government source are compared to records from another to clarify any address ambiguities. The demographic and geographic information available provides assistance in identifying and managing risk. The accuracy of the geocoded locations is approximately +/- 300 feet. Based on the review of the unmappable sites, none of these sites are within the prescribed search radii.

The subject property is not listed in the Envirosite Corporation (Envirosite) environmental database report.

The adjacent properties are not listed in the Envirosite environmental database report.

Federal NPL

The National Priorities List (NPL) is the Environmental Protection Agency (EPA) database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund Program.

No NPL sites are located within one mile of the subject property.

Federal CERCLIS List

The Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) list is a compilation of sites that the EPA has investigated or is currently investigating for a release or threatened release of hazardous substances.

No CERCLIS sites are listed within one-half mile of the subject property.

Federal CERCLIS NFRAP Sites List

The CERCLIS No Further Remedial Action Planned (NFRAP) List is a compilation of sites that the EPA has investigated, and has determined that the facility does not pose a threat to human health or the environment, under the CERCLA framework.

One CERCLIS NFRAP site is listed within one-half mile of the subject property. However, based on the relative distance, regulatory status, and/or inferred direction of groundwater flow, the listed site is not expected to represent a significant environmental concern.

Federal Resource Conservation and Recovery Act (RCRA) CORRACTS TSD Facilities List

The EPA Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Treatment, Storage and Disposal (TSD) database is a compilation by the EPA of reporting facilities that treat, store or dispose of hazardous waste. The Corrective Action Sites (CORRACTS) database is the EPA's list of treatment storage or disposal facilities subject to corrective action under RCRA.

No RCRA CORRACTS TSD sites are listed within one mile of the subject property.

Federal Resource Conservation and Recovery Act (RCRA) Non-CORRACTS TSD Facilities List

The RCRA TSD database is a compilation by the EPA of reporting facilities that treat, store or dispose of hazardous waste.

No RCRA TSD sites are listed within one-half mile of the subject property.

Federal RCRA Generator List

The RCRA program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Generators database is a compilation by the EPA of reporting facilities that generate hazardous waste.

No RCRA Generator facilities are listed on the subject property or on the adjacent properties.

Federal Institutional Controls/Engineering Controls (IC/EC)

The Federal IC/EC database is designed to assist the EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield grant programs. The IC/EC sites are superfund sites that have either engineering or an institutional control in place. The data includes the control and the media contaminated.

No Federal IC/EC sites were found within one-half mile of the subject property.

Federal Emergency Response Notification System (ERNS)

The Emergency Response Notification System (ERNS) is a national database used to collect information or reported release of oil or hazardous substances.

No ERNS sites were listed on the subject property or on the adjacent properties.

Tribal Lands

The Tribal Lands database consists of areas with boundaries established by treaty, statute, and/or executive or court order, recognized by the Federal Government as territory in which American Indian tribes have primary governmental authority. The Indian Lands of the United States map layer shows areas of 640 acres or more, administered by the Bureau of Indian Affairs. Included are Federally-administered lands within a reservation which may or may not be considered part of the reservation.

No Tribal Land sites were found within one-mile of the subject property.

State/Tribal Sites

The State of California Environmental Protection Agency, Department Toxic Substances Control (DTSC) maintains a State Priority List (SPL) of sites considered to be actually or potentially contaminated and a State CERCLIS-equivalent list (SCL) (ENVIROSTOR) of sites under investigation that could be actually or potentially contaminated and presenting a possible threat to human health and the environment.

No SPL sites are listed within one-mile of the subject property. A total of four SCL (ENVIROSTOR) sites are listed within one-mile of the subject property. Based on the relative distance, regulatory status, and/or inferred direction of groundwater flow, the listed sites are not expected to represent a significant environmental concern.

Solid Waste/Landfill Facilities (SWLF)

A database of Solid Waste/Landfill Facilities (SWLF) is prepared by California Integrated Waste Management Board.

No SWLF facilities are listed within one-half mile of the subject property.

State/Tribal Leaking Underground Storage Tank List (LUST)

The California Regional Water Quality Control Board compiles lists of all leaks of hazardous substances from underground storage tanks, identified as Leaking Underground Storage Tank (LUST) facilities.

A total of four LUST facilities are identified within one-half mile of the subject property. However, based on the relative distance, regulatory status, and/or inferred direction of groundwater flow, the listed sites are not expected to represent a significant environmental concern.

State/Tribal Underground Storage Tank/Aboveground Storage Tank List (UST/AST)

The California Regional Water Quality Control Board compiles a list of underground storage tank (UST) and aboveground storage tank (AST) locations.

No UST or AST facilities are listed on the subject property or on the adjacent properties.

State/Tribal VCP Sites

The California Department of Toxic Substances Control compiles a list of Voluntary Cleanup Program (VCP) sites. This list contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

No State/Tribal VCP sites were found within one-half mile of the subject property.

State/Tribal Brownfields Sites

The California Department of Toxic Substances Control has developed an electronic database system with information about sites that are known to be contaminated with hazardous substances as well as information on uncharacterized properties where further studies may reveal problems. The Site Mitigation and Brownfields Reuse Program Database (SMBRPD), also known as CalSites, is used primarily by DTSC's staff as an informational tool to evaluate and track activities at properties that may have been affected by the release of hazardous substances.

No State/Tribal Brownfields sites were found within one-half mile of the subject property.

SLIC Sites

The Spills, Leaks, Investigations and Cleanup (SLIC) program, managed by the California Regional Water Quality Control Board, is designed to protect and restore water quality from spills, leaks and similar discharges. This list includes sites that have recorded spills, leaks, investigations, and cleanups.

No SLIC sites are listed within one-half mile of the subject property.

DRYCLEANERS Sites

The California EPA maintains a list of registered dry cleaning facilities.

No DRYCLEANERS sites are listed within one-fourth mile of the subject property.

Unmappable Listings

A total of 28 unmappable listings are identified in the regulatory database report. However, based on the relative distance, regulatory status, and/or inferred direction of groundwater flow, the listed sites are not expected to represent a significant environmental concern.

5.2.2 Local Regulatory Review

5.2.2.1 Riverside County Fire Department (RCFD)

The Phase One Group submitted a Freedom of Information Act (FOIA) request to the Riverside County Fire Department (RCFD) for information pertaining to hazardous substances, underground storage tanks, releases, inspection records, etc. for the subject property. As of this writing, the RCFD has not responded to The Phase One Group's request. Based on information obtained from other historical sources, this limitation is not expected to alter the overall findings of this assessment. If issues of an environmental concern are identified upon review of these documents, The Phase One Group will issue an addendum to this report.

5.2.2.2 Riverside County Department of Environmental Health (RCDEH)

The Phase One Group submitted a Freedom of Information Act (FOIA) request to the Riverside County Department of Environmental Health (RCDEH) for information regarding evidence indicating current and/or historical hazardous materials usage, storage or releases, as well as the presence of USTs. As of this writing, the RCDEH has not responded to The Phase One Group's request. Based on information obtained from other historical sources, this limitation is not expected to alter the overall findings of this assessment. If issues of an environmental concern are identified upon review of these documents, The Phase One Group will issue an addendum to this report

5.2.2.3 Air Quality Management District (AQMD)

The Phase One Group researched the Air Quality Management District (AQMD) online database (FINDS) for information regarding any Permits to Operate (PTO), Notices of Violation (NOV), or Notices to Comply (NTC) records for the subject property related to air emission equipment, which may include dry cleaning machines and underground storage tanks.

No PTOs, NOVs, NTCs or the presence of AULs were on file for the subject property with the AQMD.

5.2.2.4 California Regional Water Quality Control Board (CRWQCB)

The Phase One Group researched the California Regional Water Quality Control Board (CRWQCB) online database (GeoTracker) on September 25, 2019 for information regarding any releases to the subsurface which may have impacted or threatened a body of water.

No records regarding a release or the presence of AULs on the subject property were on-file with the CRWQCB.

5.2.2.5 Department of Toxic Substances Control (DTSC)

The Phase One Group researched the Department of Toxic Substances Control (DTSC) online database (EnviroStor) on September 25, 2019 for the subject property. These records may contain evidence indicating current and/or historical hazardous materials usage, storage or releases.

No records regarding a release or the presence of AULs on the subject property were on file with the DTSC.

5.2.2.6 Riverside County Assessor

The Phase One Group visited the Riverside County Assessor for information on the subject property. According to the Riverside County Assessor, the current subject property owner is identified as Ajusta Inv, who has owned the subject property since March 2015. The subject property consists of a total of three parcels of land totaling approximately 4.089-acres identified by the Riverside County Assessor as Assessor's Parcel Numbers (APNs) 144-120-002, 144-120-003 and 144-120-004.

A copy of the reviewed records is included in the appendix.

6.0 RECONNAISSANCE AND INTERVIEWS

The subject property was inspected by Mark E. Smith, Environmental Professional, a representative of The Phase One Group, on September 25, 2019. The weather at the time of the site visit was sunny and approximately 80 degrees Fahrenheit. Mr. Eric P. Bento, real estate agent, Bento Management & Realty, was interviewed and provided property specific information.

6.1 PROPERTY CHARACTERISTICS

6.1.1 Topography

The United States Geological Survey (USGS), Corona North, California Quadrangle 7.5 minute series topographic map was reviewed for this ESA. This map was published by the Geological Survey in 1981. According to the contour lines on the topographic map, the subject property is located approximately 574 feet above Mean Sea Level (msl). The contour lines in the area of the subject property slopes gently to the south-southwest. The subject property is depicted on the map is denoted as developed with several small structures and undeveloped.

6.1.2 Potable Water Supply

Drinking water for the subject property is provided by one private groundwater well located on the central portion of the subject property. Mr. Eric P. Bento, real estate agent, Bento Management & Realty, did not provide The Phase One Group with information regarding the on-site groundwater well, including recent groundwater sampling results or the schedule and frequency of sampling. Mr. Bento was not aware of any regional issues with drinking water. Mr. Bento also did not provide well construction information.

6.1.3 Solid Waste Disposal

Solid waste on the subject property is collected in a trash disposal bin and several plastic trash cans located at the subject property and appears to be removed from the subject property by Waste Management.

6.1.4 Sewage Discharge and Disposal

According to Mr. Bento, the subject property is not connected to the municipal sewer system. Sanitary discharges for the five on-site dwellings are directed to on-site septic systems. The presence of the on-site septic systems is not anticipated to adversely impact the subject property due to its presumed use for domestic purposes only.

6.1.5 Surface Water Drainage

Surface water drainage from the subject property is via sheet flow throughout the subject property as well as the curb and gutter systems along the surrounding streets.

6.1.6 Source of Heating and Cooling

Heating and cooling systems as well as domestic hot water equipment for the on-site dwelling is fueled by electricity and natural gas provided by Southern California Edison (SCE) and Southern California Gas Company. The dwellings are equipped with wall-mounted natural gas heaters, window-mounted electric air conditioners, and forced-air HVAC systems. Hot water is provided by individual natural gas hot water heaters.

6.1.7 Wells and Cisterns

Drinking water for the subject property is provided by one private groundwater well located on the central portion of the subject property. Mr. Eric P. Bento, real estate agent, Bento Management & Realty, did not provide The Phase One Group with information regarding the on-site groundwater well, including recent groundwater sampling results or the schedule and frequency of sampling. Mr. Bento was not aware of any regional issues with drinking water. Mr. Bento also did not provide well construction information.

No evidence of cisterns was observed on the subject property.

6.1.8 Current Occupants

At the time of The Phase One Group's site visit, the subject property was improved with five single-story, single-family dwellings, four detached garages, a storage shed, and an open storage structure. The dwellings are addressed 14555, 14557, 14565, 14577 and 14587 Chandler Street and the dwellings range from approximately 1,200 to 2,100 square feet in size. The remainder of the subject property contains yards associated with the on-site dwellings and undeveloped pastureland equipped with a few pens for cows and goats. No evidence of the use of reportable quantities of hazardous materials and petroleum products was observed at the subject property. However, a total of six, unlabeled 55-gallon drums containing an unknown substance were observed stored along the eastern perimeter of the subject property. No evidence of spills or staining was observed on the ground surrounding the drums.

6.2 POTENTIAL ENVIRONMENTAL HAZARDS

6.2.1 Hazardous Materials and Petroleum Products

The on-site reconnaissance addressed hazardous materials and petroleum products utilized on the subject property. During the site visit, a total of six, unlabeled 55-gallon drums containing an unknown substance were observed stored along the eastern perimeter of the subject property. No evidence of spills or staining was observed on the ground surrounding the drums. In addition, typical household cleaning chemicals, soaps, detergents and paints used for general maintenance purposes were observed stored on-site.

6.2.2 Labeled Drums and Containers

The on-site reconnaissance addressed labeled drums and containers located on the subject property. No evidence of drums and containers of hazardous materials or hazardous waste were observed at the subject property.

6.2.3 Unlabeled Containers and Drums

The on-site reconnaissance addressed unlabeled containers located on the subject property. As stated in Section 6.2.1 above, during the site visit, a total of six, unlabeled 55-gallon drums containing an unknown substance were observed stored along the eastern perimeter of the subject property. No evidence of spills or staining was observed on the ground surrounding the drums.

6.2.4 Disposal Locations

No evidence of hazardous waste disposal locations was observed or reported at the subject property.

6.2.5 Evidence of Releases

No evidence of a release or spill was observed at the subject property.

6.2.6 Stressed Vegetation/Stained Soils

No evidence of stressed vegetation or stained soils was observed at the subject property.

6.2.7 Strong, Pungent or Noxious Odors

No evidence of strong, pungent or noxious odors was identified at the subject property.

6.2.8 Polychlorinated Biphenyl's (PCBs)

Older transformers and other electrical equipment could contain PCBs at a level that subjects them to regulation by the U.S. EPA. PCBs in electrical equipment are controlled by United States Environmental Protection Agency regulations 40 CFR, Part 761. Under the regulations, there are three categories into which electrical equipment can be classified: 1) Less than 50 parts per million (ppm) of PCBs – "Non-PCB;" 2) 50 ppm-500 ppm – "PCB-Contaminated;" and, 3) Greater than 500 ppm – "PCB-Containing." The manufacture, process, or distribution in commerce or use of any PCB in any manner other than in a totally enclosed manner was prohibited after January 1, 1977.

The on-site reconnaissance addressed indoor and outdoor transformers that may contain PCBs. No evidence of on-site transformers was observed at the subject property.

No additional potential PCB-containing equipment (oil-filled switches, hoists, lifts, dock levelers, hydraulic elevators, etc.) was observed on the subject property.

6.2.9 Sumps, Drywells, Catchbasins or Clarifiers

No evidence of sumps, drywells, catchbasins or clarifiers was found on the subject property.

6.2.10 Pits, Ponds or Lagoons

No evidence of pits, ponds or lagoons was observed at the subject property.

6.2.11 Groundwater Wells

Drinking water for the subject property is provided by one private groundwater well located on the central portion of the subject property. Mr. Eric P. Bento, real estate agent, Bento Management & Realty, did not provide The Phase One Group with information regarding the on-site groundwater well, including recent groundwater sampling results or the schedule and frequency of sampling. Mr. Bento was not aware of any regional issues with drinking water. Mr. Bento also did not provide well construction information.

6.2.12 Oil Wells/Pipelines

No evidence of oil wells or pipelines was observed or reported at the subject property.

6.2.13 Imported Fill

No information related to the use of imported fill material was identified in records for the subject property.

6.2.14 On-Site ASTs and USTs

No evidence of aboveground storage tanks (ASTs) or underground storage tanks (USTs) was identified on-site during the site visit.

6.2.15 Radiological Hazards

No evidence of radiological substances or equipment was stored on the subject property.

6.2.16 Additional Hazard Observations

No additional hazards were observed on the subject property.

6.2.17 Asbestos

Asbestos is the name given to a number of naturally occurring, fibrous silicate minerals mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1926.1101 requires certain construction materials to be presumed to contain asbestos, for purposes of this regulation. All thermal system insulation (TSI), surfacing material, and asphalt/vinyl flooring that are present in a building constructed

prior to 1981 and have not been appropriately tested are "presumed asbestos-containing material" (PACM).

The on-site dwellings and former dairy farm building were built from the 1930s-1960s. The Phase One Group has conducted a limited, visual evaluation of accessible areas for the presence of suspect asbestos-containing materials (ACMs) at the subject property. The objective of this visual survey was to note the presence and condition of suspect ACMs observed. Suspect ACMs observed at the subject property included spray-applied ceiling material, wallboard/drywall and vinyl floor tile/mastic. The suspect ACMs appeared to be in undamaged condition.

The limited visual survey consisted of noting observable materials (materials which were readily accessible and visible during the course of the site visit) that are commonly known to potentially contain asbestos. This activity was not designed to discover all sources of suspect ACM, PACM, or asbestos at the subject property; or to comply with any regulations and/or laws relative to planned disturbance of building materials such as renovation or demolition, or any other regulatory purpose. Rather, it is intended to give the User an indication if significant (significant due to quantity, accessibility, or condition) potential sources of ACM or PACM are present at the subject property. Additional sampling, inspection, and evaluation will be warranted for any other use.

The Phase One Group was not provided building plans or specifications for review, which may have been useful in determining areas likely to have used ACM.

6.2.18 Lead-Based Paint

Lead is a highly toxic metal that affects virtually every system of the body. LBP is defined as any paint, varnish, stain, or other applied coating that has 1 mg/cm2 (or 5,000 ug/g or 0.5% by weight) or more of lead. Congress passed the Residential Lead-Based Paint Hazard Reduction Act of 1992, also known as "Title X", to protect families from exposure to lead from paint, dust, and soil. Under Section 1017 of Title X, intact LBP on most walls and ceilings is not considered a "hazard," although the condition of the paint should be monitored and maintained to ensure that it does not become deteriorated. Further, Section 1018 of this law directed the Housing and Urban Development (HUD) and the US EPA to require the disclosure of known information on LBP and LBP hazards before the sale or lease of most housing built before 1978.

The on-site dwellings and former dairy farm building were built from the 1930s-1960s. Based on the ages of the subject property buildings (pre-1978), there is a potential that lead-based paint (LBP) is present. Interior and exterior painted surfaces were observed in overall undamaged condition.

6.2.19 Radon

Radon is a colorless, odorless, naturally occurring, radioactive, inert and gaseous element formed by radioactive decay of radium (Ra) atoms. The USEPA has prepared a map to assist National, State, and local organizations to target their resources and to implement radon-resistant building codes. The map divides the country into three Radon Zones; Zone 1 being those areas with the average predicted indoor radon concentration in

residential dwellings exceeding the US EPA Action Limit of 4.0 picoCuries per Liter (pCi/L). It is important to note that the EPA has found homes with elevated levels of radon in all three zones, and the US EPA recommends site-specific testing in order to determine radon levels at a specific location. However, the map does give a valuable indication of the propensity of radon gas accumulation in structures.

Radon sampling was not conducted as part of this assessment. Review of the US EPA Map of Radon Zones places the subject property in Zone 2, where average predicted radon levels are between 2.0 and 4.0 pCi/L.

Based upon the radon zone classification, radon is not considered to be a significant environmental concern. As such, radon testing was not performed as part of this assessment.

6.2.20 Water Intrusion and Mold Growth

The Phase One Group performed a limited visual inspection for the conspicuous presence of mold in the subject property buildings. The Phase One Group inspected the accessible interior areas of the subject property building, including walls and ceilings, common mechanical/electrical closets, areas under sinks and around windows and exterior doors for the presence of conspicuous mold or observed water intrusion or accumulation.

The Phase One Group performed a limited visual inspection for the conspicuous presence of mold in the subject property building. The Phase One Group inspected the accessible interior areas of the subject property building, including walls and ceilings, common mechanical/electrical closets, areas under sinks and around windows and exterior doors for the presence of conspicuous mold or observed water intrusion or accumulation. The Phase One Group did not note conspicuous visual or olfactory indications of the presence of mold, nor did The Phase One Group observe obvious indications of significant water damage at the time of the inspection (in the areas inspected). No sampling was conducted as part of this assessment.

This activity was not designed to discover all areas, which may be affected by mold growth on the subject property. Rather, it is intended to give the client an indication as to whether or not conspicuous (based on observed areas) mold growth is present at the subject property. This evaluation did not include a review of pipe chases, HVAC systems (if present), areas behind enclosed walls, attics, crawl spaces, ceilings or other areas that were difficult to access.

6.3 INTERVIEWS

Interviews were conducted with the following individuals. Findings from these interviews are discussed in the appropriate sections in this report.

6.3.1 Property

- Mr. Eric P. Bento, real estate broker, Bento Management & Realty, 909.815.8256

6.3.2 Surrounding Area

- N/A

6.3.3 Regulatory Agency Officials

- City of Eastvale Public Works Department, Building Safety Division
- City of Eastvale Planning Department
- Riverside County Assessor
- Riverside County Fire Department (RCFD)
- Riverside County Department of Environmental Health (RCDEH)
- Department of Toxic Substances Control (DTSC)
- California Regional Water Quality Control Board (CRWQCB)
- South Coast Air Quality Management District (SCAQMD)
- State of California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR), DOGGR Online Mapping System

6.4 ADDITIONAL SERVICES

No additional services were performed with this scope of work.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 CONCLUSIONS

The Phase One Group has performed a Phase 1 Environmental Site Assessment in conformance with the scope and limitations of ASTM Standard E1527-13 of the Residential Property located at 14555-14587 Chandler Street, in the City of Eastvale, Riverside County, California 92880 (the "subject property"). Any exceptions to or deletions from this practice are described in Section 2.0 of this report. This assessment has revealed no evidence of recognized environmental conditions (RECs), historical recognized environmental conditions (HRECs), or controlled recognized environmental conditions (CRECs) in connection with the subject property.

An environmental issue refers to environmental concerns identified by The Phase One Group which do not qualify as RECs; however warrant further discussion. The following environmental issues were identified during the course of this assessment:

- During the site visit, a total of six, unlabeled 55-gallon drums containing an unknown substance were observed stored along the eastern perimeter of the subject property. No evidence of spills or staining was observed on the ground surrounding the drums.

- Drinking water for the subject property is provided by one private groundwater well located on the central portion of the subject property. Mr. Eric P. Bento, real estate agent, Bento Management & Realty, did not provide The Phase One Group with information regarding the on-site groundwater well, including recent groundwater sampling results or the schedule and frequency of sampling. Mr. Bento was not aware of any regional issues with drinking water. Mr. Bento also did not provide well construction information.

- Sanitary discharges for the five on-site dwellings are directed to on-site septic systems. The presence of the on-site septic systems is not anticipated to adversely impact the subject property due to its presumed use for domestic purposes only.

- The on-site dwellings and former dairy farm building were built from the 1930s-1960s. The Phase One Group has conducted a limited, visual evaluation of accessible areas for the presence of suspect asbestos-containing materials (ACMs) at the subject property. The objective of this visual survey was to note the presence and condition of suspect ACMs observed. Suspect ACMs observed at the subject property included spray-applied ceiling material, wallboard/drywall and vinyl floor tile/mastic. The suspect ACMs appeared to be in undamaged condition.

- The on-site dwellings and former dairy farm building were built from the 1930s-1960s. Based on the ages of the subject property buildings (pre-1978), there is a potential that lead-based paint (LBP) is present. Interior and exterior painted surfaces were observed in overall undamaged condition.

7.2 RECOMMENDATIONS

As a result of this assessment, The Phase One Group recommends the following:

- The six, unlabeled 55-gallon drums stored at the subject property should be collected and properly disposed of by a certified hazardous waste hauler.

- The on-site septic systems associated with the five on-site dwellings should be properly closed and removed following current regulatory procedures and guidelines prior to any planned redevelopment of the subject property and connection to the City of Eastvale sewer system.

- Prior to redevelopment of the subject property, the on-site groundwater well should be properly closed and abandoned following current regulatory procedures and guidelines.

- Based on the construction dates of the subject property dwellings (1930s-1960s), a comprehensive asbestos survey of suspect asbestos-containing material (ACM) of construction materials at the subject property is recommended prior to any renovation or demolition activities to confirm the presence or absence of asbestos to prevent potential exposure to workers and/or building occupants.

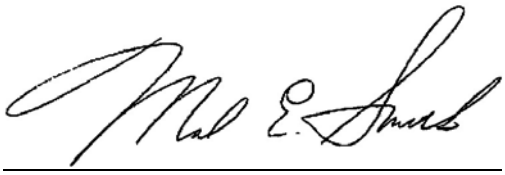
- Based on the construction dates of the subject property dwellings and former dairy farm building (1930s-1960s), a comprehensive lead-based paint survey (LBP) survey of construction materials at the subject property is recommended prior to any renovation or demolition activities to confirm the presence or absence of LBP to prevent potential exposure to workers and/or building occupants.

This summary is not to be used alone. This report must be read in its entirety.

8.0 CONSULTANT INFORMATION

8.1 SIGNATURE PAGE

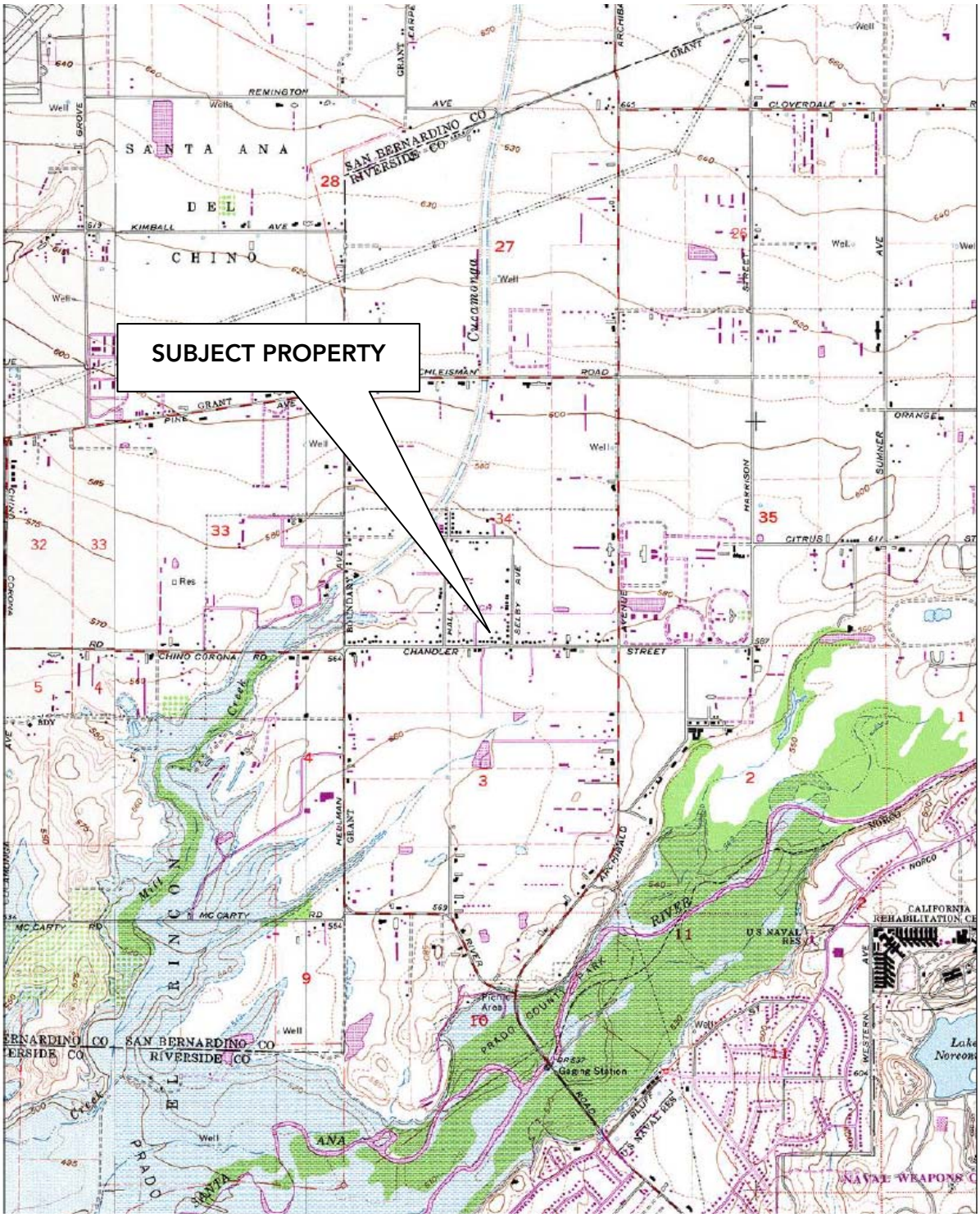
By signing below, The Phase One Group declares that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR §312. The Phase One Group has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. The Phase One Group has developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Mark E. Smith, Environmental Professional
President
The Phase One Group LLC

FIGURES

Site Topographic Map
Site Location Map
Site Plan



SITE TOPOGRAPHIC MAP

DRAWING NOT TO SCALE

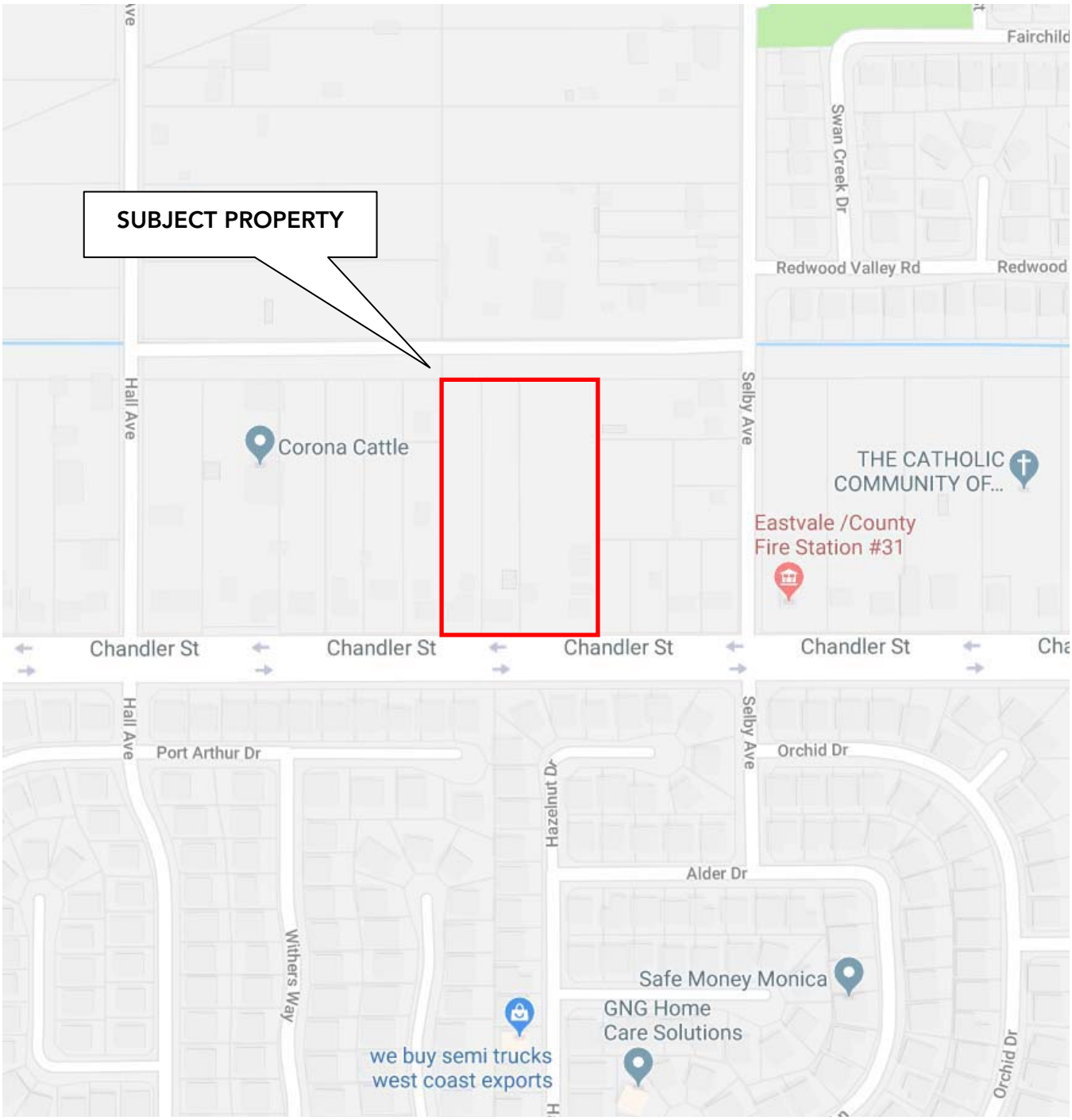
Source: USGS 7.5 Minute Topographic Map, Corona North, CA Quadrangle 1981

N↑

The Phase One Group

Site: Residential Property
14555-14577 Chandler Street
Eastvale, California 92880

Project No.: 19-026



SITE LOCATION MAP

DRAWING NOT TO SCALE

Source: Google Maps

N↑

The Phase One Group

Site:	**Residential Property** **14555-14587 Chandler Street** **Eastvale, California 92880**
Project No.:	**19-026**

SITE PLAN

DRAWING NOT TO SCALE

Source: Google Earth

N↑

The Phase One Group

Site:	Residential Property 14555-14587 Chandler Street Eastvale, California 92880
Project No.:	19-026

APPENDIX A

Site Photographs

Photograph Number 1: View of south side of subject property along Chandler Street, facing northwest.

Photograph Number 2: View of south side of subject property along Chandler Street, facing north-northeast.

Photograph Number 3: View of south side of subject property along Chandler Street, facing north.

Photograph Number 4: View of south side of subject property along Chandler Street, facing northwest.

Photograph Number 5: View of south side of subject property along Chandler Street, facing northeast.

Photograph Number 6: View of subject property dwelling (14555 Chandler Street), facing east.

Photograph Number 7: View of on-site trash disposal bin.


Photograph Number 8: View of subject property dwelling (14557 Chandler Street), facing east.

Photograph Number 9: View of detached garage (14557 Chandler Street), facing east.

Photograph Number 10: View subject property dwelling (14565 Chandler Street), facing northwest.

Photograph Number 11: View of subject property dwelling (14577 Chandler Street), facing north.

Photograph Number 12: View of backyard of subject property dwelling (14577 Chandler Street), facing northwest.

Photograph Number 13: View of subject property dwelling (14587 Chandler Street), facing southeast.

Photograph Number 14: View of subject property HVAC equipment (14587 Chandler Street), facing north.

Photograph Number 15: View of subject property detached garage (14587 Chandler Street).

Photograph Number 16: View of northern portion of subject property, facing east.

Photograph Number 17: View of northern portion of subject property, facing north.

Photograph Number 18: View of northern portion of subject property, facing northwest.

Photograph Number 19: View of northern portion of subject property, facing west.

Photograph Number 20: View of northern portion of subject property, facing south.

Photograph Number 21: View of northern portion of subject property, facing southeast.

Photograph Number 22: View of six 55-gallon drums stored along eastern perimeter of subject property, facing east.

Photograph Number 25: View of on-site groundwater well on the western portion of subject property, facing southeast.

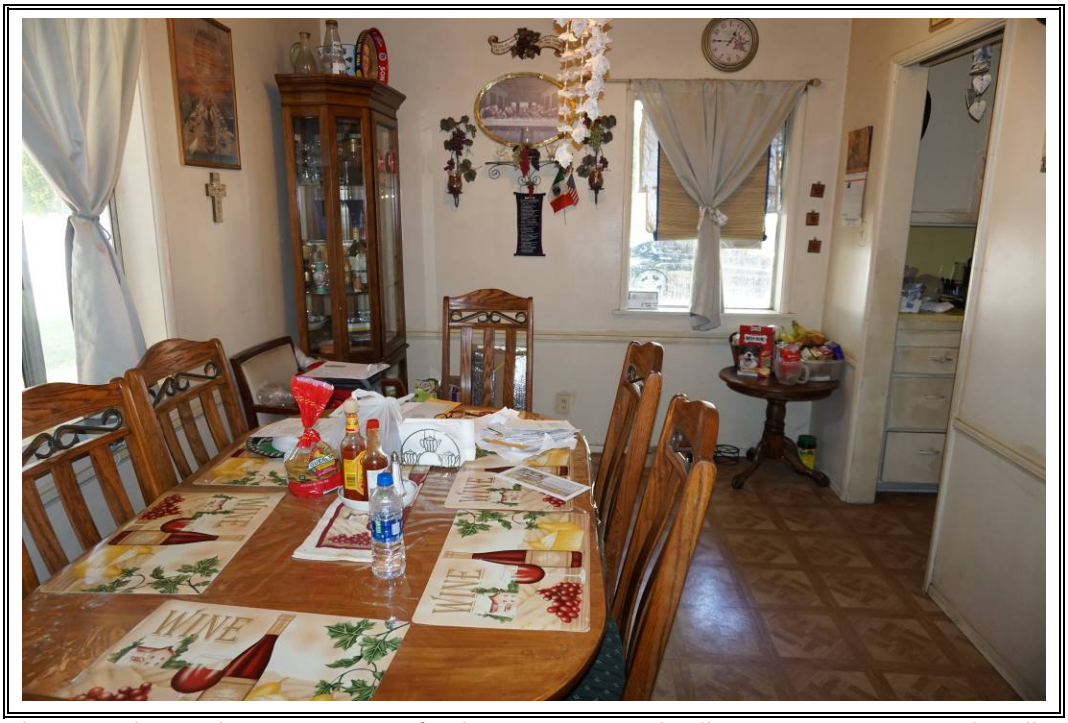
Photograph Number 26: View of on-site equipment on western portion of subject property, facing southwest.

Photograph Number 27: View of northern portion of subject property, facing southwest.

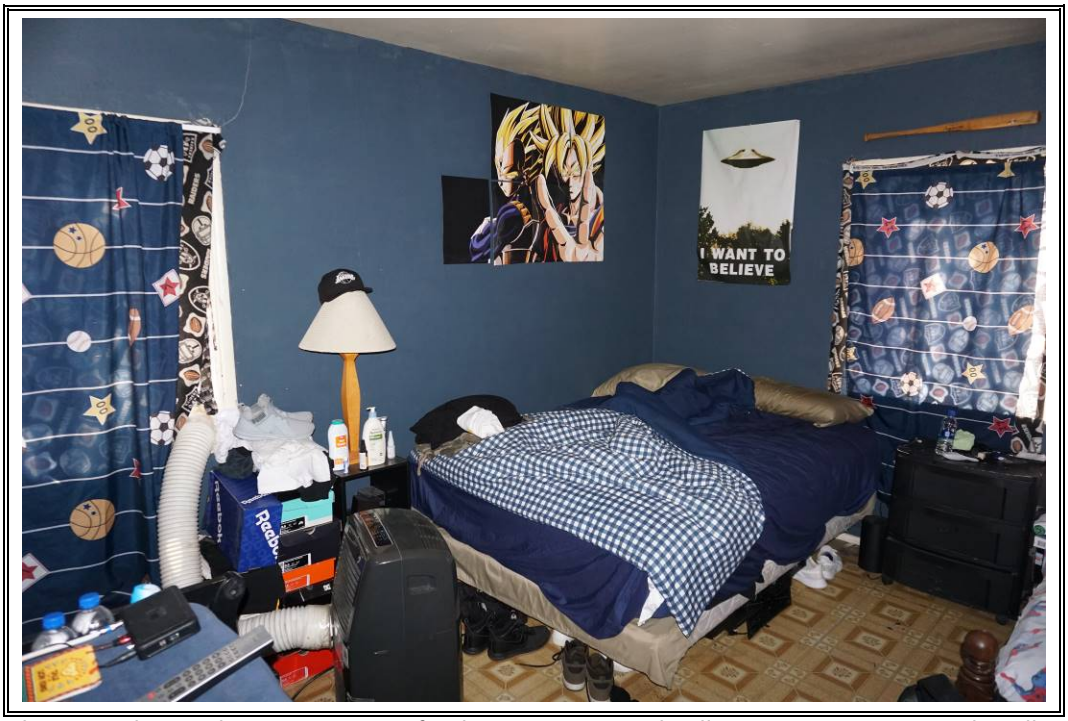
Photograph Number 28: View of northern portion of subject property, facing south.

Photograph Number 29: View of northern portion of subject property, facing southeast.

Photograph Number 30: View of subject property dwelling interior (14555 Chandler Street).



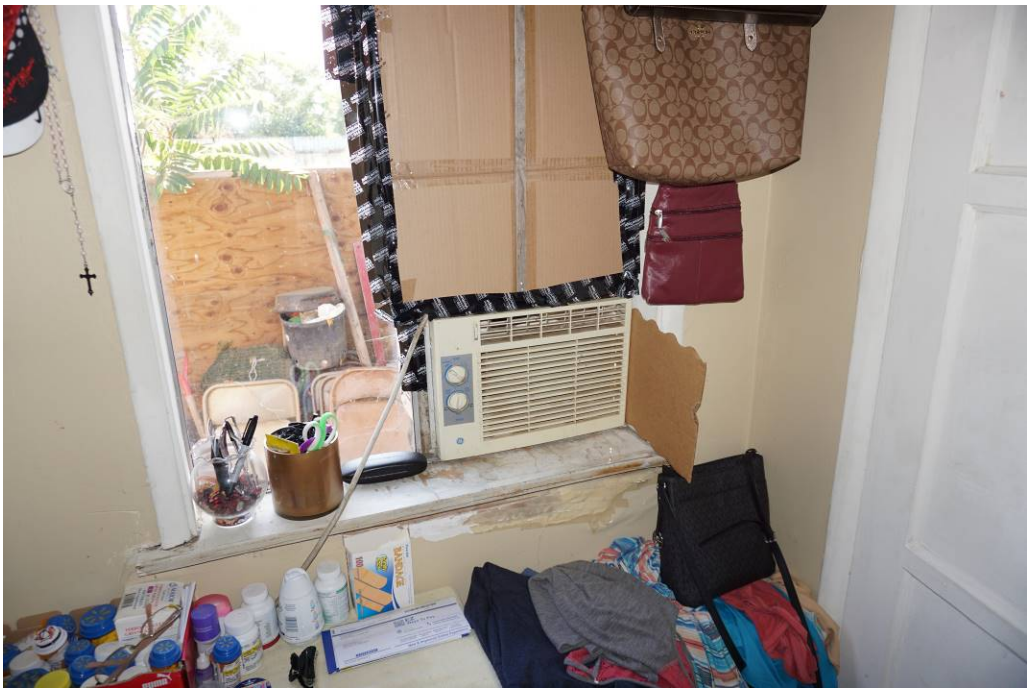
Photograph Number 31: View of subject property dwelling interior (14555 Chandler Street).



Photograph Number 32: View of subject property dwelling interior (14555 Chandler Street).

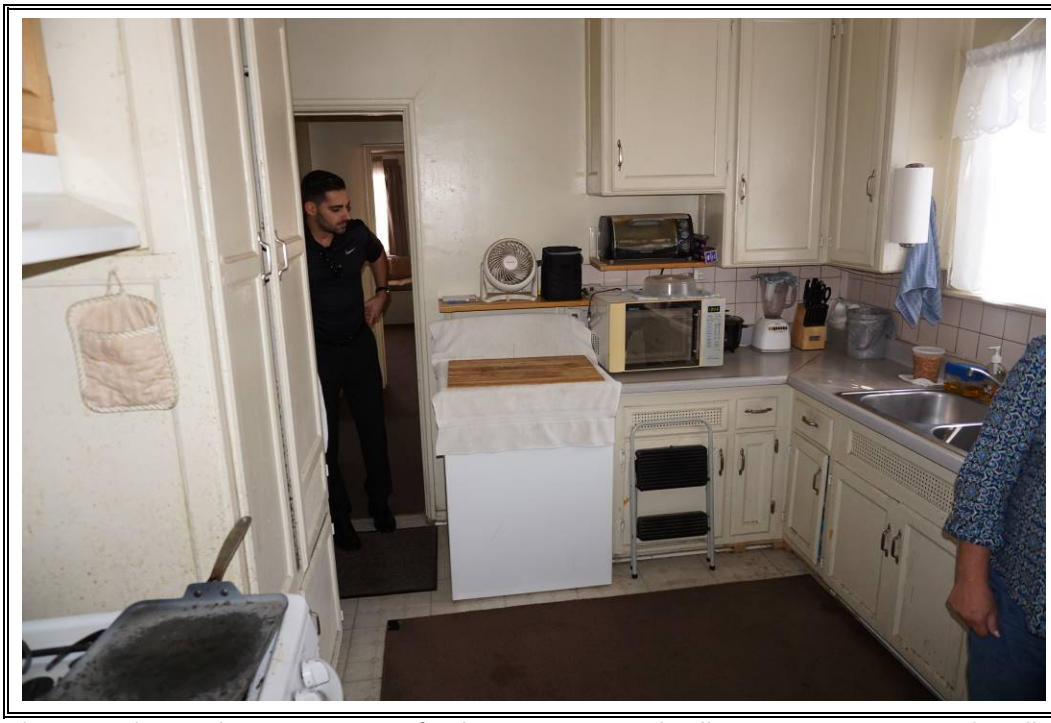
Photograph Number 33: View of subject property dwelling interior (14555 Chandler Street).

Photograph Number 34: View of mold/mildew growth within subject property dwelling interior (14555 Chandler Street).



Photograph Number 35: View of window-mounted electric air conditioner within subject property dwelling interior (14555 Chandler Street).

Photograph Number 36: View of subject property dwelling interior (14557 Chandler Street).



Photograph Number 37: View of subject property dwelling interior (14557 Chandler Street).

Photograph Number 38: View of natural gas hot water heater within subject property dwelling interior (14557 Chandler Street).

Photograph Number 39: View of wall-mounted natural gas heater within subject property dwelling interior (14557 Chandler Street).

Photograph Number 40: View of window-mounted electric air conditioner within subject property dwelling interior (14577 Chandler Street).

Photograph Number 41: View of subject property dwelling interior (14565 Chandler Street).

Photograph Number 42: View of wall-mounted natural gas heater within subject property dwelling interior (14565 Chandler Street).

Photograph Number 43: View of subject property dwelling interior (14565 Chandler Street).

Photograph Number 44: View of subject property dwelling interior (14577 Chandler Street).

Photograph Number 45: View of subject property dwelling interior (14577 Chandler Street).

Photograph Number 46: View of subject property dwelling interior (14577 Chandler Street).

Photograph Number 47: View of natural gas hot water heater within subject property dwelling interior (14577 Chandler Street).

Photograph Number 48: View of adjacent property to the north across flood control channel, facing northwest.

Photograph Number 49: View of adjacent property to the north across flood control channel, facing north.

Photograph Number 50: View of adjacent property to the north across flood control channel, facing northeast.

Photograph Number 51: View of adjacent property to the east (background), facing southwest.

Photograph Number 52: View of adjacent property to the east along Chandler Street, facing northeast.

Photograph Number 53: View of adjacent property to the south across Chandler Street, facing southeast.

Photograph Number 54: View of adjacent property to the south across Chandler Street, facing south.

Photograph Number 55: View of adjacent property to the south across Chandler Street, facing southwest.

Photograph Number 56: View of adjacent property to the west along Chandler Street, facing north-northwest.

APPENDIX B

Aerial Photographs

FLIGHT YEAR:
1931

N
W E
S
Scale: 1" = 500'

AERIAL PHOTOGRAPH	Date: 1931 Photo ID No. USDA N↑
The Phase One Group	Site: Residential Property 14555-14587 Chandler Street Eastvale, California 92880 Project No.: 19-028

FLIGHT YEAR:
1938

N
W E
S

Scale: 1" = 1,000'

AERIAL PHOTOGRAPH	Date: 1938 Photo ID No. USDA N↑
The Phase One Group	Site: Residential Property 14555-14587 Chandler Street Eastvale, California 92880 Project No.: 19-028

FLIGHT YEAR: 1948

Subject Cannot Be Centered

N W E S

Scale: 1" = 500'

AERIAL PHOTOGRAPH

Date: 1948
Photo ID No. USGS

N↑

The Phase One Group

Site: Residential Property
14555-14587 Chandler Street
Eastvale, California 92880

Project No.: 19-028

FLIGHT YEAR:
1952

N
W E
S
Scale: 1" = 500'

AERIAL PHOTOGRAPH

Date: 1952
Photo ID No. USGS

N↑

The Phase One Group

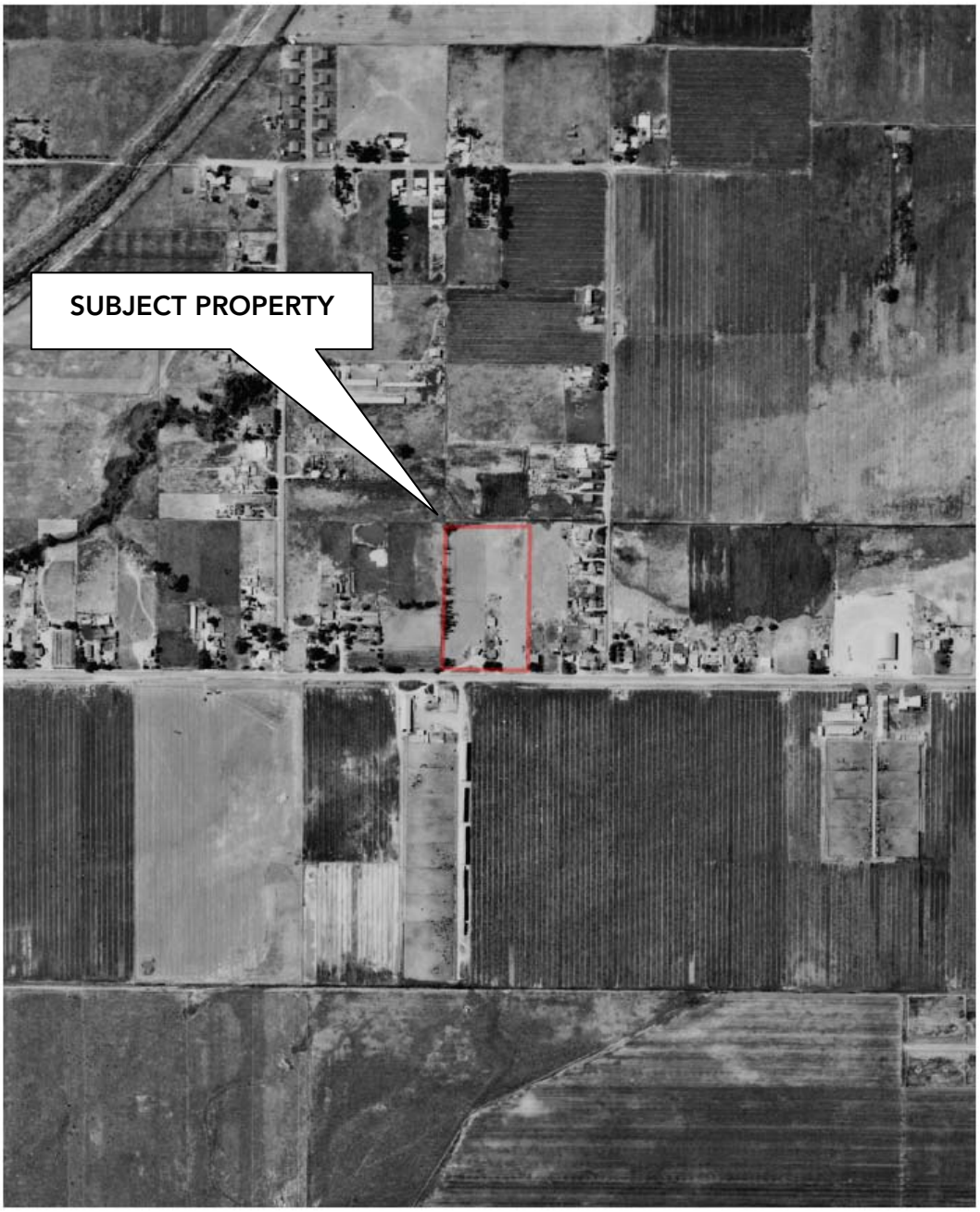
Site: Residential Property
14555-14587 Chandler Street
Eastvale, California 92880

Project No.: 19-028

FLIGHT YEAR:
1960

N
W E
S

Scale: 1" = 500'



AERIAL PHOTOGRAPH

Date: 1960
Photo ID No. USDA

N↑

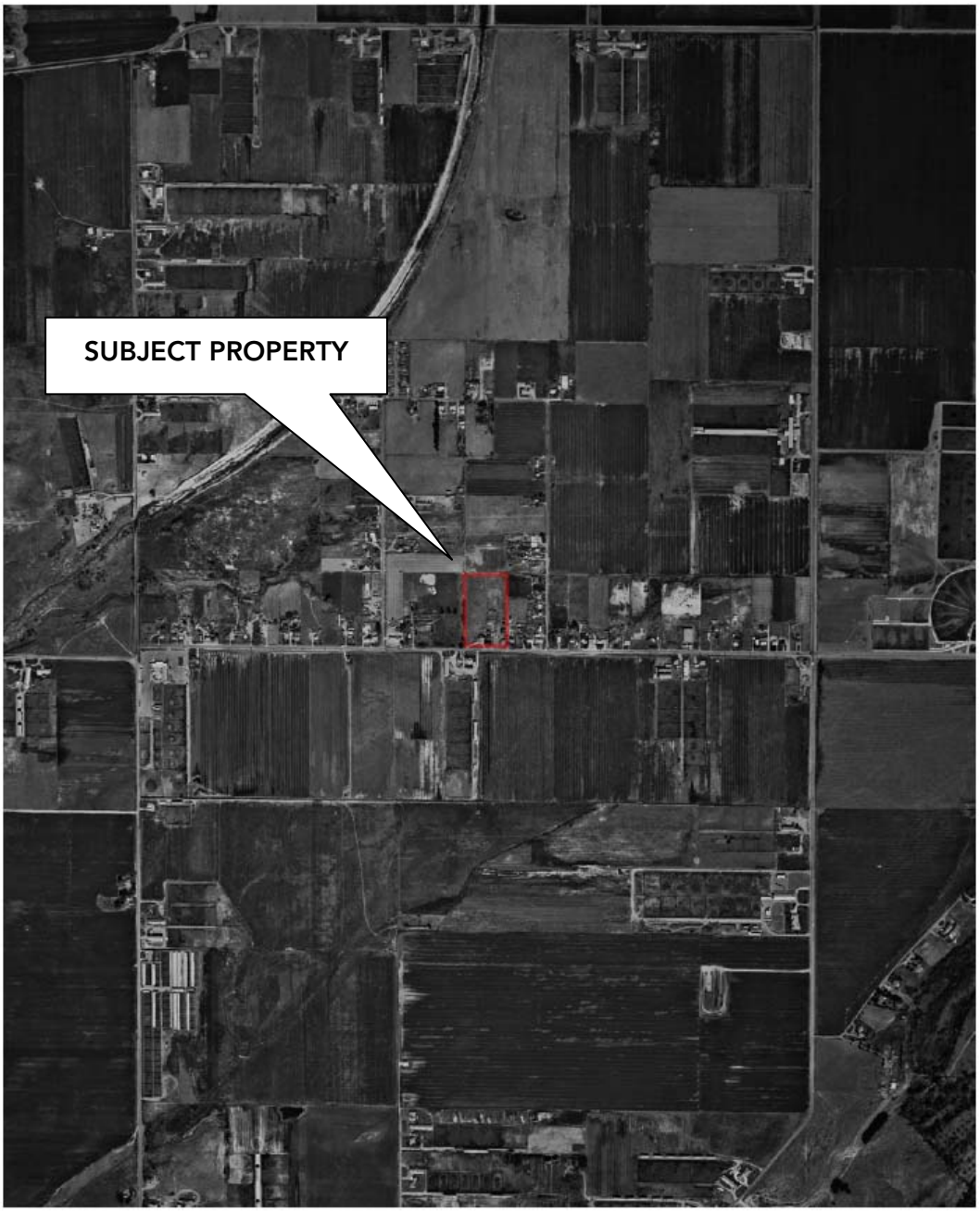
The Phase One Group

Site: Residential Property
14555-14587 Chandler Street
Eastvale, California 92880

Project No.: 19-028

FLIGHT YEAR:
1965

N
W E
S
Scale: 1" = 1,000'



AERIAL PHOTOGRAPH	Date: 1965 Photo ID No. USDA N↑
The Phase One Group	Site: Residential Property 14555-14587 Chandler Street Eastvale, California 92880 Project No.: 19-028

FLIGHT YEAR:
1970

N
W E
S

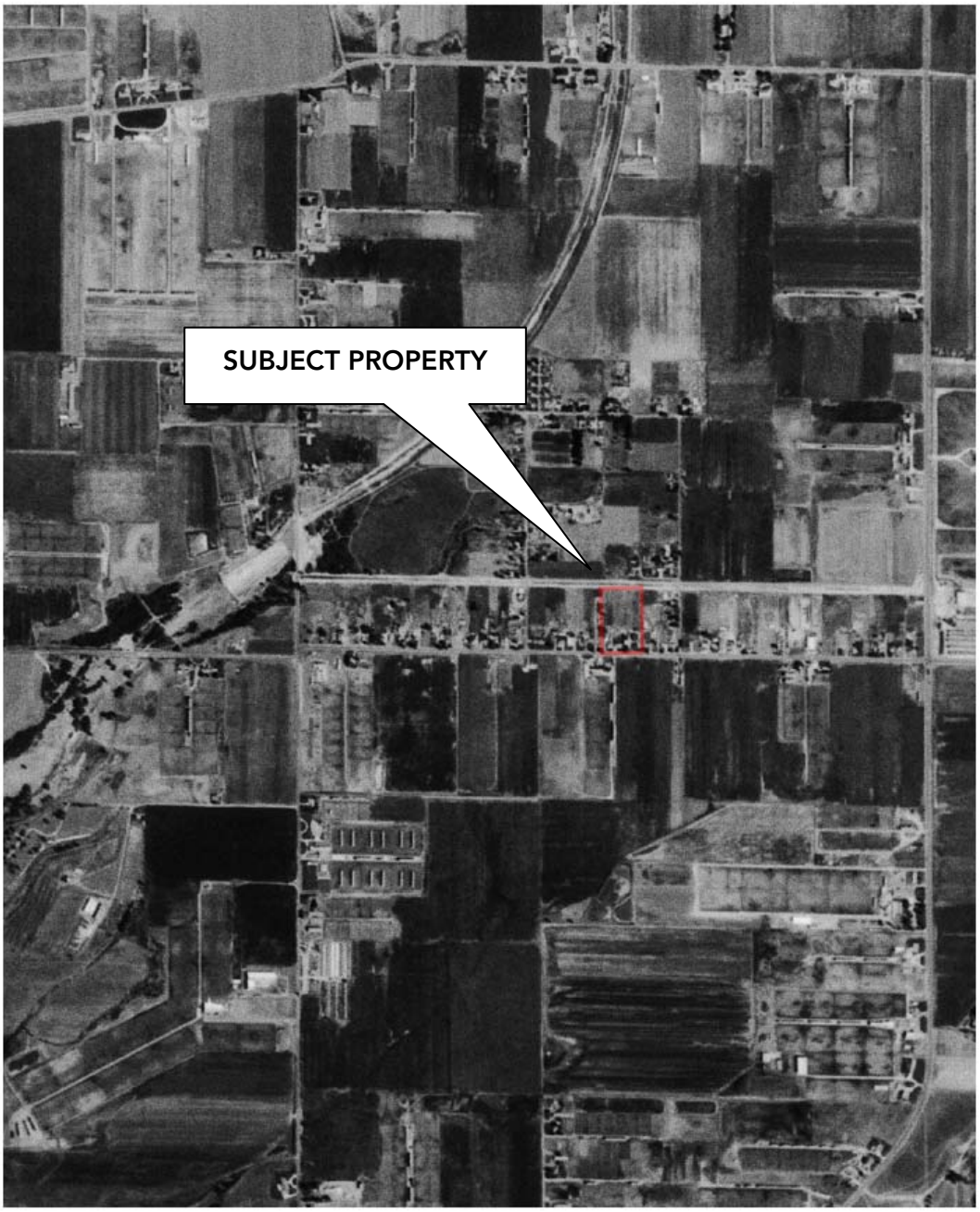
Scale: 1" = 1,000'

AERIAL PHOTOGRAPH	Date: 1970 Photo ID No. USGS	N↑
The Phase One Group	Site: Residential Property 14555-14587 Chandler Street Eastvale, California 92880 Project No.: 19-028	

FLIGHT YEAR:
1976

N
W E
S

Scale: 1" = 1,000'



AERIAL PHOTOGRAPH

Date: 1976
Photo ID No. USGS

N↑

The Phase One Group

Site: Residential Property
14555-14587 Chandler Street
Eastvale, California 92880

Project No.: 19-028

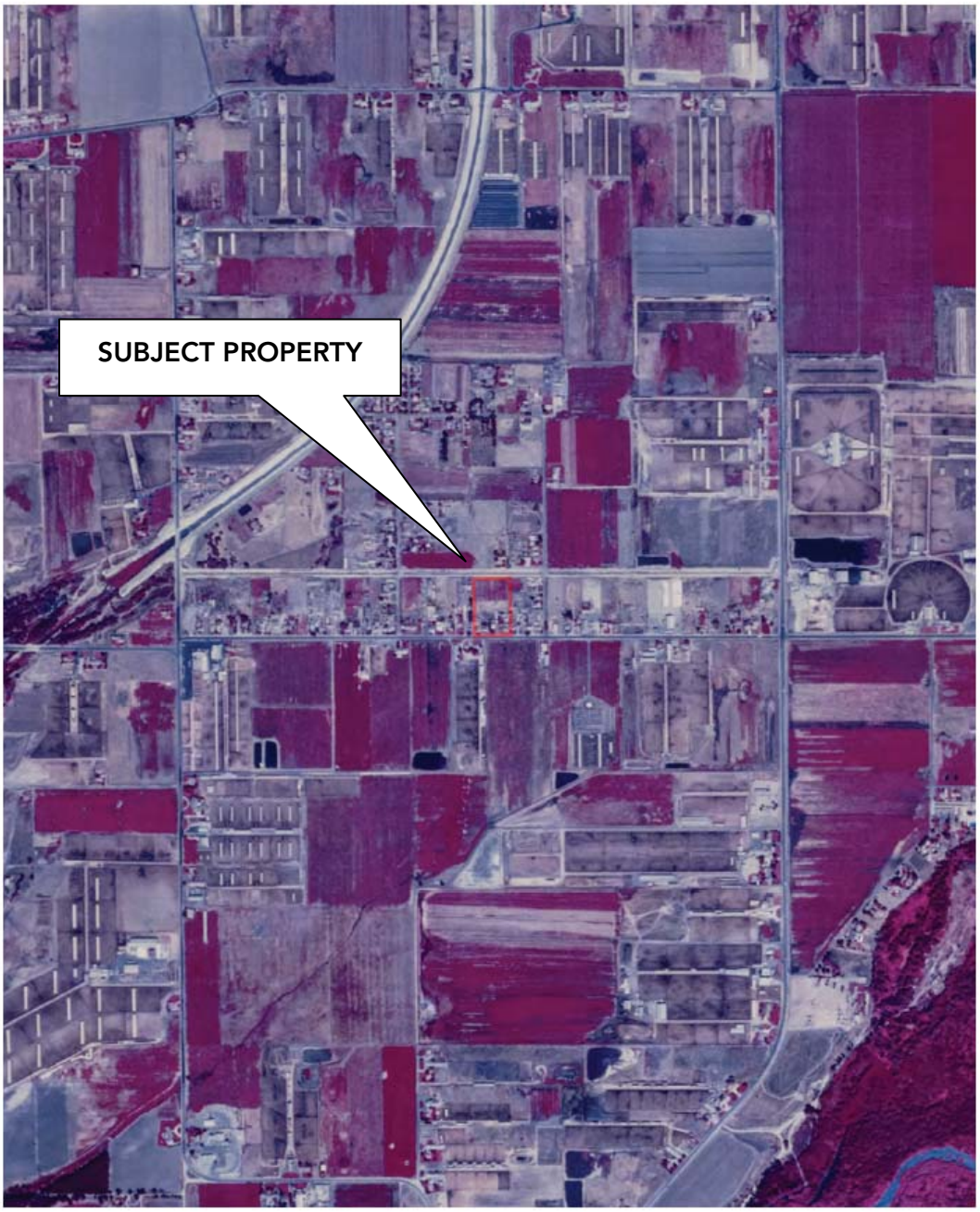
FLIGHT YEAR:
1980

N
W E
S
Scale: 1" = 500'

AERIAL PHOTOGRAPH	Date: 1980 Photo ID No. USGS N↑
The Phase One Group	Site: Residential Property 14555-14587 Chandler Street Eastvale, California 92880 Project No.: 19-028

FLIGHT YEAR:
1985

N
W E
S
Scale: 1" = 1,000'



AERIAL PHOTOGRAPH

Date: 1985
Photo ID No. NHAP

N↑

The Phase One Group

Site: Residential Property
14555-14587 Chandler Street
Eastvale, California 92880

Project No.: 19-028

FLIGHT YEAR:
1994

N
W E
S

Scale: 1" = 500'

AERIAL PHOTOGRAPH

Date: 1994
Photo ID No. DOQ

N↑

The Phase One Group

Site: Residential Property
14555-14587 Chandler Street
Eastvale, California 92880

Project No.: 19-028

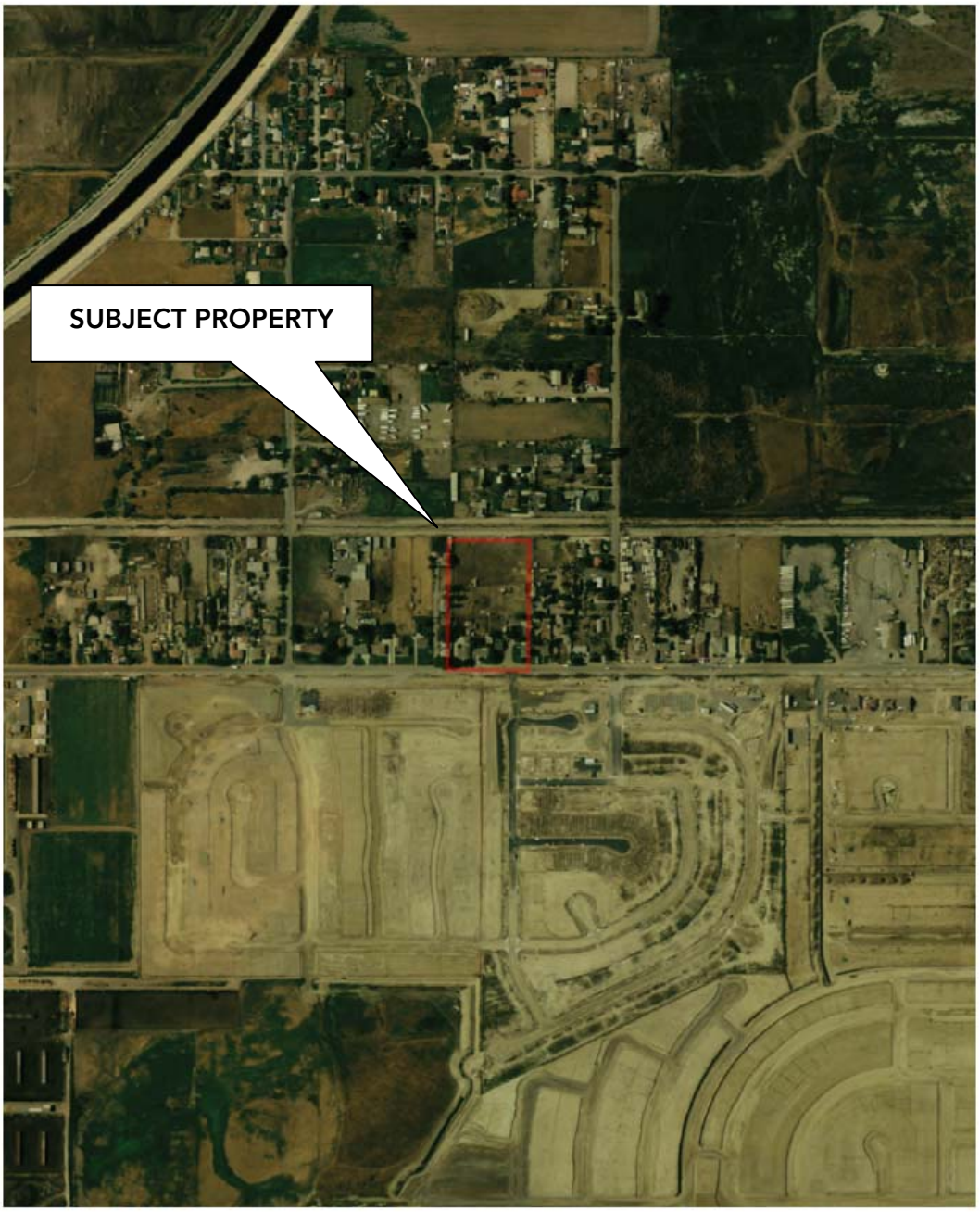
FLIGHT YEAR:
2002

N
W E
S
Scale: 1" = 500'

AERIAL PHOTOGRAPH	Date: 2002 Photo ID No. DOQ	N↑
The Phase One Group	Site: Residential Property 14555-14587 Chandler Street Eastvale, California 92880 Project No.: 19-028	

FLIGHT YEAR:
2005

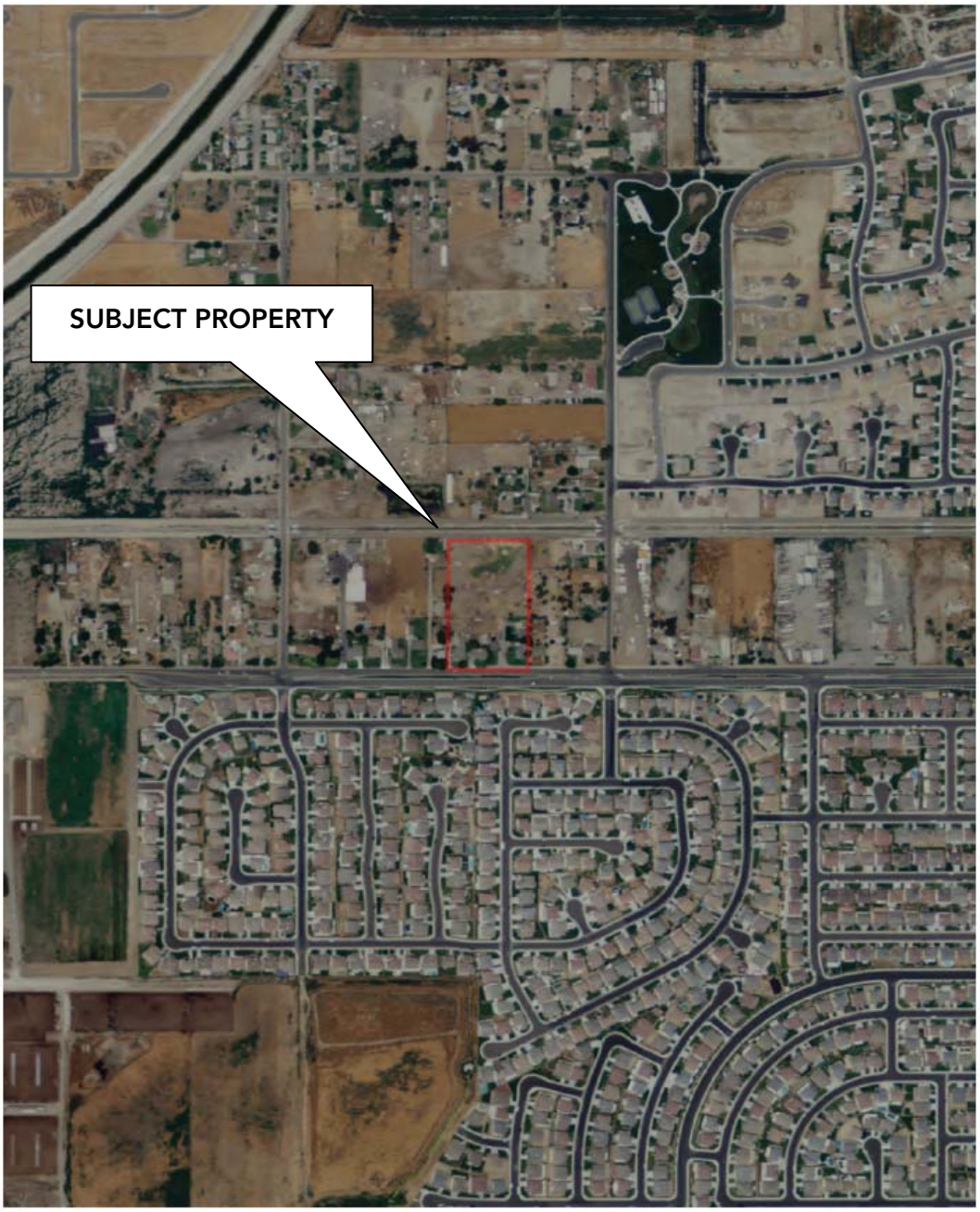
N
W E
S
Scale: 1" = 500'



AERIAL PHOTOGRAPH	Date: 2005 Photo ID No. NAIP N↑
The Phase One Group	Site: Residential Property 14555-14587 Chandler Street Eastvale, California 92880 Project No.: 19-028

FLIGHT YEAR:
2009

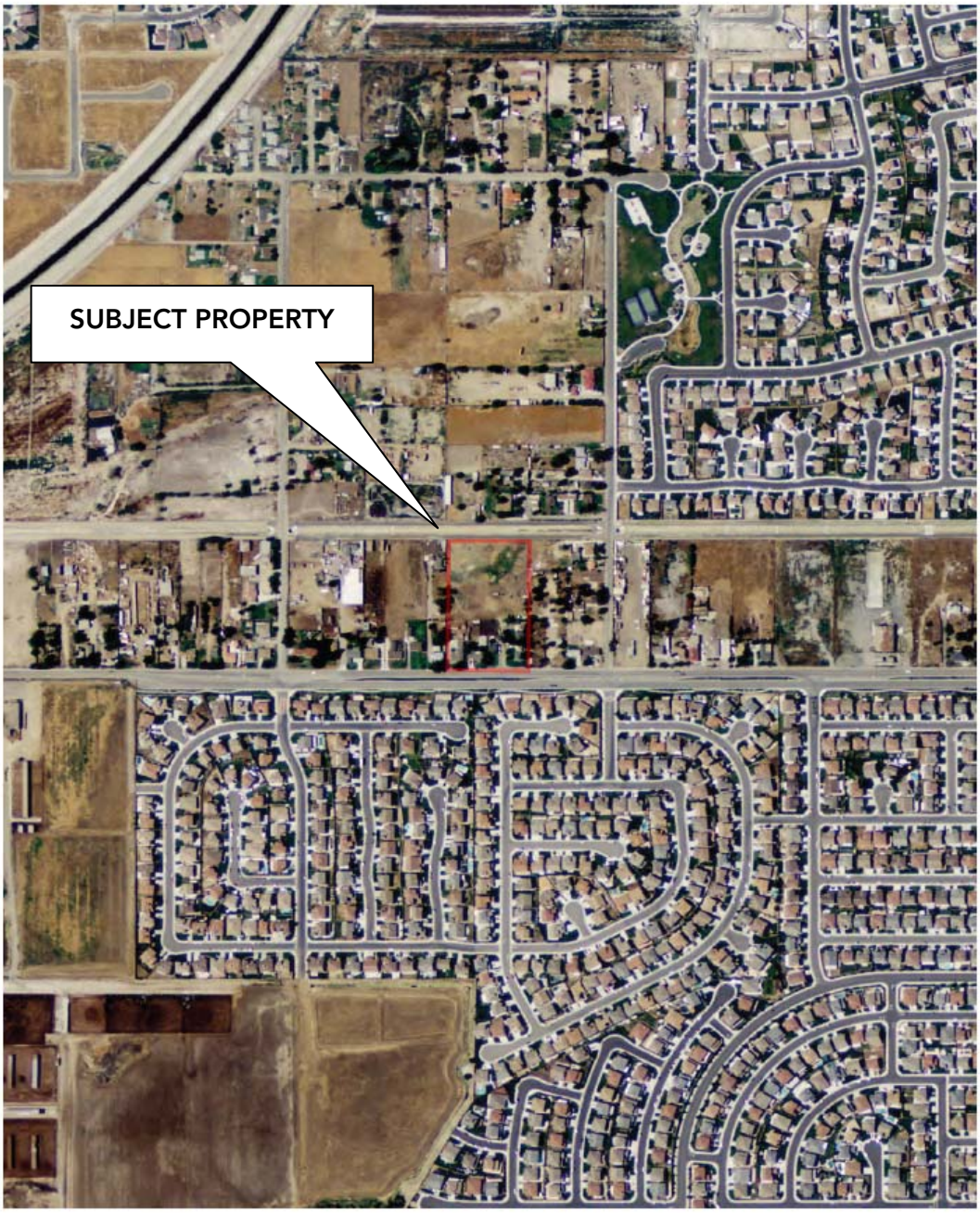
N
W E
S
Scale: 1" = 500'



AERIAL PHOTOGRAPH	Date: 2009 Photo ID No. NAIP N↑
The Phase One Group	Site: Residential Property 14555-14587 Chandler Street Eastvale, California 92880 Project No.: 19-028

FLIGHT YEAR:
2012

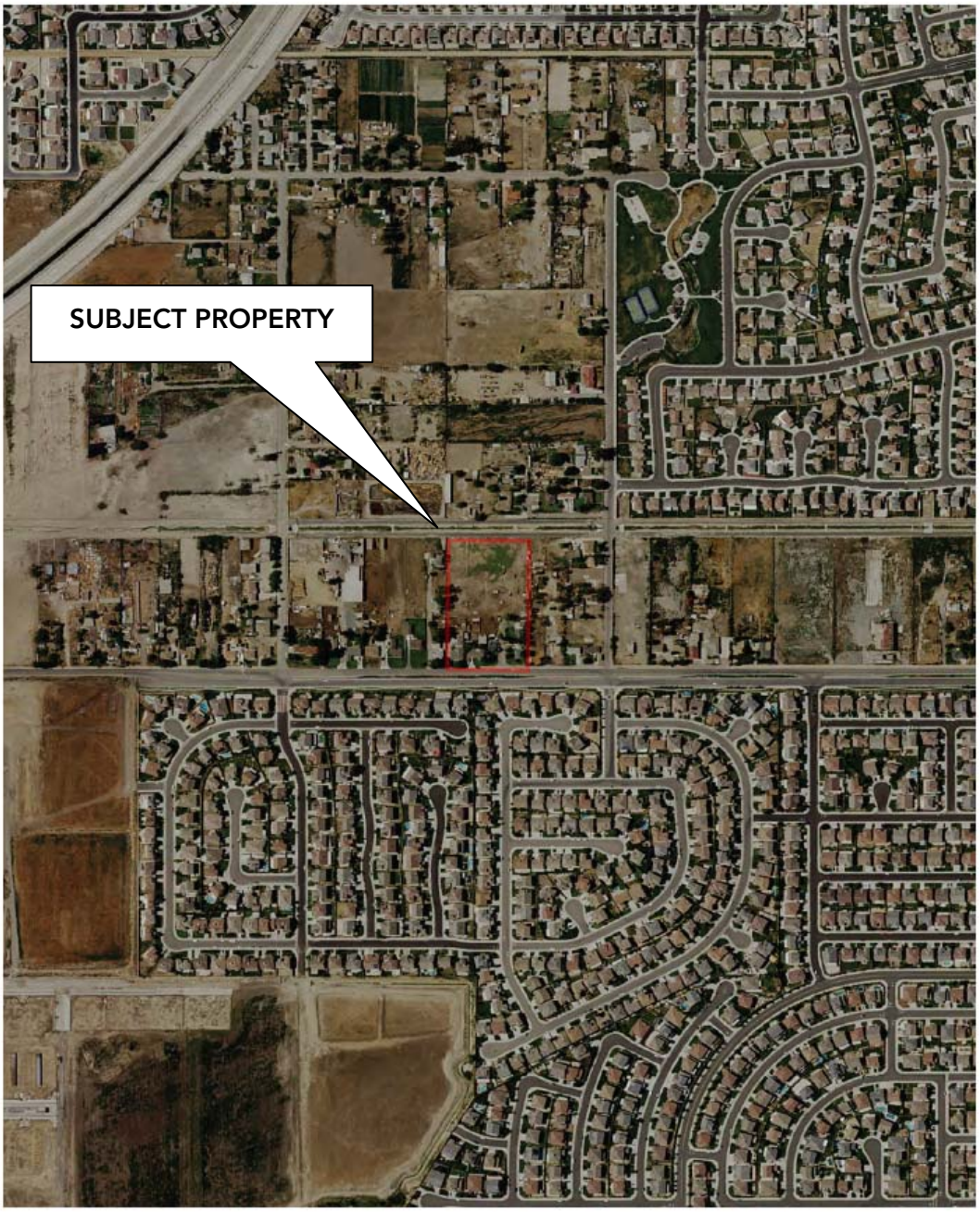
N
W E Scale: 1" = 500'
S



AERIAL PHOTOGRAPH	Date: 2012 Photo ID No. NAIP	N↑
The Phase One Group	Site: Residential Property 14555-14587 Chandler Street Eastvale, California 92880 Project No.: 19-028	

FLIGHT YEAR:
2014

N
W E
S
Scale: 1" = 500'



AERIAL PHOTOGRAPH	Date: 2014 Photo ID No. NAIP N↑
The Phase One Group	Site: Residential Property 14555-14587 Chandler Street Eastvale, California 92880 Project No.: 19-028

FLIGHT YEAR:
2016

N
W E Scale: 1" = 500'
S

AERIAL PHOTOGRAPH

Date: 2016
Photo ID No. NAIP

N↑

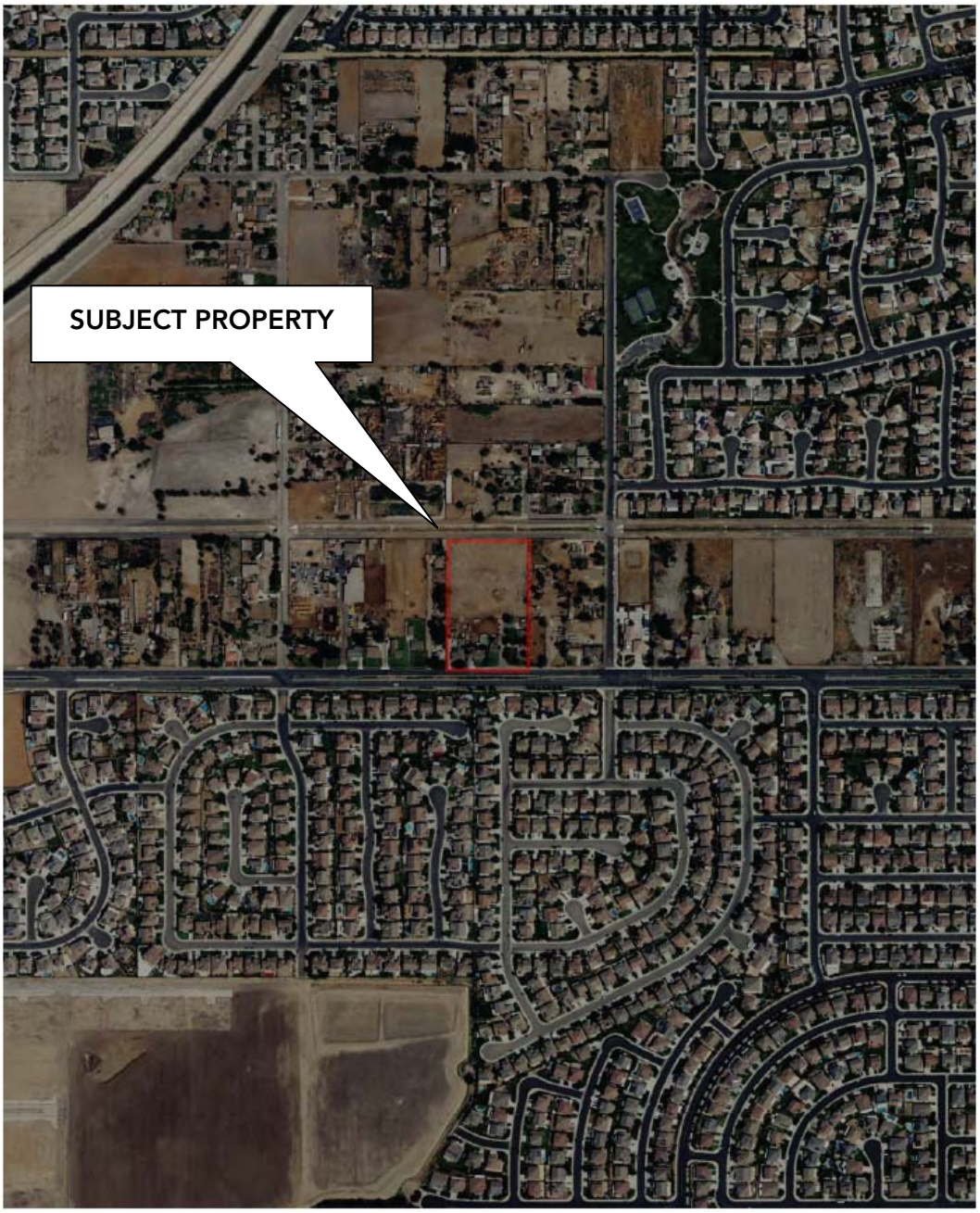
The Phase One Group

Site: Residential Property
14555-14587 Chandler Street
Eastvale, California 92880

Project No.: 19-028

FLIGHT YEAR:
2018

N
W E
S
Scale: 1" = 500'



AERIAL PHOTOGRAPH

Date: 2018
Photo ID No. NAIP

N↑

The Phase One Group

Site: Residential Property
14555-14587 Chandler Street
Eastvale, California 92880

Project No.: 19-028

APPENDIX C

Environmental Database Report

Government Records Report | 2019

Order Number: 33835

Report Generated: 09/12/2019

Project Name:

Project Number:

Residential Property
14555, 14577 and 14587 Chandler Street
Eastvale, California 92880

2 Corporate Drive
Suite 450
Shelton, CT 06484
Toll Free: 866-211-2028
www.envirositecorp.com

Table of Contents 2019

Envirosite Corporation has conducted a search of all reasonably ascertainable records in accordance with EPA's AAI (40 CFR Part 312) requirements and the ASTM E-1527-13 Environmental Site Assessments standard.

SUBJECT PROPERTY INFORMATION:

ADDRESS:

Residential Property
14555, 14577 and 14587 Chandler Street
Eastvale, California 92880

COORDINATES:

Latitude (North):	33.947081 - 33°56'49.5"
Longitude (West):	-117.601738 - -117°36'6.3"
Universal Transverse Mercator:	Zone 11N
UTM X (Meters):	444395.99
UTM Y (Meters):	3756451.45

ELEVATION:

Elevation:	574.580 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH SUBJECT PROPERTY:

Subject Property Map: 33117-H5 Corona North, CA
Most Recent Revision: 2018

MAP ID	SITE NAME	ADDRESS	DATABASE(S)	RELATIVE ELEVATION	DIRECTION / DISTANCE
A1	VAN DAELE DEVELOPMENT	14700 CHANDLER ST	HAZNET - CA	Lower	SW / 0.044 mi.
B2	CITY OF EASTVALE	14491 CHANDLER STREET	HAZNET - CA	Higher	ESE / 0.076 mi.
B3	PACIFIC TANK ENGINEERING INC	14491 CHANDLER ST	HAZNET - CA	Higher	ESE / 0.080 mi.
B4	PACIFIC TANK ENGINEERING INC	14491 CHANDLER ST	HAZNET - CA	Higher	ESE / 0.080 mi.
A5	CORONA CATTLE INC	14657 CHANDLER ST	CALEPA SITES - CA, CIWQS - CA, ECHO, FRS, I...	Lower	WSW / 0.080 mi.
B6	TONY BRAZIL	14449 CHANDLER	HAZNET - CA	Higher	ESE / 0.129 mi.
C7	COUNTY OF ORANGE FLOOD CONTRO...	7723 HALL AVE	HAZNET - CA	Lower	WNW / 0.134 mi.
C8	ORANGE COUNTY FLOOD CONTROL D...	7733 HALL AVE	HAZNET - CA	Lower	WNW / 0.139 mi.
B9	BRAZIL MARKET	14449 CHANDLER ST	CALEPA SITES - CA, FRS, LUST REG 8 - CA, LU...	Higher	ESE / 0.139 mi.
D10	DUMP-HALL AVE	7675 HALL AVE	CERCLIS NFRAP, SEMS_8R_ARCHIVED SITES	Lower	NW / 0.191 mi.
D11	DUMP - HALL AVENUE	7675 HALL AVENUE	ENVIROSTOR - CA, HIST CORTESE - CA	Lower	NW / 0.191 mi.
12	CNA PRESERVATION INC	7960 WITHERS WAY	HAZNET - CA	Lower	SSW / 0.220 mi.
E13	GOLDEN COACH MOVING	14325 CHANDLER ST	CALEPA SITES - CA, FRS, LUST REG 8 - CA, LU...	Higher	E / 0.265 mi.
E14	GOLDEN COACH MOVING	14325 CHANDLER ST	CORRECTIVE ACTION_Riverside County - CA, ...	Higher	E / 0.265 mi.
15	FLAMINGO DAIRY	14970 CHANDLER RD	CALEPA SITES - CA, FRS, LUST REG 8 - CA, LU...	Lower	W / 0.366 mi.
16	RONDO ELEMENTARY SCHOOL	SOUTHEAST CORNER OF HELLM...	ENVIROSTOR - CA, NFA - CA, SCH - CA	Lower	WNW / 0.460 mi.
17	PRIVATE RESIDENCE	PRIVATE RESIDENCE	CALEPA SITES - CA, LUST REG 8 - CA, LUST_RI...	Higher	E / 0.461 mi.
18	JOHN & BOB'S SERVICE	7500 1/2 ARCHIBALD AVE	CORRECTIVE ACTION_Riverside County - CA, ...	Higher	ENE / 0.499 mi.
19	TRUCK PLAZA	7500 ARCHIBALD AVE	CORRECTIVE ACTION_Riverside County - CA	Higher	ENE / 0.541 mi.
F20	VIRAMONTES EXPRESS	17130 HELLMAN AVENUE	CIWQS - CA, CIWQS 2 - CA, DOCKET, ECHO, FR...	Lower	SW / 0.644 mi.
F21	RED STAR FERTILIZER COMPANY	17130 HELLMAN AVENUE	CIWQS - CA, DOCKET, ECHO, FRS, ICIS, PCS ENF	Lower	SW / 0.644 mi.
F22	VIRAMONTES EXPRESS INC	17130 HELLMAN AVE	CALEPA SITES - CA, CIWQS - CA, ICIS, NPDES -...	Lower	SW / 0.644 mi.
23	PROPOSED YORBA ELEMENTARY SCHOOL	NE CORNER OF FIELDMASTER...	ENVIROSTOR - CA, NFA - CA, SCH - CA	Higher	SSE / 0.648 mi.
24	MARTIN FEED LLC	8755 CHINO-CORONA ROAD	CIWQS - CA, ECHO, FRS, ICIS, PCS ENF	Lower	W / 0.655 mi.
25	RED STAR FERTILIZER CO	17132 HELLMAN AVE	CALEPA SITES - CA, CIWQS - CA, ECHO, FRS, I...	Lower	SW / 0.699 mi.
26	R T LEE CONSTRUCTION	7200 HELLMAN AVE	CORRECTIVE ACTION_Riverside County - CA	Higher	NW / 0.757 mi.
27	Marketplace at the Enclave PP 19946...	14170 Schliesman Road	CIWQS - CA, ECHO, FRS, ICIS, INACTIVE PCS, ...	Higher	NNE / 0.898 mi.
28	PIETERSMA DAIRY (FORMER)	14955 SCHLEISMAN ROAD	ENVIROSTOR - CA, FRS, VCP - CA	Higher	NNW / 0.939 mi.

SUBJECT PROPERTY SEARCH RESULTS:

The subject property was not listed in any of the databases searched by Envirosite Corporation.

SEARCH RESULTS:

FEDERAL CERCLIS LIST

CERCLIS NFRAP: The CERCLIS sites with No Further Remedial Action Planned from the CERCLIS program database. The Environmental Protection Agency decommissioned the CERCLIS data in 2014. The last update was November 12, 2013. **1 SITE FOUND WITHIN .5 MILE**

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
D10	*DUMP-HALL AVE*	*7675 HALL AVE*	*NW / 0.191 mi.*	*40*
	- ID: CAD980892426	Status: NFRAP-Site does not qualify for the NPL based on existing information	Date: 07/13/1990	

SEMS_8R_ARCHIVED SITES: The Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. **1 SITE FOUND WITHIN .5 MILE**

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
D10	*DUMP-HALL AVE*	*7675 HALL AVE*	*NW / 0.191 mi.*	*40*
	- ID: 0902212	Status: NFRAP-Site does not qualify for the NPL based on existing information	Date: N/A	

STATE- AND TRIBAL - EQUIVALENT CERCLIS

ENVIROSTOR - CA: Department of Toxic Substances Controls **4 SITES FOUND WITHIN 1 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
23	*PROPOSED YORBA ELEMENTARY SCHOOL*	*NE CORNER OF FIELDMASTER STREET AND CHERRY CREEK CIRCLE*	*SSE / 0.648 mi.*	*93*
	- ID: 60000901	Status: No Further Action	Date: Cleanup Date 06/01/2012	
28	*PIETERSMA DAIRY (FORMER)*	*14955 SCHLEISMAN ROAD*	*NNW / 0.939 mi.*	*113*
	- ID: 60000781	Status: Certified	Date: Cleanup Date 06/30/2010	

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
D11	*DUMP - HALL AVENUE*	*7675 HALL AVENUE*	*NW / 0.191 mi.*	*44*
	- ID: 33490050	Status: Refer: Other Agency	Date: Cleanup Date 06/10/1991	
16	*RONDO ELEMENTARY SCHOOL*	*SOUTHEAST CORNER OF HELLMAN AVENUE & WALTERS STREET*	*WNW / 0.460 mi.*	*66*
	- ID: 60002406	Status: No Further Action	Date: Cleanup Date 04/14/2017	

STATE AND TRIBAL LEAKING STORAGE TANK LISTS

LUST REG 8 - CA: Leaking underground storage tanks in Region 8: Orange Riverside San Bernardino counties. **4 SITES FOUND WITHIN .5 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
B9	*BRAZIL MARKET*	*14449 CHANDLER ST*	*ESE / 0.139 mi.*	*31*
	- ID: T0606500322	Status: Completed - Case Closed	Date: 05/22/2007	
E13	*GOLDEN COACH MOVING*	*14325 CHANDLER ST*	*E / 0.265 mi.*	*47*
	- ID: T0606500170	Status: Open - Verification Monitoring	Date: 09/19/2016	
17	*PRIVATE RESIDENCE*	*PRIVATE RESIDENCE*	*E / 0.461 mi.*	*70*
	- ID: T0606540855	Status: Completed - Case Closed	Date: 01/11/2007	

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
15	*FLAMINGO DAIRY*	*14970 CHANDLER RD*	*W / 0.366 mi.*	*62*
	- ID: T0606500481	Status: Completed - Case Closed	Date: 04/07/1999	

LUST_RIVERSIDE COUNTY - CA: Riverside county leaking underground storage tank sites **6 SITES FOUND WITHIN .5 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
B9	*BRAZIL MARKET*	*14449 CHANDLER ST*	*ESE / 0.139 mi.*	*31*
	- ID: T0606500322	Status: COMPLETED - CASE CLOSED	Date: 05/22/2007	
E13	*GOLDEN COACH MOVING*	*14325 CHANDLER ST*	*E / 0.265 mi.*	*47*
	- ID: T0606500170	Status: OPEN - VERIFICATION MONITORING	Date: 09/19/2016	
E14	*GOLDEN COACH MOVING*	*14325 CHANDLER ST*	*E / 0.265 mi.*	*60*
	- ID: N/R	Status: 0	Date: N/R	
17	*PRIVATE RESIDENCE*	*PRIVATE RESIDENCE*	*E / 0.461 mi.*	*70*
	- ID: T0606540855	Status: COMPLETED - CASE CLOSED	Date: 01/11/2007	
18	*JOHN & BOB'S SERVICE*	*7500 1/2 ARCHIBALD AVE*	*ENE / 0.499 mi.*	*76*
	- ID: N/R	Status: 9	Date: N/R	

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
15	*FLAMINGO DAIRY*	*14970 CHANDLER RD*	*W / 0.366 mi.*	*62*
	- ID: T0606500481	Status: COMPLETED - CASE CLOSED	Date: 04/07/1999	

LOCAL LISTS OF HAZARDOUS WASTE / CONTAMINATED SITES

CORRECTIVE ACTION_RIVERSIDE COUNTY - CA: Riverside county corrective action sites list **4 SITES FOUND WITHIN 1 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
E14	*GOLDEN COACH MOVING*	*14325 CHANDLER ST*	*E / 0.265 mi.*	*60*
	- ID: T0606500170	Status: Case Closed R	Date: Date Closed 12/16/2003	
18	*JOHN & BOB'S SERVICE*	*7500 1/2 ARCHIBALD AVE*	*ENE / 0.499 mi.*	*76*
	- ID: T0606500411	Status: Case Closed Y	Date: Date Closed 08/21/1995	
19	TRUCK PLAZA	7500 ARCHIBALD AVE	ENE / 0.541 mi.	*78*
	- ID: T0606500373	Status: Case Closed Y	Date: Date Closed 08/29/1994	
26	R T LEE CONSTRUCTION	7200 HELLMAN AVE	NW / 0.757 mi.	*107*
	- ID: T0606500240	Status: Case Closed Y	Date: Date Closed 08/26/1992	

OTHER ASCERTAINABLE RECORDS

INACTIVE PCS: Inactive Permitted facilities to discharge wastewater **1 SITE FOUND WITHIN 1 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
27	*Marketplace at the Enclave PP 19946 PM 36283*	*14170 Schliesman Road*	*NNE / 0.898 mi.*	*108*

PCS ENF: Permitted facilities to discharge wastewater (Federal equivalent to NPDES) **3 SITES FOUND WITHIN 1 MILE**

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
F20	*VIRAMONTES EXPRESS*	*17130 HELLMAN AVENUE*	*SW / 0.644 mi.*	*78*
F21	*RED STAR FERTILIZER COMPANY*	*17130 HELLMAN AVENUE*	*SW / 0.644 mi.*	*85*
24	*MARTIN FEED LLC*	*8755 CHINO-CORONA ROAD*	*W / 0.655 mi.*	*99*

PCS FACILITY: Permitted facilities to discharge wastewater (Federal equivalent to NPDES) **3 SITES FOUND WITHIN 1 MILE**

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
A5	*CORONA CATTLE INC*	*14657 CHANDLER ST*	*WSW / 0.080 mi.*	*23*
F22	*VIRAMONTES EXPRESS INC*	*17130 HELLMAN AVE*	*SW / 0.644 mi.*	*89*
25	*RED STAR FERTILIZER CO*	*17132 HELLMAN AVE*	*SW / 0.699 mi.*	*103*

CALEPA SITES - CA: CalEPA Regulated Sites from the Certified Unified Program Agencies (CUPA). **2 SITES FOUND WITHIN .25 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
B9	*BRAZIL MARKET*	*14449 CHANDLER ST*	*ESE / 0.139 mi.*	*31*

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
A5	*CORONA CATTLE INC*	*14657 CHANDLER ST*	*WSW / 0.080 mi.*	*23*

OTHER ASCERTAINABLE RECORDS *(cont.)*

HAZNET - CA: Listing of hazardous waste manifests from when hazardous waste is transported from generators to permitted recycling treatment storage or disposal facilities by registered hazardous waste transporters **8 SITES FOUND WITHIN .25 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
B2	CITY OF EASTVALE	14491 CHANDLER STREET	ESE / 0.076 mi.	*21*
B3	PACIFIC TANK ENGINEERING INC	14491 CHANDLER ST	ESE / 0.080 mi.	*22*
B4	PACIFIC TANK ENGINEERING INC	14491 CHANDLER ST	ESE / 0.080 mi.	*23*
B6	TONY BRAZIL	14449 CHANDLER	ESE / 0.129 mi.	*29*

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
A1	VAN DAELE DEVELOPMENT	14700 CHANDLER ST	SW / 0.044 mi.	*21*
C7	COUNTY OF ORANGE FLOOD CONTROL DISTRICT	7723 HALL AVE	WNW / 0.134 mi.	*29*
C8	ORANGE COUNTY FLOOD CONTROL DISTRICT	7733 HALL AVE	WNW / 0.139 mi.	*30*
12	CNA PRESERVATION INC	7960 WITHERS WAY	SSW / 0.220 mi.	*46*

HIST CORTESE - CA: The historical compliance document used in providing information about the location of hazardous material release sites utilized by the state local agencies and developers **1 SITE FOUND WITHIN .5 MILE**

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
D11	*DUMP - HALL AVENUE*	*7675 HALL AVENUE*	*NW / 0.191 mi.*	*44*
	- ID: 33490050	Status: REFER: OTHER AGENCY	Date: 06/10/1991	

NFA - CA: No further action cleanup sites listing **1 SITE FOUND WITHIN .5 MILE**

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
16	*RONDO ELEMENTARY SCHOOL*	*SOUTHEAST CORNER OF HELLMAN AVENUE & WALTERS STREET*	*WNW / 0.460 mi.*	*66*

Following sites were unable to be mapped.

SITE NAME:	ADDRESS, CITY, ZIP:	DATABASE(S):
Not Reported	ALMOND GROVE & WALNUT GROVE NEAR...	HIST CHMIRS - CA
AEROJET GENERAL CORPORATION	SOQUEL CANYON ROAD, CHINO 91710	ENVIROSTOR - CA, HIST CORTESE - CA
BRINE FAC,MARCH AFB	N/R	CIWQS - CA, CIWQS 2 - CA, HIST LDS - CA, LDS - CA
BRINE FAC,NORCO	N/R	CIWQS - CA, CIWQS 2 - CA, HIST LDS - CA, LDS - CA
CAC390355	14389 SULTANA, ONTARIO 91710	PCS FACILITY
CAZ438265	-	PCS FACILITY
CAZ439006	N/R	PCS FACILITY
CAZ439051	N/R	PCS FACILITY
CAZ439234	N/R	PCS FACILITY
CAZ446343	SOUTH OF BICKMORE AVENUE ..., CHINO ...	PCS FACILITY
CAZ479544	5040 GOODMAN ROAD, EASTVALE 92880	PCS FACILITY
CHEVRON 210408	12464 LIMONITE AVE, CORONA 92880	ARCHIVED RCRA TSDF, HAZNET - CA
CHINO PRISONER OF WAR CAMP - ARMY	N/R, CHINO	FUDS
Flamingo Dairy McCune	Southeast corner of Hell..., CORONA 92880	CIWQS - CA, NPDES - CA

Following sites were unable to be mapped. ***(cont.)***

SITE NAME:	ADDRESS, CITY, ZIP:	DATABASE(S):
HENRY & RICHARD WESTRA	7851 BRICKMORE AVE, CHINO 91710	DOCKET, ECHO, FRS, ICIS, PCS ENF
KINDER MORGAN ENERGY PARTNERS PIPELINE	S/E OF GUASTI ROAD AND ..., ONTARIO 91710	ENVIROSTOR - CA
LAND APPLICATION OF BIOSOLIDS	RIVERSIDE COUNTY	HIST LDS - CA
LANDFILL,HOME GARDENS	N/R	HIST LDS - CA, LDS - CA
MORGAN HILL	SEC BUTTERFIELD STAGE ..., TEMECULA 91710	ECHO, FRS, ICIS, INACTIVE PCS, PCS FACILITY
PACIFIC AIRMOTIVE	ONTARIO AIRPORT, CHINO 91710	ENVIROSTOR - CA, HIST CORTESE - CA
PHASE II SMALL MS4	N/R	INACTIVE PCS
TRACT 29677	SW QUAD OF THE INT OF CH..., CORONA ...	CIWQS - CA
TRACT 29677	SW QUAD OF INTERSECTF CH..., CORONA...	CIWQS - CA
TRACT 29677 & LOTS 1 TO 6 & 83	SW OF CHANDLER ST & ARCH..., CORONA...	CIWQS - CA, ECHO, FRS, ICIS
TRACT 29677 & LOTS 1 TO 6 & 83 TO 161	SW OF CHANDLER ST & ARCH..., CORONA...	CIWQS - CA
TRACT 29677 LOTS 7 TO 82 135 TO 139 &...	SW QUAD OF INTERSECTION ..., CORONA ...	CIWQS - CA
TRACT 30576	SOUTH OF CHANDLER ST AT S..., NORCO ...	CIWQS - CA
TRACT 31405 APN 130 020 003	S SIDE CHANDLER ST BTWN ..., CORONA ...	CIWQS - CA

DATABASE(S) WITH NO MAPPED SITES:

FEDERAL RCRA NON-CORRACTS TSD FACILITIES LIST

ARCHIVED RCRA TSDF	Archived Resource Conservation and Recovery Act: Treatment Storage and Disposal Facilities
RCRA_TSDF	Resource Conservation and Recovery Act: Treatment Storage and Disposal Facilities

FEDERAL CERCLIS LIST

CERCLIS-HIST	Comprehensive Environmental Response Compensation and Liability Act
FEDERAL FACILITY	Federal Facility sites
SEMS_8R_ACTIVE SITES	Sites on SEMS Active Site Inventory

FEDERAL RCRA CORRACTS FACILITIES LIST

CORRACTS	Hazardous Waste Corrective Action
HIST CORRACTS 2	Historical Hazardous Waste Corrective Action

FEDERAL DELISTED NPL SITE LIST

DELISTED NPL	Delisted National Priority List
DELISTED PROPOSED NPL	Delisted proposed National Priority List
SEMS_DELETED NPL	Sites Deleted from National Priorities List

FEDERAL LANDFILL AND/OR SOLID WASTE DISPOSAL SITE LISTS

EPA LF MOP	EPA Landfill Methane Outreach Project Database

FEDERAL ERNS LIST

ERNS	Emergency Response Notification System

FEDERAL RCRA GENERATORS LIST

HIST RCRA_CESQG	Historical Resource Conservation and Recovery Act_Conditionally Exempt Small Quantity Generators
HIST RCRA_LQG	Historical Resource Conservation and Recovery Act_ Large Quantity Generators
HIST RCRA_NONGEN	Historical Resource Conservation and Recovery Act_Non Generators
HIST RCRA_SQG	Historical Resource Conservation and Recovery Act_Small Quantity Generators
RCRA_LQG	Resource Conservation and Recovery Act_ Large Quantity Generators
RCRA_NONGEN	Resource Conservation and Recovery Act_Non Generators
RCRA_SQG	Resource Conservation and Recovery Act_Small Quantity Generators
RCRA_VSQG	Resource Conservation and Recovery Act_Very Small Quantity Generator

FEDERAL NPL SITE LIST

NPL	National Priority List
NPL EPA R1 GIS	GIS for EPA Region 1 NPL
NPL EPA R3 GIS	GIS for EPA Region 3 NPL
NPL EPA R6 GIS	GIS for EPA Region 6 NPL
NPL EPA R8 GIS	GIS for EPA Region 8 NPL
NPL EPA R9 GIS	GIS for EPA Region 9 NPL
PART NPL	Part National Priority List
PROPOSED NPL	Proposed National Priority List
SEMS_FINAL NPL	Sites included on the Final National Priorities List
SEMS_PROPOSED NPL	Sites Proposed to be Added to the National Priorities List

FEDERAL INSTITUTIONAL CONTROLS / ENGINEERING CONTROLS REGISTRIES

RCRA IC_EC	RCRA sites with Institutional and Engineering Controls
FED E C	Engineering Controls
FED I C	Institutional Controls

STATE AND TRIBAL REGISTERED STORAGE TANK LISTS

FEMA UST	FEMA Underground Storage Tanks
AST - CA	Aboveground storage tanks
FID UST - CA	Facility Inventory Database
HIST AST - CA	Historical Aboveground Storage Tanks
HIST UST - CA	Historical Underground Storage Tanks
UST - CA	Underground Storage Tanks
UST_RIVERSIDE COUNTY - CA	Riverside County Underground Storage Tanks

STATE AND TRIBAL BROWNFIELD SITES

TRIBAL BROWNFIELDS	Tribal Brownfields

STATE- AND TRIBAL - EQUIVALENT CERCLIS

HIST TOXIC PITS - CA	Historical Toxic Pits Cleanup Act
OIL & GAS CLEANUP - CA	SWRCB Oil & Gas Cleanup Sites
SWRCB CLEANUP - CA	SWRCB Cleanup Program
SWRCB NON_CASE - CA	SWRCB Non-Case Sites
TOXIC PITS - CA	Toxic Pits Cleanup Act

STATE- AND TRIBAL - EQUIVALENT NPL

HIST RESPONSE - CA	Historical State Response Sites
RESPONSE - CA	State Response Sites

STATE AND TRIBAL LANDFILL AND/OR SOLID WASTE DISPOSAL SITE LISTS

HIST SWF/LF - CA	Historical Solid Waste Information System
SWF/LF - CA	Solid Waste Information System

STATE AND TRIBAL LEAKING STORAGE TANK LISTS

LUST REG 1 - CA	Region 1 Leaking Underground Storage Tanks
LUST REG 2 - CA	Region 2 Leaking Underground Storage Tanks
LUST REG 3 - CA	Region 3 Leaking Underground Storage Tanks
LUST REG 4 - CA	Region 4 Leaking Underground Storage Tanks
LUST REG 5 - CA	Region 5 Leaking Underground Storage Tanks
LUST REG 6 - CA	Region 6 Leaking Underground Storage Tanks
LUST REG 7 - CA	Region 7 Leaking Underground Storage Tanks
LUST REG 9 - CA	Region 9 Leaking Underground Storage Tanks
SLIC REG 1 - CA	Spills Leaks Investigation & Cleanup Program
SLIC REG 2 - CA	Spills Leaks Investigation & Cleanup Program
SLIC REG 3 - CA	Spills Leaks Investigation & Cleanup Program
SLIC REG 4 - CA	Spills Leaks Investigation & Cleanup Program
SLIC REG 5 - CA	Spills Leaks Investigation & Cleanup Program
SLIC REG 6 - CA	Spills Leaks Investigation & Cleanup Program
SLIC REG 7 - CA	Spills Leaks Investigation & Cleanup Program
SLIC REG 8 - CA	Spills Leaks Investigation & Cleanup Program

STATE AND TRIBAL LEAKING STORAGE TANK LISTS *(cont.)*

SLIC REG 9 - CA	Spills Leaks Investigation & Cleanup Program

STATE AND TRIBAL VOLUNTARY CLEANUP SITES

VCP - CA	Voluntary Cleanup Program sites

STATE RCRA GENERATORS LIST

HWG_YOLO COUNTY - CA	State Hazardous Waste Generators

LOCAL BROWNFIELD LISTS

BROWNFIELDS-ACRES	EPA ACRES Brownfields
FED BROWNFIELDS	Federal Brownfields

LOCAL LISTS OF HAZARDOUS WASTE / CONTAMINATED SITES

FED CDL	DOJ Clandestine Drug Labs
US HIST CDL	Historical Clandestine Drug Labs
CDL - CA	Meth and Clandestine Drug Labs
SCH - CA	School Property Evaluation Program

RECORDS OF EMERGENCY RELEASE REPORTS

HMIRS (DOT)	Hazardous Materials Information Reporting Systems
CHMIRS - CA	California Hazardous Material Incident Report System
HIST CHMIRS - CA	California Hazardous Material Incident Report System

LOCAL LAND RECORDS

LIENS 2	CERCLA Lien Information
DEED - CA	Deeds
HIST LIENS - CA	Historical Liens
LIENS - CA	Liens

LOCAL LISTS OF LANDFILL / SOLID WASTE DISPOSAL SITES

ODI	Open Dump Inventory
TRIBAL ODI	Indian Open Dump Inventory Sites
HAULERS - CA	Tire Haulers
SWRCY - CA	Recyclers

OTHER ASCERTAINABLE RECORDS

AFS	Air Facility Systems
ALT FUELING	Alternative Fueling Stations
BRS	Biennial Reporting Systems
CDC HAZDAT	Hazardous Substance Release and Health Effects Information
COAL ASH DOE	Coal Ash: Department of Energy
COAL ASH EPA	Coal Ash: Environmental Protection Agency
COAL GAS	Coal Gas Plants
CONSENT (DECREES)	Superfund Consent Decree
DEBRIS R5 LF	Disaster Debris Landfill Data
DEBRIS R5 SWRCY	Disaster Debris Recovery Data
DOD	Department of Defense
DOT OPS	Department of Transportation Office of Pipeline Safety
ECHO	EPA Enforcement and Compliance History Online
ENOI	Electronic Notice of Intent
EPA FUELS	EPA Fuels Registration, Reporting, and Compliance List
EPA OSC	EPA On-Site Coordinator
EPA WATCH	EPA Watch List
FA HWF	Financial Assurance for Hazardous Waste Facilities
FEDLAND	Federal Lands
FRS	Facility Index Systems
FTTS	FIFRA/TSCA Tracking System
FTTS INSP	FIFRA/TSCA Tracking System: Inspections
FUDS	Formerly Used Defense Sites
HIST AFS	Historical Air Facility Systems

OTHER ASCERTAINABLE RECORDS *(cont.)*

HIST AFS 2	Historical Air Facility Systems
HIST DOD	Department of Defense historical sites
HIST LEAD_SMELTER	Historical Lead Smelter Sites
HIST MLTS	Historical Material Licensing Tracking Systems
HIST PCB TRANS	Historical Polychlorinated Biphenyl (PCB) Facilities
HIST PCS ENF	Historical Enforced Permit Compliance Facilities
HIST PCS FACILITY	Historical Permit Compliance Facilities
HIST SSTS	Historical Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
LUCIS	Land Use Control Information Systems
LUCIS 2	Land Use Control Information Systems 2
MINES	Mines
MINES USGS	Mines list from USGS
MLTS	Material Licensing Tracking Systems
NPL AOC	Areas related to NPL remediation sites
NPL LIENS	National Priority List Liens
OSHA	Occupational Safety & Health Administration
PADS	PCB Activity Database Systems
PCB TRANSFORMER	Polychlorinated Biphenyl (PCB) Waste
PRP	Potentially Responsible Parties
RAATS	RCRA Administrative Action Tracking Systems
RADINFO	Radiation Information Systems
RMP	Risk Management Plans
ROD	Record of Decision
SCRD DRYCLEANERS	SCRD Drycleaners
SEMS_SMELTER	Sites on SEMS Potential Smelter Activity
SSTS	Section 7 Tracking Systems
STORMWATER	Storm Water Permits
TOSCA-PLANT	Toxic Substance Control Act: Plants
TRIS	Toxic Release Inventory Systems
UMTRA	Uranium Mill Tailing Sites
VAPOR	EPA Vapor Intrusion
CORRECTIVE ACTIONS_2020	Wastes - Hazardous Waste - Corrective Action
BOND EXPENDITURE PLAN - CA	Bond Expenditure Plan
CIWQS - CA	California Integrated Water Quality System
CIWQS 2 - CA	California Integrated Water Quality System
CORTESE - CA	The Hazardous Waste and Substances Sites List
DAYCARE - CA	Daycares
DRYCLEANERS - CA	Drycleaners
EMI - CA	Emissions Inventory Data
FA - CA	Financial Assurance
FA 2 - CA	Financial Assurance for Solid Waste Facilities
HIGH FIRE - CA	Fire Hazard Severity Zones
HIST HAZNET - CA	Historical Hazardous Waste Manifests
HIST HWP - CA	Historical EnviroStor Permitted Facilities
HIST LDS - CA	Historical Land Disposal Sites
HIST MCS - CA	Historical Military Cleanup Sites
HIST NFA - CA	Historical No Further Action Sites
HIST NFE - CA	Historical Unconfirmed contaminated properties
HWM COMMERCIAL FACILITIES - CA	Hazardous Waste Management Commercial Facilities
HWP - CA	EnviroStor Permitted Facilities
HWT - CA	Hazardous Waste Transporters
LDS - CA	Land Disposal Sites
MCS - CA	Military Cleanup Sites
MWMP - CA	Medical Waste Management Program
MWMP 2 - CA	Medical Waste Management Program
NFE - CA	Unconfirmed contaminated properties
NPDES - CA	State Wastewater and NPDES Permits

OTHER ASCERTAINABLE RECORDS *(cont.)*

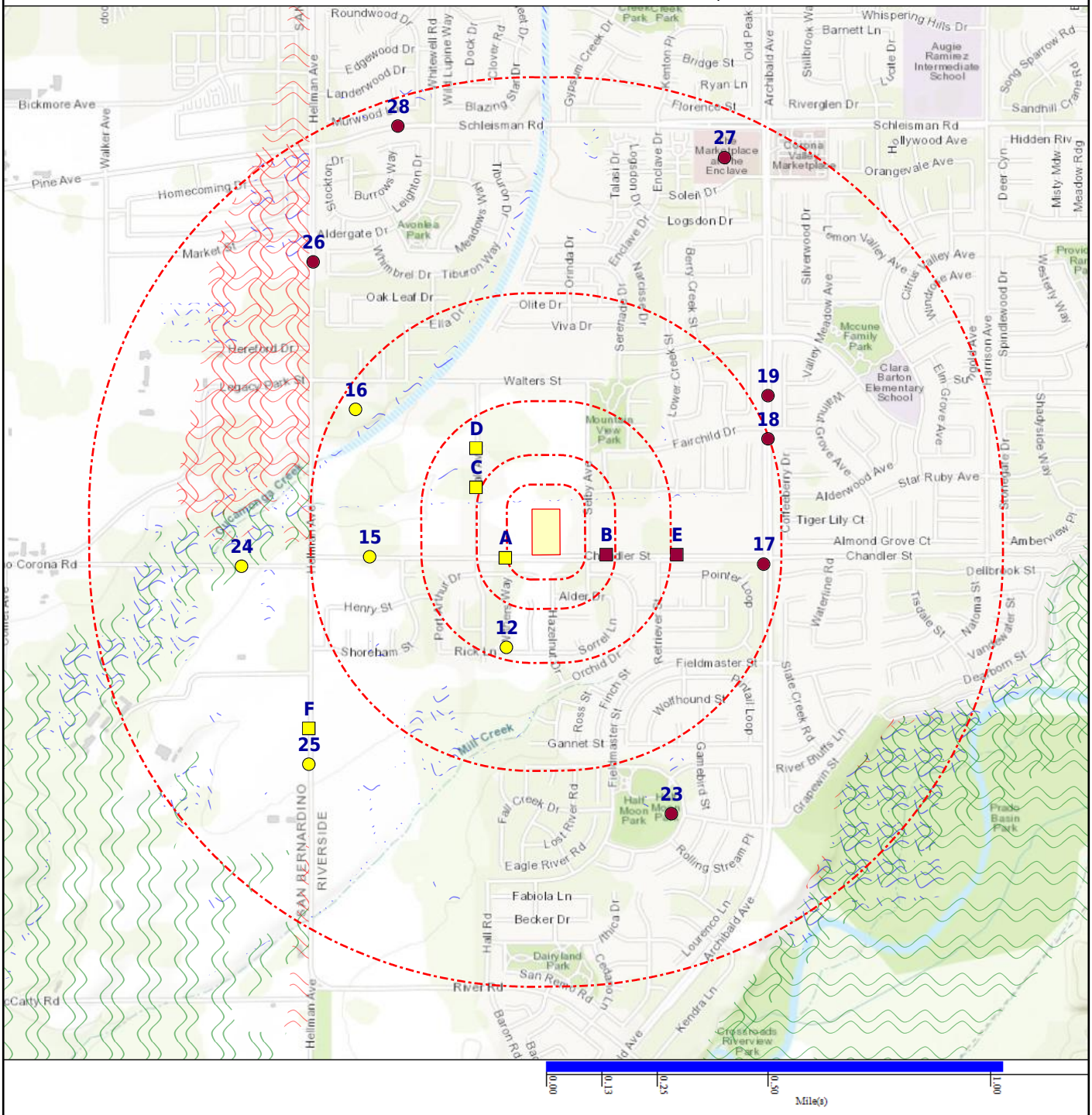
PERCHLORATE 2 - CA	Perchlorate contaminted sites
PROPOSITION 65 - CA	Proposition 65 Records
RFR - CA	Regulated Facility Report
SWAT - CA	SWAT Reports Summary Data
WDS - CA	Waste Discharge System
WILDLANDS - CA	Preserves List
WIP - CA	Well Investigation Program
DRYCLEANERS_MOJAVE DESERT - CA	Mojave Desert Drycleaners
DRYCLEANERS_SOUTH COAST - CA	South Coast Drycleaners
SMU_SANTA BARBARA COUNTY - CA	Site Mitigation Unit Sites

OTHER

SEISMIC - CA	Seismic Hazards Zonation Program

SUBJECT NAME: Residential Property
ADDRESS: 14555, 14577 and 14587 Chandler Street, Eas...
LAT/LONG: 33.947081 / -117.601738

PREPARED FOR: The Phase One Group
ORDER #: 33835
REPORT DATE: September 12, 2019



- Subject Property
- Department of Defense (No Data)
- FEMA FloodZone 100
- National Priority List (No Data)
- Equal/Higher Elevation
- DFIRM Floodzone 100
- FEMA FloodZone 500
- NWI
- Lower Elevation
- DFIRM Floodzone 500
- Fire Hazard Zone (No Data)
- Seismic (No Data)
- CDC HAZDAT (No Data)
- Federal Lands (No Data)
- Historical DOD (No Data)

SUBJECT NAME: Residential Property
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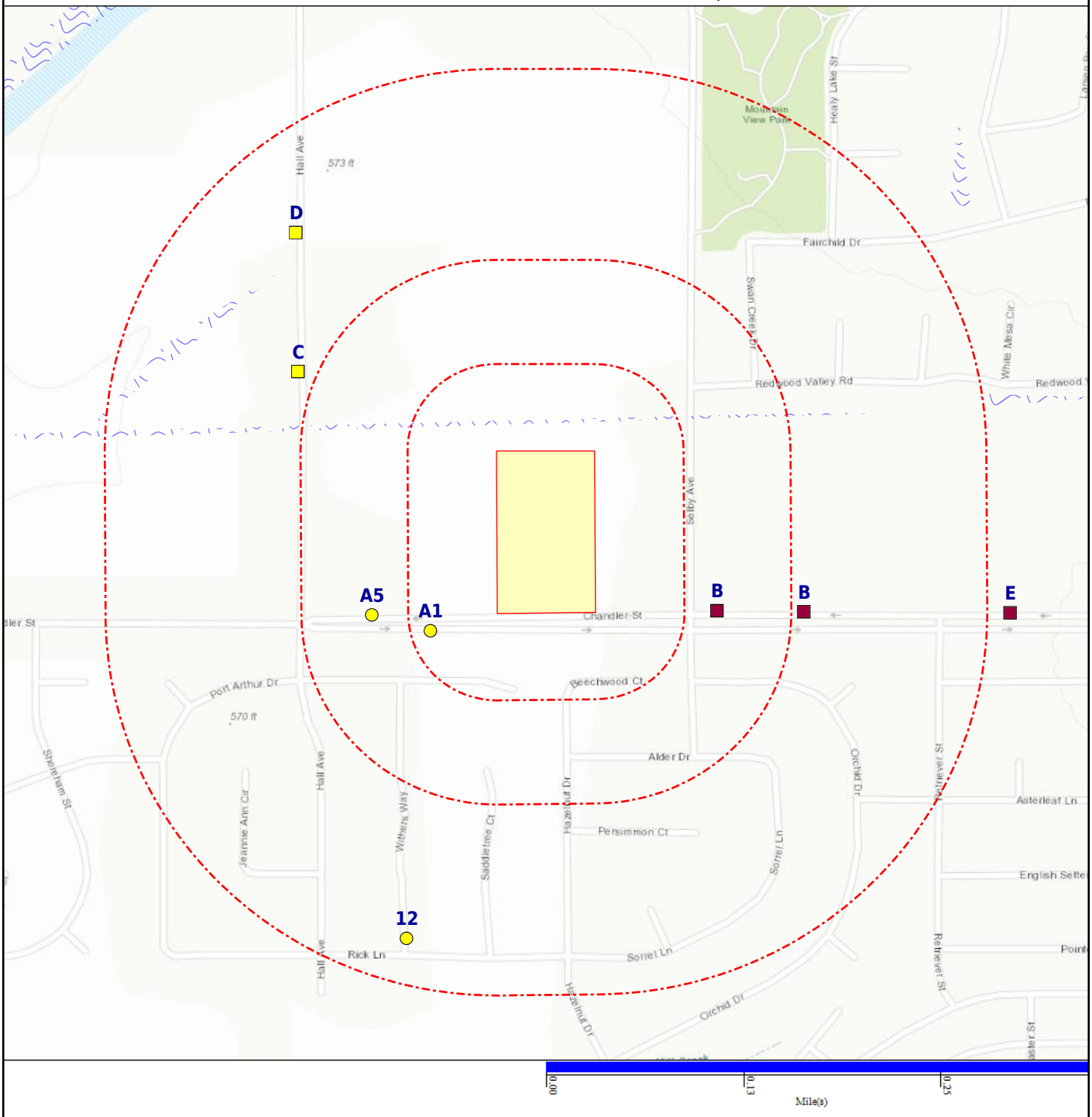

- Subject Property
- Department of Defense (No Data)
- FEMA FloodZone 100
- National Priority List (No Data)
- Equal/Higher Elevation
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- Lower Elevation
- DFIRM Floodzone 500
- Fire Hazard Zone (No Data)
- Seismic (No Data)
- CDC HAZDAT (No Data)
- Federal Lands (No Data)
- Historical DOD (No Data)

DATABASE	SUBJECT PROPERTY	SEARCH DISTANCE (MILES)	<1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1	TOTAL MAPPED
FEDERAL RCRA NON-CORRACTS TSD FACILITIES LIST								
ARCHIVED RCRA TSDF		0.500	0	0	0	--	--	0
RCRA_TSDF		0.500	0	0	0	--	--	0
FEDERAL CERCLIS LIST								
CERCLIS NFRAP		0.500	0	1	0	--	--	1
CERCLIS-HIST		0.500	0	0	0	--	--	0
FEDERAL FACILITY		1.000	0	0	0	0	--	0
SEMS_8R_ACTIVE SITES		0.500	0	0	0	--	--	0
SEMS_8R_ARCHIVED SITES		0.500	0	1	0	--	--	1
FEDERAL RCRA CORRACTS FACILITIES LIST								
CORRACTS		1.000	0	0	0	0	--	0
HIST CORRACTS 2		1.000	0	0	0	0	--	0
FEDERAL DELISTED NPL SITE LIST								
DELISTED NPL		1.000	0	0	0	0	--	0
DELISTED PROPOSED NPL		1.000	0	0	0	0	--	0
SEMS_DELETED NPL		1.000	0	0	0	0	--	0
FEDERAL LANDFILL AND/OR SOLID WASTE DISPOSAL SITE LISTS								
EPA LF MOP		0.500	0	0	0	--	--	0
FEDERAL ERNS LIST								
ERNS		SP	0	--	--	--	--	0
FEDERAL RCRA GENERATORS LIST								
HIST RCRA_CESQG		0.250	0	0	--	--	--	0
HIST RCRA_LQG		0.250	0	0	--	--	--	0
HIST RCRA_NONGEN		0.250	0	0	--	--	--	0
HIST RCRA_SQG		0.250	0	0	--	--	--	0
RCRA_LQG		0.250	0	0	--	--	--	0
RCRA_NONGEN		0.250	0	0	--	--	--	0
RCRA_SQG		0.250	0	0	--	--	--	0
RCRA_VSQG		0.250	0	0	--	--	--	0
FEDERAL NPL SITE LIST								
NPL		1.000	0	0	0	0	--	0
NPL EPA R1 GIS		1.000	0	0	0	0	--	0
NPL EPA R3 GIS		1.000	0	0	0	0	--	0
NPL EPA R6 GIS		1.000	0	0	0	0	--	0

DATABASE	SUBJECT PROPERTY	SEARCH DISTANCE (MILES)	<1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1	TOTAL MAPPED
FEDERAL NPL SITE LIST *(cont.)*								
NPL EPA R8 GIS		1.000	0	0	0	0	--	0
NPL EPA R9 GIS		1.000	0	0	0	0	--	0
PART NPL		1.000	0	0	0	0	--	0
PROPOSED NPL		1.000	0	0	0	0	--	0
SEMS_FINAL NPL		1.000	0	0	0	0	--	0
SEMS_PROPOSED NPL		1.000	0	0	0	0	--	0
FEDERAL INSTITUTIONAL CONTROLS / ENGINEERING CONTROLS REGISTRIES								
RCRA IC_EC		0.250	0	0	--	--	--	0
FED E C		0.500	0	0	0	--	--	0
FED I C		0.500	0	0	0	--	--	0
STATE AND TRIBAL REGISTERED STORAGE TANK LISTS								
FEMA UST		0.250	0	0	--	--	--	0
AST - CA		0.250	0	0	--	--	--	0
FID UST - CA		0.250	0	0	--	--	--	0
HIST AST - CA		0.250	0	0	--	--	--	0
HIST UST - CA		0.250	0	0	--	--	--	0
UST - CA		0.250	0	0	--	--	--	0
UST_RIVERSIDE COUNTY - CA		0.250	0	0	--	--	--	0
STATE AND TRIBAL BROWNFIELD SITES								
TRIBAL BROWNFIELDS		0.500	0	0	0	--	--	0
STATE- AND TRIBAL - EQUIVALENT CERCLIS								
ENVIROSTOR - CA		1.000	0	1	1	2	--	4
HIST TOXIC PITS - CA		1.000	0	0	0	0	--	0
OIL & GAS CLEANUP - CA		0.500	0	0	0	--	--	0
SWRCB CLEANUP - CA		0.500	0	0	0	--	--	0
SWRCB NON_CASE - CA		0.500	0	0	0	--	--	0
TOXIC PITS - CA		1.000	0	0	0	0	--	0
STATE- AND TRIBAL - EQUIVALENT NPL								
HIST RESPONSE - CA		1.000	0	0	0	0	--	0
RESPONSE - CA		1.000	0	0	0	0	--	0
STATE AND TRIBAL LANDFILL AND/OR SOLID WASTE DISPOSAL SITE LISTS								
HIST SWF/LF - CA		0.500	0	0	0	--	--	0
SWF/LF - CA		0.500	0	0	0	--	--	0

DATABASE	SUBJECT PROPERTY	SEARCH DISTANCE (MILES)	<1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1	TOTAL MAPPED
STATE AND TRIBAL LEAKING STORAGE TANK LISTS								
LUST REG 1 - CA		0.500	0	0	0	--	--	0
LUST REG 2 - CA		0.500	0	0	0	--	--	0
LUST REG 3 - CA		0.500	0	0	0	--	--	0
LUST REG 4 - CA		0.500	0	0	0	--	--	0
LUST REG 5 - CA		0.500	0	0	0	--	--	0
LUST REG 6 - CA		0.500	0	0	0	--	--	0
LUST REG 7 - CA		0.500	0	0	0	--	--	0
LUST REG 8 - CA		0.500	0	1	3	--	--	4
LUST REG 9 - CA		0.500	0	0	0	--	--	0
SLIC REG 1 - CA		0.500	0	0	0	--	--	0
SLIC REG 2 - CA		0.500	0	0	0	--	--	0
SLIC REG 3 - CA		0.500	0	0	0	--	--	0
SLIC REG 4 - CA		0.500	0	0	0	--	--	0
SLIC REG 5 - CA		0.500	0	0	0	--	--	0
SLIC REG 6 - CA		0.500	0	0	0	--	--	0
SLIC REG 7 - CA		0.500	0	0	0	--	--	0
SLIC REG 8 - CA		0.500	0	0	0	--	--	0
SLIC REG 9 - CA		0.500	0	0	0	--	--	0
LUST_RIVERSIDE COUNTY - CA		0.500	0	1	5	--	--	6
STATE AND TRIBAL VOLUNTARY CLEANUP SITES								
VCP - CA		0.500	0	0	0	--	--	0
STATE RCRA GENERATORS LIST								
HWG_YOLO COUNTY - CA		0.250	0	0	--	--	--	0
LOCAL BROWNFIELD LISTS								
BROWNFIELDS-ACRES		0.500	0	0	0	--	--	0
FED BROWNFIELDS		0.500	0	0	0	--	--	0
LOCAL LISTS OF HAZARDOUS WASTE / CONTAMINATED SITES								
FED CDL		SP	0	--	--	--	--	0
US HIST CDL		SP	0	--	--	--	--	0
CDL - CA		SP	0	--	--	--	--	0
SCH - CA		0.250	0	0	--	--	--	0
CORRECTIVE ACTION_RIVERSIDE COUNTY - CA		1.000	0	0	2	2	--	4

DATABASE	SUBJECT PROPERTY	SEARCH DISTANCE (MILES)	<1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1	TOTAL MAPPED
RECORDS OF EMERGENCY RELEASE REPORTS								
HMIRS (DOT)		SP	0	--	--	--	--	0
CHMIRS - CA		SP	0	--	--	--	--	0
HIST CHMIRS - CA		SP	0	--	--	--	--	0
LOCAL LAND RECORDS								
LIENS 2		SP	0	--	--	--	--	0
DEED - CA		0.500	0	0	0	--	--	0
HIST LIENS - CA		SP	0	--	--	--	--	0
LIENS - CA		SP	0	--	--	--	--	0
LOCAL LISTS OF LANDFILL / SOLID WASTE DISPOSAL SITES								
ODI		0.500	0	0	0	--	--	0
TRIBAL ODI		0.500	0	0	0	--	--	0
HAULERS - CA		0.500	0	0	0	--	--	0
SWRCY - CA		0.500	0	0	0	--	--	0
OTHER ASCERTAINABLE RECORDS								
AFS		SP	0	--	--	--	--	0
ALT FUELING		0.250	0	0	--	--	--	0
BRS		SP	0	--	--	--	--	0
CDC HAZDAT		1.000	0	0	0	0	--	0
COAL ASH DOE		0.500	0	0	0	--	--	0
COAL ASH EPA		0.500	0	0	0	--	--	0
COAL GAS		1.000	0	0	0	0	--	0
CONSENT (DECREES)		1.000	0	0	0	0	--	0
DEBRIS R5 LF		0.500	0	0	0	--	--	0
DEBRIS R5 SWRCY		0.500	0	0	0	--	--	0
DOD		1.000	0	0	0	0	--	0
DOT OPS		SP	0	--	--	--	--	0
ECHO		SP	0	--	--	--	--	0
ENOI		SP	0	--	--	--	--	0
EPA FUELS		SP	0	--	--	--	--	0
EPA OSC		SP	0	--	--	--	--	0
EPA WATCH		SP	0	--	--	--	--	0
FA HWF		SP	0	--	--	--	--	0
FEDLAND		1.000	0	0	0	0	--	0
FRS		SP	0	--	--	--	--	0
FTTS		SP	0	--	--	--	--	0

DATABASE	SUBJECT PROPERTY	SEARCH DISTANCE (MILES)	<1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1	TOTAL MAPPED
OTHER ASCERTAINABLE RECORDS *(cont.)*								
FTTS INSP		SP	0	--	--	--	--	0
FUDS		1.000	0	0	0	0	--	0
HIST AFS		SP	0	--	--	--	--	0
HIST AFS 2		SP	0	--	--	--	--	0
HIST DOD		1.000	0	0	0	0	--	0
HIST LEAD_SMELTER		SP	0	--	--	--	--	0
HIST MLTS		SP	0	--	--	--	--	0
HIST PCB TRANS		SP	0	--	--	--	--	0
HIST PCS ENF		1.000	0	0	0	0	--	0
HIST PCS FACILITY		1.000	0	0	0	0	--	0
HIST SSTS		SP	0	--	--	--	--	0
ICIS		SP	0	--	--	--	--	0
INACTIVE PCS		1.000	0	0	0	1	--	1
LUCIS		0.500	0	0	0	--	--	0
LUCIS 2		0.500	0	0	0	--	--	0
MINES		0.250	0	0	--	--	--	0
MINES USGS		0.250	0	0	--	--	--	0
MLTS		SP	0	--	--	--	--	0
NPL AOC		1.000	0	0	0	0	--	0
NPL LIENS		SP	0	--	--	--	--	0
OSHA		SP	0	--	--	--	--	0
PADS		SP	0	--	--	--	--	0
PCB TRANSFORMER		SP	0	--	--	--	--	0
PCS ENF		1.000	0	0	0	3	--	3
PCS FACILITY		1.000	1	0	0	2	--	3
PRP		SP	0	--	--	--	--	0
RAATS		SP	0	--	--	--	--	0
RADINFO		SP	0	--	--	--	--	0
RMP		0.500	0	0	0	--	--	0
ROD		1.000	0	0	0	0	--	0
SCRD DRYCLEANERS		0.250	0	0	--	--	--	0
SEMS_SMELTER		SP	0	--	--	--	--	0
SSTS		SP	0	--	--	--	--	0
STORMWATER		SP	0	--	--	--	--	0
TOSCA-PLANT		SP	0	--	--	--	--	0
TRIS		SP	0	--	--	--	--	0

DATABASE	SUBJECT PROPERTY	SEARCH DISTANCE (MILES)	<1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1	TOTAL MAPPED
OTHER ASCERTAINABLE RECORDS *(cont.)*								
UMTRA		0.500	0	0	0	--	--	0
VAPOR		0.500	0	0	0	--	--	0
CORRECTIVE ACTIONS_2020		0.500	0	0	0	--	--	0
BOND EXPENDITURE PLAN - CA		1.000	0	0	0	0	--	0
CALEPA SITES - CA		0.250	1	1	--	--	--	2
CIWQS - CA		SP	0	--	--	--	--	0
CIWQS 2 - CA		SP	0	--	--	--	--	0
CORTESE - CA		0.500	0	0	0	--	--	0
DAYCARE - CA		SP	0	--	--	--	--	0
DRYCLEANERS - CA		SP	0	--	--	--	--	0
EMI - CA		SP	0	--	--	--	--	0
FA - CA		SP	0	--	--	--	--	0
FA 2 - CA		SP	0	--	--	--	--	0
HAZNET - CA		0.250	4	4	--	--	--	8
HIGH FIRE - CA		1.000	0	0	0	0	--	0
HIST CORTESE - CA		0.500	0	1	0	--	--	1
HIST HAZNET - CA		0.250	0	0	--	--	--	0
HIST HWP - CA		1.000	0	0	0	0	--	0
HIST LDS - CA		0.500	0	0	0	--	--	0
HIST MCS - CA		1.000	0	0	0	0	--	0
HIST NFA - CA		0.500	0	0	0	--	--	0
HIST NFE - CA		0.500	0	0	0	--	--	0
HWM COMMERCIAL FACILITIES - CA		0.250	0	0	--	--	--	0
HWP - CA		1.000	0	0	0	0	--	0
HWT - CA		0.250	0	0	--	--	--	0
LDS - CA		0.500	0	0	0	--	--	0
MCS - CA		1.000	0	0	0	0	--	0
MWMP - CA		0.250	0	0	--	--	--	0
MWMP 2 - CA		0.250	0	0	--	--	--	0
NFA - CA		0.500	0	0	1	--	--	1
NFE - CA		0.500	0	0	0	--	--	0
NPDES - CA		SP	0	--	--	--	--	0
PERCHLORATE 2 - CA		0.500	0	0	0	--	--	0
PROPOSITION 65 - CA		1.000	0	0	0	0	--	0
RFR - CA		SP	0	--	--	--	--	0
SWAT - CA		SP	0	--	--	--	--	0

DATABASE	SUBJECT PROPERTY	SEARCH DISTANCE (MILES)	<1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1	TOTAL MAPPED
OTHER ASCERTAINABLE RECORDS *(cont.)*								
WDS - CA		SP	0	--	--	--	--	0
WILDLANDS - CA		1.000	0	0	0	0	--	0
WIP - CA		0.250	0	0	--	--	--	0
DRYCLEANERS_MOJAVE DESERT - CA		0.250	0	0	--	--	--	0
DRYCLEANERS_SOUTH COAST - CA		0.250	0	0	--	--	--	0
SMU_SANTA BARBARA COUNTY - CA		1.000	0	0	0	0	--	0
OTHER								
SEISMIC - CA		1.000	0	0	0	0	--	0

Map Id: A1
Direction: SW
Distance: 0.044 mi.
Actual: 229.963 ft.
Elevation: 0.108 mi. / 572.664 ft.
Relative: Lower

Site Name : VAN DAELE DEVELOPMENT
14700 CHANDLER ST
RIVERSIDE, CA 92880

Database(s) : [HAZNET - CA]

Envirosite ID: 30921670
EPA ID: CAC002581498

HAZNET - CA

Facility Name :	VAN DAELE DEVELOPMENT
Facility Address :	14700 CHANDLER ST, RIVERSIDE, CA 92880
County :	Riverside

Site Details

Year :	2004
Contact Name :	BOB MCGOVERN
Facility Mailing Address :	2900 ADAMS STE C-25, RIVERSIDE, CA 92504
Contact Phone :	9513542121

Waste Generator Summary 2004

Generator EPA ID :	CAC002581498
Generator County :	Riverside
TSDF EPA ID :	CAD009007626
TSDF Disposal County :	Los Angeles
State Waste :	Asbestos containing waste
Disposal Method :	Disposal, landfill
Tons :	2.5284

Map Id: B2
Direction: ESE
Distance: 0.076 mi.
Actual: 403.660 ft.
Elevation: 0.109 mi. / 576.253 ft.
Relative: Higher

Site Name : CITY OF EASTVALE
14491 CHANDLER STREET
EASTVALE, CA 91752

Database(s) : [HAZNET - CA]

Envirosite ID: 337655907
EPA ID: CAC002804742

HAZNET - CA

Facility Name :	CITY OF EASTVALE
Facility Address :	14491 CHANDLER STREET, EASTVALE, CA 91752
County :	RIVERSIDE

Site Details

Year :	2015
Contact Name :	CITY OF EASTVALE
Facility Mailing Address :	12363 LIMONITE AVE STE 910, EASTVALE, CA 917523686
Contact Phone :	9096187384

Waste Generator Summary 2015

Generator EPA ID :	CAC002804742
Generator County :	Riverside
TSDF EPA ID :	AZC950823111
TSDF Disposal County :	Unknown
State Waste :	Asbestos containing waste

Map Id: B2
Direction: ESE
Distance: 0.076 mi.
Actual: 403.660 ft.
Elevation: 0.109 mi. / 576.253 ft.
Relative: Higher

Site Name : CITY OF EASTVALE
14491 CHANDLER STREET
EASTVALE, CA 91752

Database(s) : [HAZNET - CA] ***(cont.)***

Envirosite ID: 337655907
EPA ID: CAC002804742

HAZNET - CA ***(cont.)***

Disposal Method : LANDFILL OR SURFACE IMPOUNDMENT THAT WILL BE CLOSED AS LANDFILL(TO INCLUDE ON-SITE TREATMENT AND/OR STABILIZATION)

Tons : 1.38

Map Id: B3
Direction: ESE
Distance: 0.080 mi.
Actual: 420.945 ft.
Elevation: 0.109 mi. / 576.296 ft.
Relative: Higher

Site Name : PACIFIC TANK ENGINEERING INC
14491 CHANDLER ST
CORONA, CA 92880

Database(s) : [HAZNET - CA]

Envirosite ID: 19092641
EPA ID: CAC002666244

HAZNET - CA

Facility Name : PACIFIC TANK ENGINEERING INC
Facility Address : 14491 CHANDLER ST, CORONA, CA 928809793
County : Riverside

Site Details
Year : 2011
Contact Name : DOUGLAS DIMITRUK
Facility Mailing Address : 23341 WAGON TRAIL RD, DIAMOND BAR, CA 917652057
Contact Phone : 9517577169

Waste Generator Summary 2011
Generator EPA ID : CAC002666244
Generator County : Riverside
TSDF EPA ID : CAD982444481
TSDF Disposal County : San Bernardino
State Waste : Unspecified oil-containing waste

Disposal Method : STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)

Tons : 0.834

Map Id: B4
Direction: ESE
Distance: 0.080 mi.
Actual: 420.945 ft.
Elevation: 0.109 mi. / 576.296 ft.
Relative: Higher

Site Name : PACIFIC TANK ENGINEERING INC
14491 CHANDLER ST
CORONA, CA 92880

Database(s) : [HAZNET - CA]

Envirosite ID: 31088174
EPA ID: CAC002610426

HAZNET - CA

Facility Name : PACIFIC TANK ENGINEERING INC
Facility Address : 14491 CHANDLER ST, CORONA, CA 92880
County : Riverside

Site Details
Year : 2006
Contact Name : DOUGLAS DIMITRUK
Facility Mailing Address : 23341 WAGON TRAIL RD, DIAMOND BAR, CA 91765
Contact Phone : 9517577169

Waste Generator Summary 2006
Generator EPA ID : CAC002610426
Generator County : Riverside
TSDF EPA ID : CAD982444481
TSDF Disposal County : San Bernardino
State Waste : Unspecified oil-containing waste

Disposal Method : STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)

Tons : 1.0425

Generator EPA ID : CAC002610426
Generator County : Riverside
TSDF EPA ID : CAD982444481
TSDF Disposal County : San Bernardino
State Waste : Waste oil and mixed oil

Disposal Method : STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)

Tons : 1.14

Map Id: A5
Direction: WSW
Distance: 0.080 mi.
Actual: 422.050 ft.
Elevation: 0.108 mi. / 571.785 ft.
Relative: Lower

Site Name : CORONA CATTLE INC
14657 CHANDLER ST
EASTVALE, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ECHO, FRS, ICIS, NPDES - CA, PCS FACILITY, RFR - CA]

Envirosite ID: 317763670
EPA ID: N/R

CALEPA SITES - CA

Facility Name : Corona Cattle Inc
Facility Address : 14657 CHANDLER ST, EASTVALE, 92880

Map Id: A5
Direction: WSW
Distance: 0.080 mi.
Actual: 422.050 ft.
Elevation: 0.108 mi. / 571.785 ft.
Relative: Lower

Site Name : CORONA CATTLE INC
14657 CHANDLER ST
EASTVALE, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ECHO, FRS, ICIS, NPDES - CA, PCS FACILITY, RFR - CA] ***(cont.)***

Envirosite ID: 317763670
EPA ID: N/R

CALEPA SITES - CA ***(cont.)***

Site ID :	529830
EI ID :	841975
EI Description :	Industrial Facility Storm Water
Latitude :	33.947118
Longitude :	-117.603487
Agency Hyperlink :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	07/24/2019

CIWQS - CA

Facility Name :	Corona Cattle Inc
Facility Address :	14657 Chandler St Eastvale, CA, 92880
County :	Riverside

Site Details

Place ID :	S841975
Agency Name :	Corona Cattle Inc
Last Date in Agency List :	07/09/2019

ECHO

Facility Name :	CORONA CATTLE INC
Facility Address :	14657 CHANDLER ST, EASTVALE, CA 92880
County :	RIVERSIDE COUNTY

Site Details

Last Inspection Date :	N/R
Registry ID :	110070095913
FIPS Code :	06065
EPA Region :	09
Inspection Count :	0
Last Inspection Days :	N/R
Informal Count :	0
Last Informal Action Date :	N/R
Formal Action Count :	0
Last Formal Action Date :	N/R
Total Penalties :	0
Penalty Count :	N/R
Last Penalty Date :	N/R
Last Penalty Amount :	N/R
QTRS IN NC :	0
Programs IN SNC :	0
Current Compliance Status :	No Violation Identified
Three-Year Compliance Status :	_____
Collection Method :	N/R
Reference Point :	N/R
Accuracy Meters :	17531
Derived Tribes :	N/R
Derived HUC :	18070203
Derived WBD :	180702030705
Derived STCTY FIPS :	06065

Map Id: A5
Direction: WSW
Distance: 0.080 mi.
Actual: 422.050 ft.
Elevation: 0.108 mi. / 571.785 ft.
Relative: Lower

Site Name : CORONA CATTLE INC
14657 CHANDLER ST
EASTVALE, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ECHO, FRS, ICIS, NPDES - CA, PCS FACILITY, RFR - CA] ***(cont.)***

Envirosite ID: 317763670
EPA ID: N/R

ECHO ***(cont.)***

Derived Zip :	92880
Derived CD113 :	42
Derived CB2010 :	060650406092029
MYRTK Universe :	NNN
NPDES IDs :	CAZ465638
CWA Permit Types :	Minor
CWA Compliance Tracking :	On
CWA NAICS :	N/R
CWA SICS :	2011
CWA Inspection Count :	N/R
CWA Last Inspection Days :	N/R
CWA Informal Count :	N/R
CWA Formal Action Count :	N/R
CWA Last Formal Action Date :	N/R
CWA Penalties :	N/R
CWA Last Penalty Date :	N/R
CWA Last Penalty Amount :	N/R
CWA Quarters IN NC :	0
CWA Current Compliance Status :	No Violation Identified
CWA Current SNC Flag :	N
CWA 13 Quarters Compliance Status :	_____
CWA 13 Quarters Effluent Exceedances:	N/R
CWA Three-Year QNCR Codes :	N/R
DFR URL :	Click here for hyperlink provided by the agency.
Facility SIC Codes :	2011 - MEAT PACKING PLANTS
Facility NAICS Codes :	N/R
Facility Last Inspection EPA Date :	N/R
Facility Last Inspection State Date :	N/R
Facility Last Formal Act EPA Date :	N/R
Facility Last Formal Act State Date :	N/R
Facility Last Informal Act EPA Date :	N/R
Facility Last Informal Act State Date:	N/R
Facility Federal Agency :	N/R
TRI Reporter :	N/R
Facility Imp Water Flag :	Y
Current SNC Flag :	N
Indian County Flag :	N
Federal Flag :	N/R
US Mexico Border Flag :	N
Chesapeak Bay Flag :	N/R
AIR Flag :	N
NPDES Flag :	Y
SDWIS Flag :	N
RCRA Flag :	N
TRI Flag :	N
GHG Flag :	N
Major Flag :	N/R
Active Flag :	Y
NAA Flag :	Y
Latitude :	33.947118
Longitude :	-117.603487
Last Date in Agency List :	07/15/2019

Map Id: A5
Direction: WSW
Distance: 0.080 mi.
Actual: 422.050 ft.
Elevation: 0.108 mi. / 571.785 ft.
Relative: Lower

Site Name : CORONA CATTLE INC
14657 CHANDLER ST
EASTVALE, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ECHO, FRS, ICIS, NPDES - CA, PCS FACILITY, RFR - CA] ***(cont.)***

Envirosite ID: 317763670
EPA ID: N/R

FRS

Facility Name : CORONA CATTLE INC
Facility Address : 14657 CHANDLER ST, EASTVALE, CA 92880
County : RIVERSIDE COUNTY

Registry ID : 110070095913
FRS Facility URL : Click here for hyperlink provided by the agency.
Last Date in Agency List : 06/20/2019

Source Description :

The NPDES module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

FRS Environmental Interest
Source and System ID : ICIS - CAZ465638

ICIS

Facility Name : CORONA CATTLE INC
Facility Address : 14657 CHANDLER ST, EASTVALE, CA 92880

Site Details
NPDES ID : CAZ465638
ICIS Facility Interest ID : 3600734363
Facility UIN : 110070095913
Facility Type Code : Privately Owned Facility
Impaired Waters : 303(D) Listed
Latitude : 33.9471
Longitude : -117.603
Last Date in Agency List : 07/16/2019

Facility NAICS
NAICS Code : N/R
NAICS Description : N/R

Facility SIC
SIC Code : 2011
SIC Description : Meat Packing Plants

Map Id: A5
Direction: WSW
Distance: 0.080 mi.
Actual: 422.050 ft.
Elevation: 0.108 mi. / 571.785 ft.
Relative: Lower

Site Name : CORONA CATTLE INC
14657 CHANDLER ST
EASTVALE, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ECHO, FRS, ICIS, NPDES - CA, PCS FACILITY, RFR - CA] ***(cont.)***

Envirosite ID: 317763670
EPA ID: N/R

NPDES - CA

Facility Name :	Corona Cattle Inc
Facility Address :	14657 Chandler St, Eastvale, 92880
County :	Riverside

Site Details

Effective Date :	10/22/2015
Adoption Date :	N/R
Expiration Date :	N/R
Termination Date :	N/R
Order Number :	97-03-DWQ
NPDES Number :	CAS000001
WDID :	8 33NEC001314
RM Status :	Active
Reg Meas ID :	465638
Reg Meas Type :	Enrollee
Program :	Industrial
Facility Place ID :	N/R
Region Code :	8
Discharger ID :	0
Discharger :	Corona Cattle Inc
Discharger Address :	14657 Chandler St, Corona, California 92880

Effective Date :	10/22/2015
Adoption Date :	N/R
Expiration Date :	N/R
Termination Date :	N/R
Order Number :	97-03-DWQ
NPDES Number :	CAS000001
WDID :	8 33NEC001314
RM Status :	Active
Reg Meas ID :	465638
Reg Meas Type :	Enrollee
Program :	N/R
Facility Place ID :	N/R
Region Code :	8
Discharger ID :	0
Discharger :	Corona Cattle Inc
Discharger Address :	14657 Chandler St, Corona, California 92880

PCS FACILITY

Issue Date :	10/22/2015
Original Issue Date :	10/22/2015
Effective Date :	10/22/2015
Expiration Date :	06/30/2020
Retirement Date :	N/R
Termination Date :	N/R
Issuing Agency :	CA Waterboards
Agency Type Code :	State
Activity ID :	3601113737
External Permit Number :	CAZ465638
Facility Type Indicator :	NON-POTW

Map Id: A5
Direction: WSW
Distance: 0.080 mi.
Actual: 422.050 ft.
Elevation: 0.108 mi. / 571.785 ft.
Relative: Lower

Site Name : CORONA CATTLE INC
14657 CHANDLER ST
EASTVALE, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ECHO, FRS, ICIS, NPDES - CA, PCS FACILITY, RFR - CA] ***(cont.)***

Envirosite ID: 317763670
EPA ID: N/R

PCS FACILITY ***(cont.)***

Permit Type Code :	General Permit Covered Facility-NPDES)
Major Minor Status :	N
Permit Status Code :	Effective
Total Design Flow Number :	N/R
Actual Average Flow Number :	N/R
State Water Body :	N/R
State Water Body Name :	N/R
Permit Name :	Corona Cattle Inc
Permit Comp Status :	Y
RNC Tracking :	Y
Master External Permit Number :	CAS000001
TMDL Interface :	N/R
EDMR Authorization :	N
Pretreatment Indicator Code :	N/R
Last Date in Agency List :	07/16/2019

RFR - CA

Facility Name :	Corona Cattle Inc
Facility Address :	14657 Chandler St, Eastvale, CA 92880
County :	Riverside

Site Details

Effective Date :	10/22/2015
Adoption Date :	N/R
Termination Date :	N/R
Expiration/Review Date :	N/R
NPDES Number :	CAS000001
Order Number :	2014-0057-DWQ
WDID :	8 33NEC001314
SIC/NAICS :	2011
Program :	INDSTW
Regulatory Measure Status :	Active
Regulatory Measure Type :	Storm water industrial
Place/Project Type :	Industrial - Meat Packing Plants
Region :	8
Design Flow :	N/R
Major/Minor :	N/R
Complexity :	N/R
TTWQ :	N/R
Number of Enforcement Actions within Five Years:	N/R
Number of Violations within Five Years:	N/R
Agency :	Corona Cattle Inc
Agency Address :	14657 Chandler St, Corona, CA 92880
Latitude :	33.947118
Longitude :	-117.603487
Last Date in Agency List :	07/01/2019

Map Id: B6
Direction: ESE
Distance: 0.129 mi.
Actual: 679.338 ft.
Elevation: 0.109 mi. / 576.253 ft.
Relative: Higher

Site Name : TONY BRAZIL
14449 CHANDLER
CORONA, CA 92880

Database(s) : [HAZNET - CA]

Envirosite ID: 30884035
EPA ID: CAC002552114

HAZNET - CA

Facility Name :	TONY BRAZIL
Facility Address :	14449 CHANDLER, CORONA, CA 92880
County :	Riverside

Site Details

Year :	2002
Contact Name :	ELLIOTT LUCHS, ESQ
Facility Mailing Address :	6377 RIVERSIDE AVE, RIVERSIDE, CA 92506
Contact Phone :	9092742484

Waste Generator Summary 2002

Generator EPA ID :	CAC002552114
Generator County :	Riverside
TSDF EPA ID :	CAT080033681
TSDF Disposal County :	Los Angeles
State Waste :	Unspecified aqueous solution
Disposal Method :	Recycler
Tons :	2.079

Map Id: C7
Direction: WNW
Distance: 0.134 mi.
Actual: 707.994 ft.
Elevation: 0.108 mi. / 569.186 ft.
Relative: Lower

Site Name : COUNTY OF ORANGE FLOOD CONTROL DISTRICT
7723 HALL AVE
CORONA, CA 92880

Database(s) : [HAZNET - CA]

Envirosite ID: 30928878
EPA ID: CAC002625437

HAZNET - CA

Facility Name :	COUNTY OF ORANGE FLOOD CONTROL DISTRICT
Facility Address :	7723 HALL AVE, CORONA, CA 928809721
County :	Riverside

Site Details

Year :	2008
Contact Name :	RON LEMAS
Facility Mailing Address :	1143 E FRUIT ST, SANTA ANA, CA 927014204
Contact Phone :	7146673281

Waste Generator Summary 2008

Generator EPA ID :	CAC002625437
Generator County :	Riverside
TSDF EPA ID :	CAD009007626
TSDF Disposal County :	Los Angeles

Map Id: C7
Direction: WNW
Distance: 0.134 mi.
Actual: 707.994 ft.
Elevation: 0.108 mi. / 569.186 ft.
Relative: Lower

Site Name : COUNTY OF ORANGE FLOOD CONTROL DISTRICT
7723 HALL AVE
CORONA, CA 92880

Database(s) : [HAZNET - CA] ***(cont.)***

Envirosite ID: 30928878
EPA ID: CAC002625437

HAZNET - CA ***(cont.)***

State Waste : Asbestos containing waste

Disposal Method : LANDFILL OR SURFACE IMPOUNDMENT THAT WILL BE CLOSED AS LANDFILL(TO INCLUDE ON-SITE TREATMENT AND/OR STABILIZATION)

Tons : 2

Map Id: C8
Direction: WNW
Distance: 0.139 mi.
Actual: 732.292 ft.
Elevation: 0.108 mi. / 568.855 ft.
Relative: Lower

Site Name : ORANGE COUNTY FLOOD CONTROL DISTRICT
7733 HALL AVE
CORONA, CA 92880

Database(s) : [HAZNET - CA]

Envirosite ID: 30929056
EPA ID: CAC002633392

HAZNET - CA

Facility Name : ORANGE COUNTY FLOOD CONTROL DISTRICT
Facility Address : 7733 HALL AVE, CORONA, CA 928809721
County : Riverside

Site Details
Year : 2008
Contact Name : JAMES FORTUNA
Facility Mailing Address : 1750 S DOUGLASS RD, ANAHEIM, CA 928066031
Contact Phone : 7149733167

Waste Generator Summary 2008
Generator EPA ID : CAC002633392
Generator County : Riverside
TSDF EPA ID : CAD008252405
TSDF Disposal County : Los Angeles
State Waste : Off-specification, aged or surplus organics

Disposal Method : STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)

Tons : 0.03

Generator EPA ID : CAC002633392
Generator County : Riverside
TSDF EPA ID : CAD008252405
TSDF Disposal County : Los Angeles
State Waste : Organic liquids (nonsolvents) with halogens
Disposal Method : FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE
Tons : 0.02502

Map Id: C8
Direction: WNW
Distance: 0.139 mi.
Actual: 732.292 ft.
Elevation: 0.108 mi. / 568.855 ft.
Relative: Lower

Site Name : ORANGE COUNTY FLOOD CONTROL DISTRICT
7733 HALL AVE
CORONA, CA 92880

Database(s) : [HAZNET - CA] ***(cont.)***

Envirosite ID: 30929056
EPA ID: CAC002633392

HAZNET - CA ***(cont.)***

Generator EPA ID :	CAC002633392
Generator County :	Riverside
TSDF EPA ID :	CAD008252405
TSDF Disposal County :	Los Angeles
State Waste :	Waste oil and mixed oil
Disposal Method :	FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE
Tons :	0.0418

Generator EPA ID :	CAC002633392
Generator County :	Riverside
TSDF EPA ID :	CAD981696420
TSDF Disposal County :	Los Angeles
State Waste :	Waste oil and mixed oil
Disposal Method :	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons :	0.114

Map Id: B9
Direction: ESE
Distance: 0.139 mi.
Actual: 733.026 ft.
Elevation: 0.109 mi. / 576.227 ft.
Relative: Higher

Site Name : BRAZIL MARKET
14449 CHANDLER ST
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA]

Envirosite ID: 9815395
EPA ID: N/R

CALEPA SITES - CA

Facility Name :	BRAZIL MARKET
Facility Address :	14449 CHANDLER ST, CORONA, 92880

Site ID :	190228
EI ID :	T0606500322
EI Description :	Leaking Underground Storage Tank Cleanup Site
Latitude :	33.946850
Longitude :	-117.598763
Agency Hyperlink :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	07/24/2019

FRS

Facility Name :	BRAZIL MARKET
Facility Address :	14449 CHANDLER ST, CORONA, CA 92880
County :	RIVERSIDE

Map Id: B9
Direction: ESE
Distance: 0.139 mi.
Actual: 733.026 ft.
Elevation: 0.109 mi. / 576.227 ft.
Relative: Higher

Site Name : BRAZIL MARKET
14449 CHANDLER ST
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9815395
EPA ID: N/R

FRS ***(cont.)***

Registry ID : 110066036435
FRS Facility URL : Click here for hyperlink provided by the agency.
Last Date in Agency List : 06/20/2019

Source Description :

The California Environmental Protection Agency (CalEPA) has recently implemented a new data warehouse system (nSite). This data warehouse combines and merges facility and site information from five different systems managed within CalEPA. The five systems are: California Environmental Reporting System (CERS), EnviroStor, GeoTracker, California Integrated Water Quality System (CIWQS), and Toxic Release Inventory (TRI).

FRS Environmental Interest
Source and System ID : CA-ENVIROVIEW - 190228

LUST REG 8 - CA

Facility Name : BRAZIL MARKET
Facility Address : 14449 CHANDLER ST, Corona, CA 92880
County : Riverside

Site Details
Status Date : 05/22/2007
Status : Completed - Case Closed
Begin Date : 03/23/1993
Global ID : T0606500322
Region : REGION 8
Site History : N/R
RB Case Number : 083302261T
Potential Media Affected : Soil
Potential Contaminants of Concern : Diesel
Local Agency : RIVERSIDE COUNTY LOP
Local Case Number : 93282
Lead Agency : SANTA ANA RWQCB (REGION 8)
File Location : N/R
CUF Case : YES
Caseworker : MAO
Case Type : LUST Cleanup Site
How Discovered : Tank Closure
How Discovered Description : N/R
Stop Method : N/R
Stop Description : N/R
Calwater Watershed Name : Santa Ana River - Middle Santa Ana River - Chino (Split) (801.21)
DWR Groundwater Subbasin Name : Upper Santa Ana Valley - Chino (8-002.01)
Disadvantaged Community : N/R
Latitude : 33.946849634
Longitude : -117.5987637
Agency URL : Click here for hyperlink provided by the agency.
Last Date in Agency List : 06/05/2019

Map Id: B9
Direction: ESE
Distance: 0.139 mi.
Actual: 733.026 ft.
Elevation: 0.109 mi. / 576.227 ft.
Relative: Higher

Site Name : BRAZIL MARKET
14449 CHANDLER ST
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9815395
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Contacts Summary

Global ID :	T0606500322
Contact Name :	MIGUEL OVIEDO
Contact Type :	Regional Board Caseworker
Organization Name :	SANTA ANA RWQCB (REGION 8)
Address :	3737 Main Street, Suite 500
City :	RIVERSIDE
Phone Number :	9517823238
Email :	miguel.oviedo@waterboards.ca.gov

Global ID :	T0606500322
Contact Name :	SHARON BOLTINGHOUSE
Contact Type :	Local Agency Caseworker
Organization Name :	RIVERSIDE COUNTY LOP
Address :	3880 LEMON ST SUITE 200
City :	RIVERSIDE
Phone Number :	9519558980
Email :	sbolting@rivco.org

Regulatory Activities

Date :	07/30/2007
Global ID :	T0606500322
Action Type :	RESPONSE
Action :	Monitoring Report - Other

Date :	05/22/2007
Global ID :	T0606500322
Action Type :	ENFORCEMENT
Action :	Closure/No Further Action Letter

Date :	04/28/2007
Global ID :	T0606500322
Action Type :	RESPONSE
Action :	Monitoring Report - Quarterly

Date :	01/30/2007
Global ID :	T0606500322
Action Type :	RESPONSE
Action :	Monitoring Report - Quarterly

Date :	10/28/2006
Global ID :	T0606500322
Action Type :	RESPONSE
Action :	Monitoring Report - Quarterly

Date :	09/05/2006
Global ID :	T0606500322

Map Id: B9
Direction: ESE
Distance: 0.139 mi.
Actual: 733.026 ft.
Elevation: 0.109 mi. / 576.227 ft.
Relative: Higher

Site Name : BRAZIL MARKET
14449 CHANDLER ST
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9815395
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Action Type :	RESPONSE
Action :	Soil and Water Investigation Workplan
Date :	08/30/2006
Global ID :	T0606500322
Action Type :	RESPONSE
Action :	Monitoring Report - Other
Date :	08/28/2006
Global ID :	T0606500322
Action Type :	ENFORCEMENT
Action :	Staff Letter
Date :	07/10/2006
Global ID :	T0606500322
Action Type :	ENFORCEMENT
Action :	Staff Letter
Date :	07/05/2006
Global ID :	T0606500322
Action Type :	ENFORCEMENT
Action :	Staff Letter
Date :	04/30/2006
Global ID :	T0606500322
Action Type :	RESPONSE
Action :	Soil and Water Investigation Workplan
Date :	10/25/2005
Global ID :	T0606500322
Action Type :	ENFORCEMENT
Action :	13267 Monitoring Program
Date :	09/15/2005
Global ID :	T0606500322
Action Type :	ENFORCEMENT
Action :	13267 Monitoring Program
Date :	06/23/2004
Global ID :	T0606500322
Action Type :	ENFORCEMENT
Action :	13267 Monitoring Program
Date :	02/24/2004
Global ID :	T0606500322
Action Type :	ENFORCEMENT

Map Id: B9
Direction: ESE
Distance: 0.139 mi.
Actual: 733.026 ft.
Elevation: 0.109 mi. / 576.227 ft.
Relative: Higher

Site Name : BRAZIL MARKET
14449 CHANDLER ST
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9815395
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Action : 13267 Monitoring Program

Date : 02/02/2004
Global ID : T0606500322
Action Type : ENFORCEMENT
Action : 13267 Monitoring Program

Date : 04/05/1993
Global ID : T0606500322
Action Type : Other
Action : Leak Reported

Date : 03/23/1993
Global ID : T0606500322
Action Type : Other
Action : Leak Discovery

Date : 03/23/1993
Global ID : T0606500322
Action Type : Other
Action : Leak Stopped

Status History
Status Date : 05/22/2007
Global ID : T0606500322
Status : Completed - Case Closed

Status Date : 03/28/2007
Global ID : T0606500322
Status : Open - Verification Monitoring

Status Date : 02/15/2007
Global ID : T0606500322
Status : Open - Remediation

Status Date : 01/19/2007
Global ID : T0606500322
Status : Open - Site Assessment

Status Date : 10/23/2006
Global ID : T0606500322
Status : Open - Site Assessment

Map Id: B9
Direction: ESE
Distance: 0.139 mi.
Actual: 733.026 ft.
Elevation: 0.109 mi. / 576.227 ft.
Relative: Higher

Site Name : BRAZIL MARKET
14449 CHANDLER ST
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9815395
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Status Date :	05/10/2006
Global ID :	T0606500322
Status :	Open - Remediation
Status Date :	12/28/1995
Global ID :	T0606500322
Status :	Open - Site Assessment
Status Date :	12/12/1995
Global ID :	T0606500322
Status :	Open - Site Assessment
Status Date :	04/05/1993
Global ID :	T0606500322
Status :	Open - Site Assessment
Status Date :	03/23/1993
Global ID :	T0606500322
Status :	Open - Case Begin Date

LUST_RIVERSIDE COUNTY - CA

Facility Name :	BRAZIL MARKET
Facility Address :	14449 CHANDLER ST, CORONA, 92880
County :	RIVERSIDE

Site Details

Status Date :	05/22/2007
Status :	COMPLETED - CASE CLOSED
Begin Date :	03/23/1993
Global ID :	T0606500322
Facility Type :	LUST CLEANUP SITE
RB Case Number :	083302261T
Potential Media Affected :	Soil
Potential Contaminants of Concern :	Diesel
Local Agency :	RIVERSIDE COUNTY LOP
Loc Case Number :	93282
Lead Agency :	SANTA ANA RWQCB (REGION 8)
File Location :	N/R
CUF Case :	YES
Caseworker :	MAO
How Discovered :	Tank Closure
How Discovered Description :	N/R
Stop Method :	N/R
Stop Description :	N/R
Calwater Watershed Name :	Santa Ana River - Middle Santa Ana River - Chino (Split) (801.21)
DWR Groundwater Subbasin Name :	Upper Santa Ana Valley - Chino (8-002.01)
Disadvantaged Community :	N/R
Latitude :	33.946849634

Map Id: B9
Direction: ESE
Distance: 0.139 mi.
Actual: 733.026 ft.
Elevation: 0.109 mi. / 576.227 ft.
Relative: Higher

Site Name : BRAZIL MARKET
14449 CHANDLER ST
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9815395
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Longitude :	-117.5987637
Site History :	N/R
Agency URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	08/08/2019

Contacts Summary

Global ID :	T0606500322
Contact Name :	MIGUEL OVIEDO
Contact Type :	Regional Board Caseworker
Organization Name :	SANTA ANA RWQCB (REGION 8)
Address :	3737 Main Street, Suite 500
City :	RIVERSIDE
Phone Number :	9517823238
Email :	miguel.oviedo@waterboards.ca.gov

Global ID :	T0606500322
Contact Name :	SHARON BOLTINGHOUSE
Contact Type :	Local Agency Caseworker
Organization Name :	RIVERSIDE COUNTY LOP
Address :	3880 LEMON ST SUITE 200
City :	RIVERSIDE
Phone Number :	9519558980
Email :	sbolting@rivco.org

Regulatory Activities

Date :	07/30/2007
Global ID :	T0606500322
Action Type :	RESPONSE
Action :	Monitoring Report - Other

Date :	05/22/2007
Global ID :	T0606500322
Action Type :	ENFORCEMENT
Action :	Closure/No Further Action Letter

Date :	04/28/2007
Global ID :	T0606500322
Action Type :	RESPONSE
Action :	Monitoring Report - Quarterly

Date :	01/30/2007
Global ID :	T0606500322
Action Type :	RESPONSE
Action :	Monitoring Report - Quarterly

Map Id: B9
Direction: ESE
Distance: 0.139 mi.
Actual: 733.026 ft.
Elevation: 0.109 mi. / 576.227 ft.
Relative: Higher

Site Name : BRAZIL MARKET
14449 CHANDLER ST
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9815395
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Date : 10/28/2006
Global ID : T0606500322
Action Type : RESPONSE
Action : Monitoring Report - Quarterly

Date : 09/05/2006
Global ID : T0606500322
Action Type : RESPONSE
Action : Soil and Water Investigation Workplan

Date : 08/30/2006
Global ID : T0606500322
Action Type : RESPONSE
Action : Monitoring Report - Other

Date : 08/28/2006
Global ID : T0606500322
Action Type : ENFORCEMENT
Action : Staff Letter

Date : 07/10/2006
Global ID : T0606500322
Action Type : ENFORCEMENT
Action : Staff Letter

Date : 07/05/2006
Global ID : T0606500322
Action Type : ENFORCEMENT
Action : Staff Letter

Date : 04/30/2006
Global ID : T0606500322
Action Type : RESPONSE
Action : Soil and Water Investigation Workplan

Date : 10/25/2005
Global ID : T0606500322
Action Type : ENFORCEMENT
Action : 13267 Monitoring Program

Date : 09/15/2005
Global ID : T0606500322
Action Type : ENFORCEMENT
Action : 13267 Monitoring Program

Map Id: B9
Direction: ESE
Distance: 0.139 mi.
Actual: 733.026 ft.
Elevation: 0.109 mi. / 576.227 ft.
Relative: Higher

Site Name : BRAZIL MARKET
14449 CHANDLER ST
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9815395
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Date : 06/23/2004
Global ID : T0606500322
Action Type : ENFORCEMENT
Action : 13267 Monitoring Program

Date : 02/24/2004
Global ID : T0606500322
Action Type : ENFORCEMENT
Action : 13267 Monitoring Program

Date : 02/02/2004
Global ID : T0606500322
Action Type : ENFORCEMENT
Action : 13267 Monitoring Program

Date : 04/05/1993
Global ID : T0606500322
Action Type : Other
Action : Leak Reported

Date : 03/23/1993
Global ID : T0606500322
Action Type : Other
Action : Leak Discovery

Date : 03/23/1993
Global ID : T0606500322
Action Type : Other
Action : Leak Stopped

Status History Summary

Status Date : 05/22/2007
Global ID : T0606500322
Status : Completed - Case Closed

Status Date : 03/28/2007
Global ID : T0606500322
Status : Open - Verification Monitoring

Status Date : 02/15/2007
Global ID : T0606500322
Status : Open - Remediation

Status Date : 01/19/2007
Global ID : T0606500322

Map Id: B9
Direction: ESE
Distance: 0.139 mi.
Actual: 733.026 ft.
Elevation: 0.109 mi. / 576.227 ft.
Relative: Higher

Site Name : BRAZIL MARKET
14449 CHANDLER ST
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9815395
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Status :	Open - Site Assessment
Status Date :	10/23/2006
Global ID :	T0606500322
Status :	Open - Site Assessment
Status Date :	05/10/2006
Global ID :	T0606500322
Status :	Open - Remediation
Status Date :	12/28/1995
Global ID :	T0606500322
Status :	Open - Site Assessment
Status Date :	12/12/1995
Global ID :	T0606500322
Status :	Open - Site Assessment
Status Date :	04/05/1993
Global ID :	T0606500322
Status :	Open - Site Assessment
Status Date :	03/23/1993
Global ID :	T0606500322
Status :	Open - Case Begin Date

Map Id: D10
Direction: NW
Distance: 0.191 mi.
Actual: 1010.450 ft.
Elevation: 0.108 mi. / 571.693 ft.
Relative: Lower

Site Name : DUMP-HALL AVE
7675 HALL AVE
CORONA, CA 91720

Database(s) : [CERCLIS NFRAP, SEMS_8R_ARCHIVED SITES]

Envirosite ID: 1391951
EPA ID: CAD980892426

CERCLIS NFRAP

Facility Name :	DUMP-HALL AVE
Facility Address :	7675 HALL AVE, CORONA, CA 91720
County :	RIVERSIDE
Site ID :	0902212
Epa ID :	CAD980892426
Short Name :	DUMP-HALL AVE

Map Id: D10
Direction: NW
Distance: 0.191 mi.
Actual: 1010.450 ft.
Elevation: 0.108 mi. / 571.693 ft.
Relative: Lower

Site Name : DUMP-HALL AVE
7675 HALL AVE
CORONA, CA 91720

Database(s) : [CERCLIS NFRAP, SEMS_8R_ARCHIVED SITES] ***(cont.)***

Envirosite ID: 1391951
EPA ID: CAD980892426

CERCLIS NFRAP ***(cont.)***

Congressional District :	37
IFMS ID :	N/R
SMSA Number :	6780
USGC Hydro Unit :	18070203
Federal Facility :	N
DMNSN Number :	N/R
Site Orphan Flag :	N
RCRA ID :	N/R
USGS Quadrangle :	N/R
Site Init by Prog :	N/R
NFRAP Flag :	NFA
Parent ID :	N/R
RST Code :	N/R
EPA Region :	09
Classification :	N/R
Site Settings Code :	N/R
NPL Status :	Not on the NPL
DMNSN Unit Code :	N/R
RBRAC Code :	N/R
RResp Fed Agency Code :	N/R
Non NPL Status :	NFRAP-Site does not qualify for the NPL based on existing information
Non NPL Status Date :	07/13/1990
Site Fips Code :	06065
CC Concurrence Date :	N/R
CC Concurrence FY :	N/R
Alias EPA ID :	N/R
Site FUDS Flag :	N/R

CERCLIS Site Contact Name(s)

Contact ID :	13003854
Contact Title :	Site Assessment Manager (SAM)
Contact ID :	13003858
Contact Title :	Site Assessment Manager (SAM)
Contact ID :	13004003
Contact Title :	Site Assessment Manager (SAM)
Alias Comments :	HALL AVENUE DUMP
Site Description :	N/R

CERCLIS Assessment History

Action Code :	001
Action :	ARCHIVE SITE
Date Started :	N/R
Date Completed :	07/13/1990
Priority Level :	1
Operational Unit :	00
Primary Responsibility :	EPA In-House

Map Id: D10
Direction: NW
Distance: 0.191 mi.
Actual: 1010.450 ft.
Elevation: 0.108 mi. / 571.693 ft.
Relative: Lower

Site Name : DUMP-HALL AVE
7675 HALL AVE
CORONA, CA 91720

Database(s) : [CERCLIS NFRAP, SEMS_8R_ARCHIVED SITES] ***(cont.)***

Envirosite ID: 1391951
EPA ID: CAD980892426

CERCLIS NFRAP ***(cont.)***

Planning Status :	N/R
Urgency Indicator :	N/R
Action Anomaly :	N/R

Action Code :	001
Action :	DISCOVERY
Date Started :	N/R
Date Completed :	04/01/1985
Priority Level :	1
Operational Unit :	00
Primary Responsibility :	State, Fund Financed
Planning Status :	N/R
Urgency Indicator :	N/R
Action Anomaly :	N/R

Action Code :	001
Action :	PRELIMINARY ASSESSMENT
Date Started :	04/09/1985
Date Completed :	10/01/1985
Priority Level :	1
Operational Unit :	00
Primary Responsibility :	State, Fund Financed
Planning Status :	N/R
Urgency Indicator :	N/R
Action Anomaly :	N/R

Action Code :	001
Action :	SITE INSPECTION
Date Started :	N/R
Date Completed :	03/01/1987
Priority Level :	1
Operational Unit :	00
Primary Responsibility :	State, Fund Financed
Planning Status :	N/R
Urgency Indicator :	N/R
Action Anomaly :	N/R

Action Code :	002
Action :	SITE INSPECTION
Date Started :	N/R
Date Completed :	07/13/1990
Priority Level :	1
Operational Unit :	00
Primary Responsibility :	EPA Fund-Financed
Planning Status :	N/R
Urgency Indicator :	N/R
Action Anomaly :	N/R

SEMS_8R_ARCHIVED SITES

Facility Name :	DUMP-HALL AVE
Facility Address :	7675 HALL AVE, CORONA, CA 91720

Map Id: D10
Direction: NW
Distance: 0.191 mi.
Actual: 1010.450 ft.
Elevation: 0.108 mi. / 571.693 ft.
Relative: Lower

Site Name : DUMP-HALL AVE
7675 HALL AVE
CORONA, CA 91720

Database(s) : [CERCLIS NFRAP, SEMS_8R_ARCHIVED SITES] ***(cont.)***

Envirosite ID: 1391951
EPA ID: CAD980892426

SEMS_8R_ARCHIVED SITES ***(cont.)***

County :	RIVERSIDE

Site Details

Site ID :	0902212
EPA ID :	CAD980892426
Region :	09
Congressional District :	37
Federal Facility :	N
NPL Status :	Not on the NPL
Non NPL Status :	NFRAP-Site does not qualify for the NPL based on existing information
FIPS Code :	06065
Last Date in Agency List :	06/10/2019

Additional Information

Start Date :	04/09/1985
Finish Date :	10/01/1985
OU :	00
Action Code :	PA
Action Name :	PA
Sequence :	1
Quality :	L
Current Action Lead :	St Perf

Start Date :	04/01/1985
Finish Date :	04/01/1985
OU :	00
Action Code :	DS
Action Name :	DISCVRY
Sequence :	1
Quality :	N/R
Current Action Lead :	St Perf

Start Date :	N/R
Finish Date :	03/01/1987
OU :	00
Action Code :	SI
Action Name :	SI
Sequence :	1
Quality :	H
Current Action Lead :	St Perf

Start Date :	N/R
Finish Date :	07/13/1990
OU :	00
Action Code :	SI
Action Name :	SI
Sequence :	2
Quality :	N
Current Action Lead :	EPA Perf

Map Id: D10
Direction: NW
Distance: 0.191 mi.
Actual: 1010.450 ft.
Elevation: 0.108 mi. / 571.693 ft.
Relative: Lower

Site Name : DUMP-HALL AVE
7675 HALL AVE
CORONA, CA 91720

Database(s) : [CERCLIS NFRAP, SEMS_8R_ARCHIVED SITES] ***(cont.)***

Envirosite ID: 1391951
EPA ID: CAD980892426

SEMS_8R_ARCHIVED SITES ***(cont.)***

Start Date :	N/R
Finish Date :	07/13/1990
OU :	00
Action Code :	VS
Action Name :	ARCH SITE
Sequence :	1
Quality :	N/R
Current Action Lead :	EPA Perf In-Hse

Map Id: D11
Direction: NW
Distance: 0.191 mi.
Actual: 1010.450 ft.
Elevation: 0.108 mi. / 571.693 ft.
Relative: Lower

Site Name : DUMP - HALL AVENUE
7675 HALL AVENUE
CORONA, CA 91720

Database(s) : [ENVIROSTOR - CA, HIST CORTESE - CA]

Envirosite ID: 9485733
EPA ID: N/R

ENVIROSTOR - CA

Facility Name :	DUMP - HALL AVENUE
Facility Address :	7675 HALL AVENUE, CORONA, CA 91720
County :	RIVERSIDE

Site Details

Cleanup Date :	06/10/1991
Cleanup Status :	Refer: Other Agency
Site Type :	Historical
Site Type Detailed :	* Historical
Acreage :	N/R
APN :	NONE SPECIFIED
National Priorities List :	NO
Regulatory Agencies Involved :	NONE SPECIFIED
Lead Agency :	NONE SPECIFIED
Project Manager :	N/R
Supervisor :	Referred - Not Assigned
Office :	Cleanup Cypress
Envirostor ID :	33490050
Site Code :	N/R
Assembly :	60
Senate :	31
Congressional District :	42
Special Program :	* RCRA 3012 - Past Haz Waste Disp Inven Site
Past Uses :	NONE SPECIFIED
Potential COC :	* HOUSEHOLD WASTES; * BIOLOGICAL WASTE OTHER THAN SEWAGE SLUDGE; * UNSPECIFIED SOLVENT MIXTURES
Confirmed COC :	NONE SPECIFIED
Potential Media Affected :	NONE SPECIFIED

Map Id: D11
Direction: NW
Distance: 0.191 mi.
Actual: 1010.450 ft.
Elevation: 0.108 mi. / 571.693 ft.
Relative: Lower

Site Name : DUMP - HALL AVENUE
7675 HALL AVENUE
CORONA, CA 91720

Database(s) : [ENVIROSTOR - CA, HIST CORTESE - CA] ***(cont.)***

Envirosite ID: 9485733
EPA ID: N/R

ENVIROSTOR - CA ***(cont.)***

Restricted Use :	NO
Site Management Req :	NONE SPECIFIED
Funding :	N/R
Latitude :	33.95
Longitude :	-117.60416667
Link to Agency Data :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	07/11/2019

Alias Details

Alias :	33490050
Alias Type :	Envirostor ID Number
Alias :	CAD980892426
Alias Type :	EPA Identification Number

Completed Activities

Completed Date :	06/10/1991
Area Name :	PROJECT WIDE
Sub Area Name :	N/R
Document Type :	Site Screening
Comments :	SSI Reassessment Report was reviewed by Region 4 staff. EPA recommended NFA because: potential for release to air or GW is moderate, GW supplies a small population (mainly dairy farms and grazing for goats) and surface water is not used for drinking. A preliminary HRS I calculation yields a score of 3.98. Staff recommends referral to a local agency.
Completed Date :	03/22/1983
Area Name :	PROJECT WIDE
Sub Area Name :	N/R
Document Type :	* Discovery
Comments :	FACILITY IDENTIFIED ID FROM RWQCB COMPLAINTS 1980 FILE. COMPLAINT BY A MRS. SPIDLE. DUMPING SOLVENT ONTO GROUND,UNK VOLUME AT VARIOU INSPECTORS REP: AN EMPTY LOT ON W SIDE OF HALL AVE,ACROSS FROM SPIDLE HOUSE. BEING USED TO ILLEGALLY DUMP ANY & EVERY THING FROM VARIOUS PEOPLE.NO AUTO STARTR OPER CLOSE TO THE FIELD. FINAL STRATEGY SITE REFERRED : TO CO HLTH.

Future Activities

Area Name :	N/R
Sub Area Name :	N/R
Document Type :	N/R
Due Date :	N/R

Map Id: D11
Direction: NW
Distance: 0.191 mi.
Actual: 1010.450 ft.
Elevation: 0.108 mi. / 571.693 ft.
Relative: Lower

Site Name : DUMP - HALL AVENUE
7675 HALL AVENUE
CORONA, CA 91720

Database(s) : [ENVIROSTOR - CA, HIST CORTESE - CA] ***(cont.)***

Envirosite ID: 9485733
EPA ID: N/R

ENVIROSTOR - CA ***(cont.)***

Scheduled Activites

Due Date :	N/R
Revised Date :	N/R
Area Name :	N/R
Sub Area Name :	N/R
Document Type :	N/R

HIST CORTESE - CA

Facility Name :	DUMP - HALL AVENUE
Facility Address :	7675 HALL AVENUE, CORONA, 91720
County :	RIVERSIDE
Status Date :	06/10/1991
Status :	REFER: OTHER AGENCY
Envirostor ID :	33490050
Program Type :	HISTORICAL
Site Code :	N/R
CalEnviroScreen Score :	61-65%
Latitude :	33.95
Longitude :	-117.604166666667
Last Date in Agency List :	06/17/2019

Map Id: 12
Direction: SSW
Distance: 0.220 mi.
Actual: 1163.524 ft.
Elevation: 0.108 mi. / 569.193 ft.
Relative: Lower

Site Name : CNA PRESERVATION INC
7960 WITHERS WAY
CORONA, CA 92880

Database(s) : [HAZNET - CA]

Envirosite ID: 30928267
EPA ID: CAC002635874

HAZNET - CA

Facility Name :	CNA PRESERVATION INC
Facility Address :	7960 WITHERS WAY, CORONA, CA 928803555
County :	Riverside

Site Details

Year :	2008
Contact Name :	GREG COSDY
Facility Mailing Address :	28822 OLD TOWN FRONT ST STE 204, TEMECULA, CA 925902894
Contact Phone :	7606840618

Waste Generator Summary 2008

Generator EPA ID :	CAC002635874
Generator County :	Riverside
TSDF EPA ID :	CAD982444481

Map Id: 12
Direction: SSW
Distance: 0.220 mi.
Actual: 1163.524 ft.
Elevation: 0.108 mi. / 569.193 ft.
Relative: Lower

Site Name : CNA PRESERVATION INC
7960 WITHERS WAY
CORONA, CA 92880

Database(s) : [HAZNET - CA] ***(cont.)***

Envirosite ID: 30928267
EPA ID: CAC002635874

HAZNET - CA ***(cont.)***

TSDF Disposal County :	San Bernardino
State Waste :	Household waste
Disposal Method :	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons :	0.005

Map Id: E13
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
NORCO, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA]

Envirosite ID: 9816446
EPA ID: N/R

CALEPA SITES - CA

Facility Name :	GOLDEN COACH MOVING
Facility Address :	14325 CHANDLER ST, NORCO, 92880
Site ID :	219675
EI ID :	T0606500170
EI Description :	Leaking Underground Storage Tank Cleanup Site
Latitude :	33.946519
Longitude :	-117.596462
Agency Hyperlink :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	07/24/2019

FRS

Facility Name :	GOLDEN COACH MOVING
Facility Address :	14325 CHANDLER ST, NORCO, CA 92880
County :	RIVERSIDE
Registry ID :	110065083484
FRS Facility URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	06/20/2019

Source Description :

The California Environmental Protection Agency (CalEPA) has recently implemented a new data warehouse system (nSite). This data warehouse combines and merges facility and site information from five different systems managed within CalEPA. The five systems are: California Environmental Reporting System (CERS), EnviroStor, GeoTracker, California Integrated Water Quality System (CIWQS), and Toxic Release Inventory (TRI).

Map Id: E13
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
NORCO, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816446
EPA ID: N/R

FRS ***(cont.)***

FRS Environmental Interest

Source and System ID :	CA-ENVIROVIEW - 219675

LUST REG 8 - CA

Facility Name :	GOLDEN COACH MOVING
Facility Address :	14325 CHANDLER ST, NORCO, CA 92880
County :	Riverside

Site Details

Status Date :	09/19/2016
Status :	Open - Verification Monitoring
Begin Date :	11/16/1989
Global ID :	T0606500170
Region :	REGION 8

Site History :

Former RP, Golder Associates had previously conducted three phases of assessment and investigation. Phase I assessment was conducted on December 20, 2006, while Phase II site investigation was conducted on January 22, 2007. And on July 24, 2007, a limited site investigation was conducted in the former UST area to assess the potential for deeper contamination. The July 2007 investigation consisted of three soil borings drilled to 40 feet. Soil and groundwater samplings were taken from the three locations surrounding the former UST. Results of the analyses indicated that releases from the removed USTs have generated significant levels of contamination in the underlying soil and groundwater.

RB Case Number :	083301386T
Potential Media Affected :	Aquifer used for drinking water supply, Other Groundwater (uses other than drinking water), Soil
Potential Contaminants of Concern :	Gasoline
Local Agency :	RIVERSIDE COUNTY LOP
Local Case Number :	90033
Lead Agency :	SANTA ANA RWQCB (REGION 8)
File Location :	N/R
CUF Case :	YES
Caseworker :	MAO
Case Type :	LUST Cleanup Site
How Discovered :	Tank Closure
How Discovered Description :	N/R
Stop Method :	N/R
Stop Description :	N/R
Calwater Watershed Name :	Santa Ana River - Middle Santa Ana River - Chino (Split) (801.21)
DWR Groundwater Subbasin Name :	Upper Santa Ana Valley - Chino (8-002.01)
Disadvantaged Community :	N/R
Latitude :	33.9465188045302
Longitude :	-117.596462817088
Agency URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	06/05/2019

Map Id: E13
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
NORCO, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816446
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Contacts Summary

Global ID :	T0606500170
Contact Name :	MIGUEL OVIEDO
Contact Type :	Regional Board Caseworker
Organization Name :	SANTA ANA RWQCB (REGION 8)
Address :	3737 Main Street, Suite 500
City :	RIVERSIDE
Phone Number :	9517823238
Email :	miguel.oviedo@waterboards.ca.gov

Global ID :	T0606500170
Contact Name :	Riverside County LOP
Contact Type :	Local Agency Caseworker
Organization Name :	RIVERSIDE COUNTY LOP
Address :	3880 LEMON ST SUITE 200
City :	RIVERSIDE
Phone Number :	9519558980
Email :	N/R

Regulatory Activities

Date :	03/26/2018
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other

Date :	12/24/2017
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other

Date :	11/15/2016
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Clean Up Fund - Case Closure Review Summary Report (RSR)

Date :	08/28/2016
Global ID :	T0606500170
Action Type :	RESPONSE
Action :	Monitoring Report - Semi-Annually

Date :	08/28/2016
Global ID :	T0606500170
Action Type :	RESPONSE
Action :	Soil and Water Investigation Workplan - Addendum - Regulator Responded

Map Id: E13
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
NORCO, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816446
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Date : 07/25/2016
Global ID : T0606500170
Action Type : ENFORCEMENT
Action : File review

Date : 03/29/2016
Global ID : T0606500170
Action Type : ENFORCEMENT
Action : Technical Correspondence / Assistance / Other

Date : 03/23/2016
Global ID : T0606500170
Action Type : RESPONSE
Action : Well Installation Workplan

Date : 03/22/2016
Global ID : T0606500170
Action Type : RESPONSE
Action : Preliminary Site Assessment Workplan - Addendum - Regulator Responded

Date : 03/20/2016
Global ID : T0606500170
Action Type : RESPONSE
Action : Well Installation Workplan - Regulator Responded

Date : 03/07/2016
Global ID : T0606500170
Action Type : RESPONSE
Action : Soil and Water Investigation Workplan - Regulator Responded

Date : 08/03/2015
Global ID : T0606500170
Action Type : RESPONSE
Action : Other Workplan - Regulator Responded

Date : 06/15/2015
Global ID : T0606500170
Action Type : ENFORCEMENT
Action : Clean Up Fund - Case Closure Review Summary Report (RSR)

Date : 08/24/2014
Global ID : T0606500170
Action Type : RESPONSE
Action : Request for Closure - Regulator Responded

Map Id: E13
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
NORCO, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816446
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Date :	08/13/2012
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other
Date :	03/30/2012
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other
Date :	12/02/2011
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other
Date :	09/28/2011
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other
Date :	03/31/2011
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other
Date :	03/28/2011
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	File review - #RCDEH uploaded site file 3/25/2015
Date :	03/28/2011
Global ID :	T0606500170
Action Type :	RESPONSE
Action :	Other Report / Document
Date :	01/26/2011
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other
Date :	06/11/2010
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other

Map Id: E13
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
NORCO, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816446
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Date :	03/09/2010
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Clean Up Fund - Letter to RP
Date :	08/19/2009
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Letter - Notice
Date :	07/28/2009
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other
Date :	07/08/2009
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other
Date :	06/15/2009
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	File review
Date :	03/10/2009
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	File review
Date :	09/02/2007
Global ID :	T0606500170
Action Type :	RESPONSE
Action :	Soil and Water Investigation Workplan
Date :	01/16/2007
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	* No Action
Date :	09/27/2006
Global ID :	T0606500170
Action Type :	REMEDIATION
Action :	N/R

Map Id: E13
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
NORCO, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816446
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Date : 03/17/2005
Global ID : T0606500170
Action Type : ENFORCEMENT
Action : Site Visit / Inspection / Sampling

Date : 10/13/1999
Global ID : T0606500170
Action Type : ENFORCEMENT
Action : Notice to Comply

Date : 01/22/1990
Global ID : T0606500170
Action Type : Other
Action : Leak Reported

Date : 11/16/1989
Global ID : T0606500170
Action Type : Other
Action : Leak Discovery

Date : 11/16/1989
Global ID : T0606500170
Action Type : Other
Action : Leak Stopped

Status History

Status Date : 09/19/2016
Global ID : T0606500170
Status : Open - Verification Monitoring

Status Date : 06/09/2014
Global ID : T0606500170
Status : Open - Eligible for Closure

Status Date : 08/28/2007
Global ID : T0606500170
Status : Open - Site Assessment

Status Date : 06/14/1993
Global ID : T0606500170
Status : Open - Site Assessment

Status Date : 11/16/1989
Global ID : T0606500170
Status : Open - Case Begin Date

Map Id: E13
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
NORCO, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816446
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Status Date :	11/16/1989
Global ID :	T0606500170
Status :	Open - Site Assessment

LUST_RIVERSIDE COUNTY - CA

Facility Name :	GOLDEN COACH MOVING
Facility Address :	14325 CHANDLER ST, NORCO, 92880
County :	RIVERSIDE

Site Details

Status Date :	09/19/2016
Status :	OPEN - VERIFICATION MONITORING
Begin Date :	11/16/1989
Global ID :	T0606500170
Facility Type :	LUST CLEANUP SITE
RB Case Number :	083301386T
Potential Media Affected :	Aquifer used for drinking water supply, Other Groundwater (uses other than drinking water), Soil
Potential Contaminants of Concern :	Gasoline
Local Agency :	RIVERSIDE COUNTY LOP
Loc Case Number :	90033
Lead Agency :	SANTA ANA RWQCB (REGION 8)
File Location :	N/R
CUF Case :	YES
Caseworker :	MAO
How Discovered :	Tank Closure
How Discovered Description :	N/R
Stop Method :	N/R
Stop Description :	N/R
Calwater Watershed Name :	Santa Ana River - Middle Santa Ana River - Chino (Split) (801.21)
DWR Groundwater Subbasin Name :	Upper Santa Ana Valley - Chino (8-002.01)
Disadvantaged Community :	N/R
Latitude :	33.9465188045302
Longitude :	-117.596462817088

Site History :

Former RP, Golder Associates had previously conducted three phases of assessment and investigation. Phase I assessment was conducted on December 20, 2006, while Phase II site investigation was conducted on January 22, 2007. And on July 24, 2007, a limited site investigation was conducted in the former UST area to assess the potential for deeper contamination. The July 2007 investigation consisted of three soil borings drilled to 40 feet. Soil and groundwater samplings were taken from the three locations surrounding the former UST. Results of the analyses indicated that releases from the removed USTs have generated significant levels of contamination in the underlying soil and groundwater.

Agency URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	08/08/2019

Map Id: E13
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
NORCO, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816446
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Contacts Summary

Global ID :	T0606500170
Contact Name :	MIGUEL OVIEDO
Contact Type :	Regional Board Caseworker
Organization Name :	SANTA ANA RWQCB (REGION 8)
Address :	3737 Main Street, Suite 500
City :	RIVERSIDE
Phone Number :	9517823238
Email :	miguel.oviedo@waterboards.ca.gov

Global ID :	T0606500170
Contact Name :	Riverside County LOP
Contact Type :	Local Agency Caseworker
Organization Name :	RIVERSIDE COUNTY LOP
Address :	3880 LEMON ST SUITE 200
City :	RIVERSIDE
Phone Number :	9519558980
Email :	N/R

Regulatory Activities

Date :	06/24/2019
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Email Correspondence

Date :	03/26/2018
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other

Date :	12/24/2017
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other

Date :	11/15/2016
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Clean Up Fund - Case Closure Review Summary Report (RSR)

Date :	08/28/2016
Global ID :	T0606500170
Action Type :	RESPONSE
Action :	Monitoring Report - Semi-Annually

Date :	08/28/2016
Global ID :	T0606500170

Map Id: E13
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
NORCO, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816446
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Action Type :	RESPONSE
Action :	Soil and Water Investigation Workplan - Addendum - Regulator Responded
Date :	07/25/2016
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	File review
Date :	03/29/2016
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other
Date :	03/23/2016
Global ID :	T0606500170
Action Type :	RESPONSE
Action :	Well Installation Workplan
Date :	03/22/2016
Global ID :	T0606500170
Action Type :	RESPONSE
Action :	Preliminary Site Assessment Workplan - Addendum - Regulator Responded
Date :	03/20/2016
Global ID :	T0606500170
Action Type :	RESPONSE
Action :	Well Installation Workplan - Regulator Responded
Date :	03/07/2016
Global ID :	T0606500170
Action Type :	RESPONSE
Action :	Soil and Water Investigation Workplan - Regulator Responded
Date :	08/03/2015
Global ID :	T0606500170
Action Type :	RESPONSE
Action :	Other Workplan - Regulator Responded
Date :	06/15/2015
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Clean Up Fund - Case Closure Review Summary Report (RSR)

Map Id: E13
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
NORCO, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816446
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Date : 08/24/2014
Global ID : T0606500170
Action Type : RESPONSE
Action : Request for Closure - Regulator Responded

Date : 08/13/2012
Global ID : T0606500170
Action Type : ENFORCEMENT
Action : Technical Correspondence / Assistance / Other

Date : 03/30/2012
Global ID : T0606500170
Action Type : ENFORCEMENT
Action : Technical Correspondence / Assistance / Other

Date : 12/02/2011
Global ID : T0606500170
Action Type : ENFORCEMENT
Action : Technical Correspondence / Assistance / Other

Date : 09/28/2011
Global ID : T0606500170
Action Type : ENFORCEMENT
Action : Technical Correspondence / Assistance / Other

Date : 03/31/2011
Global ID : T0606500170
Action Type : ENFORCEMENT
Action : Technical Correspondence / Assistance / Other

Date : 03/28/2011
Global ID : T0606500170
Action Type : ENFORCEMENT
Action : File review - #RCDEH uploaded site file 3/25/2015

Date : 03/28/2011
Global ID : T0606500170
Action Type : RESPONSE
Action : Other Report / Document

Date : 01/26/2011
Global ID : T0606500170
Action Type : ENFORCEMENT
Action : Technical Correspondence / Assistance / Other

Map Id: E13
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
NORCO, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816446
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Date :	06/11/2010
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other
Date :	03/09/2010
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Clean Up Fund - Letter to RP
Date :	08/19/2009
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Letter - Notice
Date :	07/28/2009
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other
Date :	07/08/2009
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	Technical Correspondence / Assistance / Other
Date :	06/15/2009
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	File review
Date :	03/10/2009
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	File review
Date :	09/02/2007
Global ID :	T0606500170
Action Type :	RESPONSE
Action :	Soil and Water Investigation Workplan
Date :	01/16/2007
Global ID :	T0606500170
Action Type :	ENFORCEMENT
Action :	* No Action

Map Id: E13
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
NORCO, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816446
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Date : 09/27/2006
Global ID : T0606500170
Action Type : REMEDIATION
Action : N/R

Date : 03/17/2005
Global ID : T0606500170
Action Type : ENFORCEMENT
Action : Site Visit / Inspection / Sampling

Date : 10/13/1999
Global ID : T0606500170
Action Type : ENFORCEMENT
Action : Notice to Comply

Date : 01/22/1990
Global ID : T0606500170
Action Type : Other
Action : Leak Reported

Date : 11/16/1989
Global ID : T0606500170
Action Type : Other
Action : Leak Discovery

Date : 11/16/1989
Global ID : T0606500170
Action Type : Other
Action : Leak Stopped

Status History Summary
Status Date : 09/19/2016
Global ID : T0606500170
Status : Open - Verification Monitoring

Status Date : 06/09/2014
Global ID : T0606500170
Status : Open - Eligible for Closure

Status Date : 08/28/2007
Global ID : T0606500170
Status : Open - Site Assessment

Status Date : 06/14/1993
Global ID : T0606500170

Map Id: E13
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
NORCO, CA 92880

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816446
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Status : Open - Site Assessment

Status Date : 11/16/1989
Global ID : T0606500170
Status : Open - Case Begin Date

Status Date : 11/16/1989
Global ID : T0606500170
Status : Open - Site Assessment

Map Id: E14
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
CORONA, CA

Database(s) : [CORRECTIVE ACTION_RIVERSIDE COUNTY - CA, LUST_RIVERSIDE COUNTY - CA]

Envirosite ID: 30244861
EPA ID: N/R

CORRECTIVE ACTION_Riverside County - CA

Facility Name : Golden Coach Moving
Facility Address : 14325 Chandler St, Corona

Site Details
Date Opened : 01/17/1990
Date Closed : 12/16/2003
Case Closed : R
Case Type : Soil Impacted
RCDEH LOP ID : 90033
GeoTracker Global ID : T0606500170
Last Date in Agency List : 11/16/2017

LUST_Riverside County - CA

Facility Name : Golden Coach Moving
Facility Address : 14325 Chandler St, Corona
County : RIVERSIDE

Site Details
Status Date : N/R
Status : 0
Begin Date : N/R

Map Id: E14
Direction: E
Distance: 0.265 mi.
Actual: 1397.208 ft.
Elevation: 0.11 mi. / 578.816 ft.
Relative: Higher

Site Name : GOLDEN COACH MOVING
14325 CHANDLER ST
CORONA, CA

Database(s) : [CORRECTIVE ACTION_RIVERSIDE COUNTY - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 30244861
EPA ID: N/R

LUST_Riverside County - CA ***(cont.)***

Global ID :	N/R
Facility Type :	N/R
RB Case Number :	N/R
Potential Media Affected :	N/R
Potential Contaminants of Concern :	N/R
Local Agency :	N/R
Loc Case Number :	N/R
Lead Agency :	N/R
File Location :	N/R
CUF Case :	N/R
Caseworker :	N/R
How Discovered :	N/R
How Discovered Description :	N/R
Stop Method :	N/R
Stop Description :	N/R
Calwater Watershed Name :	N/R
DWR Groundwater Subbasin Name :	N/R
Disadvantaged Community :	N/R
Latitude :	N/R
Longitude :	N/R
Site History :	N/R
Agency URL :	N/R
Last Date in Agency List :	12/05/2013

Contacts Summary

Global ID :	N/R
Contact Name :	N/R
Contact Type :	N/R
Organization Name :	N/R
Address :	N/R
City :	N/R
Phone Number :	N/R
Email :	N/R

Regulatory Activities

Date :	N/R
Global ID :	N/R
Action Type :	N/R
Action :	N/R

Status History Summary

Status Date :	N/R
Global ID :	N/R
Status :	N/R

Map Id: 15
Direction: W
Distance: 0.366 mi.
Actual: 1932.524 ft.
Elevation: 0.108 mi. / 569.593 ft.
Relative: Lower

Site Name : FLAMINGO DAIRY
14970 CHANDLER RD
CORONA, CA 91720

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA]

Envirosite ID: 9816234
EPA ID: N/R

CALEPA SITES - CA

Facility Name :	FLAMINGO DAIRY
Facility Address :	14970 CHANDLER RD, CORONA, 91720
Site ID :	259196
EI ID :	T0606500481
EI Description :	Leaking Underground Storage Tank Cleanup Site
Latitude :	33.944416
Longitude :	-117.608640
Agency Hyperlink :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	07/24/2019

FRS

Facility Name :	FLAMINGO DAIRY
Facility Address :	14970 CHANDLER RD, CORONA, CA 91720
County :	RIVERSIDE
Registry ID :	110066218104
FRS Facility URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	06/20/2019

Source Description :

The California Environmental Protection Agency (CalEPA) has recently implemented a new data warehouse system (nSite). This data warehouse combines and merges facility and site information from five different systems managed within CalEPA. The five systems are: California Environmental Reporting System (CERS), EnviroStor, GeoTracker, California Integrated Water Quality System (CIWQS), and Toxic Release Inventory (TRI).

FRS Environmental Interest

Source and System ID :	CA-ENVIROVIEW - 259196

LUST REG 8 - CA

Facility Name :	FLAMINGO DAIRY
Facility Address :	14970 CHANDLER RD, CORONA, CA 91720
County :	Riverside

Site Details

Status Date :	04/07/1999
Status :	Completed - Case Closed
Begin Date :	01/30/1996
Global ID :	T0606500481
Region :	REGION 8
Site History :	N/R
RB Case Number :	083302926T
Potential Media Affected :	Soil

Map Id: 15
Direction: W
Distance: 0.366 mi.
Actual: 1932.524 ft.
Elevation: 0.108 mi. / 569.593 ft.
Relative: Lower

Site Name : FLAMINGO DAIRY
14970 CHANDLER RD
CORONA, CA 91720

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816234
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Potential Contaminants of Concern :	Gasoline
Local Agency :	RIVERSIDE COUNTY LOP
Local Case Number :	N/R
Lead Agency :	SANTA ANA RWQCB (REGION 8)
File Location :	N/R
CUF Case :	NO
Caseworker :	VJB
Case Type :	LUST Cleanup Site
How Discovered :	Tank Closure
How Discovered Description :	N/R
Stop Method :	N/R
Stop Description :	N/R
Calwater Watershed Name :	Santa Ana River - Middle Santa Ana River - Chino (Split) (801.21)
DWR Groundwater Subbasin Name :	Upper Santa Ana Valley - Chino (8-002.01)
Disadvantaged Community :	N/R
Latitude :	33.9444159
Longitude :	-117.60864
Agency URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	06/05/2019

Contacts Summary

Global ID :	T0606500481
Contact Name :	Riverside County LOP
Contact Type :	Local Agency Caseworker
Organization Name :	RIVERSIDE COUNTY LOP
Address :	3880 LEMON ST SUITE 200
City :	RIVERSIDE
Phone Number :	9519558980
Email :	N/R

Global ID :	T0606500481
Contact Name :	VALERIE JAHN-BULL
Contact Type :	Regional Board Caseworker
Organization Name :	SANTA ANA RWQCB (REGION 8)
Address :	3737 MAIN STREET, SUITE 500
City :	RIVERSIDE
Phone Number :	9517824903
Email :	valerie.jahn-bull@waterboards.ca.gov

Regulatory Activities

Date :	04/07/1999
Global ID :	T0606500481
Action Type :	ENFORCEMENT
Action :	Closure/No Further Action Letter

Date :	01/31/1996
Global ID :	T0606500481
Action Type :	Other
Action :	Leak Reported

Map Id: 15
Direction: W
Distance: 0.366 mi.
Actual: 1932.524 ft.
Elevation: 0.108 mi. / 569.593 ft.
Relative: Lower

Site Name : FLAMINGO DAIRY
14970 CHANDLER RD
CORONA, CA 91720

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816234
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Date :	01/30/1996
Global ID :	T0606500481
Action Type :	Other
Action :	Leak Discovery

Status History

Status Date :	04/07/1999
Global ID :	T0606500481
Status :	Completed - Case Closed

Status Date :	01/30/1996
Global ID :	T0606500481
Status :	Open - Case Begin Date

Status Date :	01/30/1996
Global ID :	T0606500481
Status :	Open - Site Assessment

LUST_RIVERSIDE COUNTY - CA

Facility Name :	FLAMINGO DAIRY
Facility Address :	14970 CHANDLER RD, CORONA, 91720
County :	RIVERSIDE

Site Details

Status Date :	04/07/1999
Status :	COMPLETED - CASE CLOSED
Begin Date :	01/30/1996
Global ID :	T0606500481
Facility Type :	LUST CLEANUP SITE
RB Case Number :	083302926T
Potential Media Affected :	Soil
Potential Contaminants of Concern :	Gasoline
Local Agency :	RIVERSIDE COUNTY LOP
Loc Case Number :	N/R
Lead Agency :	SANTA ANA RWQCB (REGION 8)
File Location :	N/R
CUF Case :	NO
Caseworker :	VJB
How Discovered :	Tank Closure
How Discovered Description :	N/R
Stop Method :	N/R
Stop Description :	N/R
Calwater Watershed Name :	Santa Ana River - Middle Santa Ana River - Chino (Split) (801.21)
DWR Groundwater Subbasin Name :	Upper Santa Ana Valley - Chino (8-002.01)
Disadvantaged Community :	N/R
Latitude :	33.9444159
Longitude :	-117.60864
Site History :	N/R

Map Id: 15
Direction: W
Distance: 0.366 mi.
Actual: 1932.524 ft.
Elevation: 0.108 mi. / 569.593 ft.
Relative: Lower

Site Name : FLAMINGO DAIRY
14970 CHANDLER RD
CORONA, CA 91720

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816234
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Agency URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	08/08/2019

Contacts Summary

Global ID :	T0606500481
Contact Name :	Riverside County LOP
Contact Type :	Local Agency Caseworker
Organization Name :	RIVERSIDE COUNTY LOP
Address :	3880 LEMON ST SUITE 200
City :	RIVERSIDE
Phone Number :	9519558980
Email :	N/R

Global ID :	T0606500481
Contact Name :	VALERIE JAHN-BULL
Contact Type :	Regional Board Caseworker
Organization Name :	SANTA ANA RWQCB (REGION 8)
Address :	3737 MAIN STREET, SUITE 500
City :	RIVERSIDE
Phone Number :	9517824903
Email :	valerie.jahn-bull@waterboards.ca.gov

Regulatory Activities

Date :	04/07/1999
Global ID :	T0606500481
Action Type :	ENFORCEMENT
Action :	Closure/No Further Action Letter

Date :	01/31/1996
Global ID :	T0606500481
Action Type :	Other
Action :	Leak Reported

Date :	01/30/1996
Global ID :	T0606500481
Action Type :	Other
Action :	Leak Discovery

Status History Summary

Status Date :	04/07/1999
Global ID :	T0606500481
Status :	Completed - Case Closed

Status Date :	01/30/1996
Global ID :	T0606500481

Map Id: 15
Direction: W
Distance: 0.366 mi.
Actual: 1932.524 ft.
Elevation: 0.108 mi. / 569.593 ft.
Relative: Lower

Site Name : FLAMINGO DAIRY
14970 CHANDLER RD
CORONA, CA 91720

Database(s) : [CALEPA SITES - CA, FRS, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9816234
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Status :	Open - Case Begin Date
Status Date :	01/30/1996
Global ID :	T0606500481
Status :	Open - Site Assessment

Map Id: 16
Direction: WNW
Distance: 0.460 mi.
Actual: 2428.586 ft.
Elevation: 0.109 mi. / 573.018 ft.
Relative: Lower

Site Name : RONDO ELEMENTARY SCHOOL
SOUTHEAST CORNER OF HELLMAN AVENUE & WALTERS STREET
EASTVALE, CA 92880

Database(s) : [ENVIROSTOR - CA, NFA - CA, SCH - CA]

Envirosite ID: 337730917
EPA ID: N/R

ENVIROSTOR - CA

Facility Name :	Rondo Elementary School
Facility Address :	Southeast Corner of Hellman Avenue & Walters Street, Eastvale, CA 92880
County :	RIVERSIDE

Site Details

Cleanup Date :	04/14/2017
Cleanup Status :	No Further Action
Site Type :	School Investigation
Site Type Detailed :	School
Acreage :	10
APN :	NONE SPECIFIED
National Priorities List :	NO
Regulatory Agencies Involved :	DTSC - Site Cleanup Program
Lead Agency :	DTSC - Site Cleanup Program
Project Manager :	Johnson Abraham
Supervisor :	Shahir Haddad
Office :	Southern California Schools & Brownfields Outreach
Envirostor ID :	60002406
Site Code :	404934
Assembly :	60
Senate :	31
Congressional District :	42
Special Program :	N/R
Past Uses :	AGRICULTURAL - LIVESTOCK, RESIDENTIAL AREA, VEHICLE MAINTENANCE
Potential COC :	Under Investigation; DDD; DDE; DDT; Dioxin (as 2,3,7,8-TCDD TEQ); Lead, Organic (tetraethyl lead)

Map Id: 16
Direction: WNW
Distance: 0.460 mi.
Actual: 2428.586 ft.
Elevation: 0.109 mi. / 573.018 ft.
Relative: Lower

Site Name : RONDO ELEMENTARY SCHOOL
SOUTHEAST CORNER OF HELLMAN AVENUE & WALTERS STREET
EASTVALE, CA 92880

Database(s) : [ENVIROSTOR - CA, NFA - CA, SCH - CA] ***(cont.)***

Envirosite ID: 337730917
EPA ID: N/R

ENVIROSTOR - CA ***(cont.)***

Confirmed COC :	DDD-NO; DDE-NO; DDT-NO; Dioxin (as 2,3,7,8-TCDD TEQ)-NO; Lead, Organic (tetraethyl lead)-NO; Under Investigation-NO
Potential Media Affected :	Soil
Restricted Use :	NO
Site Management Req :	NONE SPECIFIED
Funding :	School District
Latitude :	33.95121193
Longitude :	-117.60920671
Link to Agency Data :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	07/11/2019

Alias Details

Alias :	404934
Alias Type :	Project Code (Site Code)
Alias :	60002406
Alias Type :	Envirostor ID Number

Completed Activities

Completed Date :	03/12/2018
Area Name :	PROJECT WIDE
Sub Area Name :	N/R
Document Type :	Cost Recovery Closeout Memo
Comments :	CRBU processed Form 1554; closeout complete.
Completed Date :	04/14/2017
Area Name :	PROJECT WIDE
Sub Area Name :	N/R
Document Type :	Preliminary Endangerment Assessment Report
Comments :	N/R
Completed Date :	11/29/2016
Area Name :	PROJECT WIDE
Sub Area Name :	N/R
Document Type :	Preliminary Endangerment Assessment Tech Memo
Comments :	N/R
Completed Date :	09/13/2016
Area Name :	PROJECT WIDE
Sub Area Name :	N/R
Document Type :	Environmental Oversight Agreement
Comments :	Fully executed EOA sent to District via email on 09/13/16 and regular mail on 09/14/16.

Map Id: 16
Direction: WNW
Distance: 0.460 mi.
Actual: 2428.586 ft.
Elevation: 0.109 mi. / 573.018 ft.
Relative: Lower

Site Name : RONDO ELEMENTARY SCHOOL
SOUTHEAST CORNER OF HELLMAN AVENUE & WALTERS STREET
EASTVALE, CA 92880

Database(s) : [ENVIROSTOR - CA, NFA - CA, SCH - CA] ***(cont.)***

Envirosite ID: 337730917
EPA ID: N/R

ENVIROSTOR - CA ***(cont.)***

Completed Date :	08/22/2016
Area Name :	PROJECT WIDE
Sub Area Name :	N/R
Document Type :	Environmental Oversight Agreement Application
Comments :	N/R

Completed Date :	08/22/2016
Area Name :	PROJECT WIDE
Sub Area Name :	N/R
Document Type :	Other Report
Comments :	District submitted e-copy of Phase I ESA, dated 06/30/16, w/ EOP Application for background purposes.

Future Activities

Area Name :	N/R
Sub Area Name :	N/R
Document Type :	N/R
Due Date :	N/R

Scheduled Activites

Due Date :	N/R
Revised Date :	N/R
Area Name :	N/R
Sub Area Name :	N/R
Document Type :	N/R

NFA - CA

Facility Name :	Rondo Elementary School
Facility Address :	Southeast Corner of Hellman Avenue & Walters Street, Eastvale, CA 92880
County :	RIVERSIDE
Cleanup Date :	04/14/2017
Cleanup Status :	No Further Action
Site Type :	School Investigation
Site Type Detailed :	School
Acreage :	10
APN :	NONE SPECIFIED
National Priorities List :	NO
Regulatory Agencies Involved :	DTSC - Site Cleanup Program
Lead Agency :	DTSC - Site Cleanup Program
Project Manager :	Johnson Abraham
Supervisor :	Shahir Haddad
Office :	Southern California Schools & Brownfields Outreach
Envirostor ID :	60002406
Site Code :	404934
Assembly :	60

Map Id: 16
Direction: WNW
Distance: 0.460 mi.
Actual: 2428.586 ft.
Elevation: 0.109 mi. / 573.018 ft.
Relative: Lower

Site Name : RONDO ELEMENTARY SCHOOL
SOUTHEAST CORNER OF HELLMAN AVENUE & WALTERS STREET
EASTVALE, CA 92880

Database(s) : [ENVIROSTOR - CA, NFA - CA, SCH - CA] ***(cont.)***

Envirosite ID: 337730917
EPA ID: N/R

NFA - CA ***(cont.)***

Senate :	31
Congressional District :	42
Special Program :	N/R
Past Uses :	AGRICULTURAL - LIVESTOCK, RESIDENTIAL AREA, VEHICLE MAINTENANCE
Potential COC :	Under Investigation; DDD; DDE; DDT; Dioxin (as 2,3,7,8-TCDD TEQ); Lead, Organic (tetraethyl lead)
Confirmed COC :	DDD-NO; DDE-NO; DDT-NO; Dioxin (as 2,3,7,8-TCDD TEQ)-NO; Lead, Organic (tetraethyl lead)-NO; Under Investigation-NO
Potential Media Affected :	Soil
Restricted Use :	NO
Site Management Req :	NONE SPECIFIED
Funding :	School District
Latitude :	33.95121193
Longitude :	-117.60920671
Link to Agency Data :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	07/11/2019

SCH - CA

Facility Name :	RONDO ELEMENTARY SCHOOL
Facility Address :	SOUTHEAST CORNER OF HELLMAN AVENUE & WALTERS STREET, EASTVALE, 92880
County :	RIVERSIDE
Status Date :	04/14/2017
Status :	NO FURTHER ACTION
Envirostor ID :	60002406
School District :	CORONA-NORCO UNIFIED
Program Type :	SCHOOL INVESTIGATION
Site Code :	404934
CalEnviroScreen Score :	61-65%
Latitude :	33.95121193
Longitude :	-117.60920671
Last Date in Agency List :	08/16/2019

Map Id: 17
Direction: E
Distance: 0.461 mi.
Actual: 2436.412 ft.
Elevation: 0.11 mi. / 583.12 ft.
Relative: Higher

Site Name : PRIVATE RESIDENCE
PRIVATE RESIDENCE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA]

Envirosite ID: 9817570
EPA ID: N/R

CALEPA SITES - CA

Facility Name :	PRIVATE RESIDENCE
Facility Address :	PRIVATE RESIDENCE, CORONA, 92880
Site ID :	191397
EI ID :	T0606540855
EI Description :	Leaking Underground Storage Tank Cleanup Site
Latitude :	33.946000
Longitude :	-117.593163
Agency Hyperlink :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	07/24/2019

LUST REG 8 - CA

Facility Name :	PRIVATE RESIDENCE
Facility Address :	PRIVATE RESIDENCE, CORONA, CA 92880
County :	Riverside

Site Details

Status Date :	01/11/2007
Status :	Completed - Case Closed
Begin Date :	09/01/2003
Global ID :	T0606540855
Region :	REGION 8
Site History :	N/R
RB Case Number :	083304013T
Potential Media Affected :	Aquifer used for drinking water supply
Potential Contaminants of Concern :	Diesel, Gasoline
Local Agency :	RIVERSIDE COUNTY LOP
Local Case Number :	N/R
Lead Agency :	SANTA ANA RWQCB (REGION 8)
File Location :	N/R
CUF Case :	NO
Caseworker :	RS
Case Type :	LUST Cleanup Site
How Discovered :	Property Sale/Transaction
How Discovered Description :	N/R
Stop Method :	Close and Remove Tank
Stop Description :	N/R
Calwater Watershed Name :	Santa Ana River - Middle Santa Ana River - Chino (Split) (801.21)
DWR Groundwater Subbasin Name :	Upper Santa Ana Valley - Chino (8-002.01)
Disadvantaged Community :	N/R
Latitude :	33.946
Longitude :	-117.5931637
Agency URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	06/05/2019

Contacts Summary

Global ID :	T0606540855
Contact Name :	Riverside County LOP
Contact Type :	Local Agency Caseworker
Organization Name :	RIVERSIDE COUNTY LOP

Map Id: 17
Direction: E
Distance: 0.461 mi.
Actual: 2436.412 ft.
Elevation: 0.11 mi. / 583.12 ft.
Relative: Higher

Site Name : PRIVATE RESIDENCE
PRIVATE RESIDENCE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9817570
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Address :	3880 LEMON ST SUITE 200
City :	RIVERSIDE
Phone Number :	9519558980
Email :	N/R
Global ID :	T0606540855
Contact Name :	ROSE SCOTT
Contact Type :	Regional Board Caseworker
Organization Name :	SANTA ANA RWQCB (REGION 8)
Address :	3737 MAIN STREET, SUITE 500
City :	RIVERSIDE
Phone Number :	9513206375
Email :	rose.scott@waterboards.ca.gov

Regulatory Activities

Date :	11/18/2007
Global ID :	T0606540855
Action Type :	RESPONSE
Action :	Other Report / Document
Date :	01/11/2007
Global ID :	T0606540855
Action Type :	ENFORCEMENT
Action :	Closure/No Further Action Letter
Date :	01/11/2007
Global ID :	T0606540855
Action Type :	ENFORCEMENT
Action :	Staff Letter
Date :	10/20/2006
Global ID :	T0606540855
Action Type :	RESPONSE
Action :	Final Remedial Action Report / Corrective Action Report
Date :	10/12/2006
Global ID :	T0606540855
Action Type :	ENFORCEMENT
Action :	Verbal Enforcement
Date :	08/28/2006
Global ID :	T0606540855
Action Type :	ENFORCEMENT
Action :	Verbal Communication
Date :	07/19/2005
Global ID :	T0606540855

Map Id: 17
Direction: E
Distance: 0.461 mi.
Actual: 2436.412 ft.
Elevation: 0.11 mi. / 583.12 ft.
Relative: Higher

Site Name : PRIVATE RESIDENCE
PRIVATE RESIDENCE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9817570
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Action Type : ENFORCEMENT
Action : * No Action

Date : 05/19/2005
Global ID : T0606540855
Action Type : RESPONSE
Action : Interim Remedial Action Report

Date : 05/19/2005
Global ID : T0606540855
Action Type : RESPONSE
Action : Monitoring Report - Quarterly

Date : 02/22/2005
Global ID : T0606540855
Action Type : ENFORCEMENT
Action : Notice of Responsibility

Date : 02/22/2005
Global ID : T0606540855
Action Type : ENFORCEMENT
Action : Staff Letter

Date : 11/23/2004
Global ID : T0606540855
Action Type : Other
Action : Leak Reported

Date : 09/01/2003
Global ID : T0606540855
Action Type : Other
Action : Leak Began

Date : 09/01/2003
Global ID : T0606540855
Action Type : Other
Action : Leak Discovery

Date : 09/01/2003
Global ID : T0606540855
Action Type : Other
Action : Leak Stopped

Status History
Status Date : 01/11/2007
Global ID : T0606540855

Map Id: 17
Direction: E
Distance: 0.461 mi.
Actual: 2436.412 ft.
Elevation: 0.11 mi. / 583.12 ft.
Relative: Higher

Site Name : PRIVATE RESIDENCE
PRIVATE RESIDENCE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9817570
EPA ID: N/R

LUST REG 8 - CA ***(cont.)***

Status :	Completed - Case Closed
Status Date :	10/13/2006
Global ID :	T0606540855
Status :	Open - Remediation
Status Date :	11/23/2004
Global ID :	T0606540855
Status :	Open - Site Assessment
Status Date :	09/01/2003
Global ID :	T0606540855
Status :	Open - Case Begin Date

LUST_RIVERSIDE COUNTY - CA

Facility Name :	PRIVATE RESIDENCE
Facility Address :	PRIVATE RESIDENCE, CORONA, 92880
County :	RIVERSIDE

Site Details

Status Date :	01/11/2007
Status :	COMPLETED - CASE CLOSED
Begin Date :	09/01/2003
Global ID :	T0606540855
Facility Type :	LUST CLEANUP SITE
RB Case Number :	083304013T
Potential Media Affected :	Aquifer used for drinking water supply
Potential Contaminants of Concern :	Diesel, Gasoline
Local Agency :	RIVERSIDE COUNTY LOP
Loc Case Number :	N/R
Lead Agency :	SANTA ANA RWQCB (REGION 8)
File Location :	N/R
CUF Case :	NO
Caseworker :	RS
How Discovered :	Property Sale/Transaction
How Discovered Description :	N/R
Stop Method :	Close and Remove Tank
Stop Description :	N/R
Calwater Watershed Name :	Santa Ana River - Middle Santa Ana River - Chino (Split) (801.21)
DWR Groundwater Subbasin Name :	Upper Santa Ana Valley - Chino (8-002.01)
Disadvantaged Community :	N/R
Latitude :	33.946
Longitude :	-117.5931637
Site History :	N/R
Agency URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	08/08/2019

Map Id: 17
Direction: E
Distance: 0.461 mi.
Actual: 2436.412 ft.
Elevation: 0.11 mi. / 583.12 ft.
Relative: Higher

Site Name : PRIVATE RESIDENCE
PRIVATE RESIDENCE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9817570
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Contacts Summary

Global ID :	T0606540855
Contact Name :	Riverside County LOP
Contact Type :	Local Agency Caseworker
Organization Name :	RIVERSIDE COUNTY LOP
Address :	3880 LEMON ST SUITE 200
City :	RIVERSIDE
Phone Number :	9519558980
Email :	N/R

Global ID :	T0606540855
Contact Name :	ROSE SCOTT
Contact Type :	Regional Board Caseworker
Organization Name :	SANTA ANA RWQCB (REGION 8)
Address :	3737 MAIN STREET, SUITE 500
City :	RIVERSIDE
Phone Number :	9513206375
Email :	rose.scott@waterboards.ca.gov

Regulatory Activities

Date :	11/18/2007
Global ID :	T0606540855
Action Type :	RESPONSE
Action :	Other Report / Document

Date :	01/11/2007
Global ID :	T0606540855
Action Type :	ENFORCEMENT
Action :	Closure/No Further Action Letter

Date :	01/11/2007
Global ID :	T0606540855
Action Type :	ENFORCEMENT
Action :	Staff Letter

Date :	10/20/2006
Global ID :	T0606540855
Action Type :	RESPONSE
Action :	Final Remedial Action Report / Corrective Action Report

Date :	10/12/2006
Global ID :	T0606540855
Action Type :	ENFORCEMENT
Action :	Verbal Enforcement

Date :	08/28/2006
Global ID :	T0606540855
Action Type :	ENFORCEMENT

Map Id: 17
Direction: E
Distance: 0.461 mi.
Actual: 2436.412 ft.
Elevation: 0.11 mi. / 583.12 ft.
Relative: Higher

Site Name : PRIVATE RESIDENCE
PRIVATE RESIDENCE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9817570
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Action :	Verbal Communication
Date :	07/19/2005
Global ID :	T0606540855
Action Type :	ENFORCEMENT
Action :	* No Action
Date :	05/19/2005
Global ID :	T0606540855
Action Type :	RESPONSE
Action :	Interim Remedial Action Report
Date :	05/19/2005
Global ID :	T0606540855
Action Type :	RESPONSE
Action :	Monitoring Report - Quarterly
Date :	02/22/2005
Global ID :	T0606540855
Action Type :	ENFORCEMENT
Action :	Notice of Responsibility
Date :	02/22/2005
Global ID :	T0606540855
Action Type :	ENFORCEMENT
Action :	Staff Letter
Date :	11/23/2004
Global ID :	T0606540855
Action Type :	Other
Action :	Leak Reported
Date :	09/01/2003
Global ID :	T0606540855
Action Type :	Other
Action :	Leak Began
Date :	09/01/2003
Global ID :	T0606540855
Action Type :	Other
Action :	Leak Discovery
Date :	09/01/2003
Global ID :	T0606540855
Action Type :	Other
Action :	Leak Stopped

Map Id: 17
Direction: E
Distance: 0.461 mi.
Actual: 2436.412 ft.
Elevation: 0.11 mi. / 583.12 ft.
Relative: Higher

Site Name : PRIVATE RESIDENCE
PRIVATE RESIDENCE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, LUST REG 8 - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 9817570
EPA ID: N/R

LUST_RIVERSIDE COUNTY - CA ***(cont.)***

Status History Summary

Status Date :	01/11/2007
Global ID :	T0606540855
Status :	Completed - Case Closed
Status Date :	10/13/2006
Global ID :	T0606540855
Status :	Open - Remediation
Status Date :	11/23/2004
Global ID :	T0606540855
Status :	Open - Site Assessment
Status Date :	09/01/2003
Global ID :	T0606540855
Status :	Open - Case Begin Date

Map Id: 18
Direction: ENE
Distance: 0.499 mi.
Actual: 2636.606 ft.
Elevation: 0.111 mi. / 584.117 ft.
Relative: Higher

Site Name : JOHN & BOB'S SERVICE
7500 1/2 ARCHIBALD AVE
CORONA, CA

Database(s) : [CORRECTIVE ACTION_RIVERSIDE COUNTY - CA, LUST_RIVERSIDE COUNTY - CA]

Envirosite ID: 30244853
EPA ID: N/R

CORRECTIVE ACTION_Riverside County - CA

Facility Name :	John & Bob's Service
Facility Address :	7500 1/2 Archibald Ave, Corona

Site Details

Date Opened :	11/22/1994
Date Closed :	08/21/1995
Case Closed :	Y
Case Type :	Soil Impacted
RCDEH LOP ID :	941116
GeoTracker Global ID :	T0606500411
Last Date in Agency List :	11/16/2017

LUST_Riverside County - CA

Facility Name :	John & Bob's Service
Facility Address :	7500 1/2 Archibald Ave, Corona
County :	RIVERSIDE

Map Id: 18
Direction: ENE
Distance: 0.499 mi.
Actual: 2636.606 ft.
Elevation: 0.111 mi. / 584.117 ft.
Relative: Higher

Site Name : JOHN & BOB'S SERVICE
7500 1/2 ARCHIBALD AVE
CORONA, CA

Database(s) : [CORRECTIVE ACTION_RIVERSIDE COUNTY - CA, LUST_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 30244853
EPA ID: N/R

LUST_Riverside County - CA ***(cont.)***

Site Details

Status Date :	N/R
Status :	9
Begin Date :	N/R
Global ID :	N/R
Facility Type :	N/R
RB Case Number :	N/R
Potential Media Affected :	N/R
Potential Contaminants of Concern :	N/R
Local Agency :	N/R
Loc Case Number :	N/R
Lead Agency :	N/R
File Location :	N/R
CUF Case :	N/R
Caseworker :	N/R
How Discovered :	N/R
How Discovered Description :	N/R
Stop Method :	N/R
Stop Description :	N/R
Calwater Watershed Name :	N/R
DWR Groundwater Subbasin Name :	N/R
Disadvantaged Community :	N/R
Latitude :	N/R
Longitude :	N/R
Site History :	N/R
Agency URL :	N/R
Last Date in Agency List :	12/05/2013

Contacts Summary

Global ID :	N/R
Contact Name :	N/R
Contact Type :	N/R
Organization Name :	N/R
Address :	N/R
City :	N/R
Phone Number :	N/R
Email :	N/R

Regulatory Activities

Date :	N/R
Global ID :	N/R
Action Type :	N/R
Action :	N/R

Status History Summary

Status Date :	N/R
Global ID :	N/R
Status :	N/R

Map Id: 19
Direction: ENE
Distance: 0.541 mi.
Actual: 2856.447 ft.
Elevation: 0.111 mi. / 586.673 ft.
Relative: Higher

Site Name : TRUCK PLAZA
7500 ARCHIBALD AVE
NORCO, CA

Database(s) : [CORRECTIVE ACTION_RIVERSIDE COUNTY - CA]

Envirosite ID: 30245217
EPA ID: N/R

CORRECTIVE ACTION_Riverside County - CA

Facility Name :	Truck Plaza
Facility Address :	7500 Archibald Ave, Norco

Site Details

Date Opened :	06/14/1994
Date Closed :	08/29/1994
Case Closed :	Y
Case Type :	Soil Impacted
RCDEH LOP ID :	94495
GeoTracker Global ID :	T0606500373
Last Date in Agency List :	11/16/2017

Map Id: F20
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : VIRAMONTES EXPRESS
17130 HELLMAN AVENUE
CORONA, CA 92880

Database(s) : [CIWQS - CA, CIWQS 2 - CA, DOCKET, ECHO, FRS, ICIS, PCS ENF, SWF_LOS ANGELES COUNTY - CA]

Envirosite ID: 22589234
EPA ID: N/R

CIWQS - CA

Facility Name :	Viramontes Express
Facility Address :	17130 Hellman Avenue Corona, CA, 92880
County :	Riverside

Site Details

Place ID :	S854895
Agency Name :	Viramontes Express Inc.
Last Date in Agency List :	07/09/2019

CIWQS 2 - CA

Facility Name :	Viramontes Express
Facility Address :	17130 Hellman Avenue, Corona
County :	Riverside
Facility ID :	780913
WDID :	N/R
Facility Type :	N/R
Region :	8
Place Type :	Waste Management Unit
Place Subtype :	Composting Facility
Ageny Name :	N/R
Agency Type :	N/R

Map Id: F20
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : VIRAMONTES EXPRESS
17130 HELLMAN AVENUE
CORONA, CA 92880

Database(s) : [CIWQS - CA, CIWQS 2 - CA, DOCKET, ECHO, FRS, ICIS, PCS ENF, SWF_LOS ANGELES COUNTY - CA] ***(cont.)***

Envirosite ID: 22589234
EPA ID: N/R

CIWQS 2 - CA ***(cont.)***

Number of Agencies :	N/R
Status Date :	N/R
Status :	N/R
Status Enrollee :	N/R
Individual/General :	N/R
Fee Code :	N/R
Staff Assigned :	N/R
Number of Staff Assigned :	N/R
Supervisor :	N/R
Number of Supervisor :	N/R
Number of Amendments :	N/R
Number of Reg Measures :	N/R
Baseline Flow :	N/R
Population (MS4)/Acres :	N/R
Reclamation :	N/R
CAFO Type :	N/R
CAFO Subtype :	N/R
CAFO Population :	N/R
Onsite :	N/R
Quality Assurance :	N/R
RCRA Flag :	N/R
Total MMP Violations Number :	0
Total Number of Violations :	0
Total Number of Inspections :	2
Date of Most Recent Completed Inspection:	02/28/2017
Date of Most Recent Received Report :	N/R
Total Number of Final (A+H) Enforcement Actions:	0
Most Recent Effective Date of Enf Action (A+H):	N/R
Program :	LNDISP
Program Category :	LNDISP
Number of Programs :	N/R
Complexity :	N/R
Pretreatment :	N/R
Facility Waste Type :	N/R
Reg Measure ID :	N/R
Reg Measure Type :	N/R
Reg Measure Title :	N/R
Reg Measure Description :	N/R
SIC 1 :	N/R
SIC 2 :	N/R
SIC 3 :	N/R
Latitude :	N/R
Longitude :	N/R
Last Date in Agency List :	06/26/2019

DOCKET

Facility Name :	VIRAMONTES EXPRESS
Facility Address :	17130 HELLMAN AVENUE, CORONA, CA 92880

Map Id: F20
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : VIRAMONTES EXPRESS
17130 HELLMAN AVENUE
CORONA, CA 92880

Database(s) : [CIWQS - CA, CIWQS 2 - CA, DOCKET, ECHO, FRS, ICIS, PCS ENF, SWF_LOS ANGELES COUNTY - CA] ***(cont.)***

Envirosite ID: 22589234
EPA ID: N/R

DOCKET ***(cont.)***

Standard Industrial Classification(SIC) Summary

Enforcement Action Name :	VIRAMONTES EXPRESS
Registry ID :	110070086920
Primary SIC :	N/R
Primary NAICS :	N/R
Last Date in Agency List :	12/17/2018
Enforcement Action Case Number :	CA-ZIEA430802
Activity ID :	3601605631
Final Ordr Iss/Final Order Enter Date:	N/R
Final Order Name :	N/R
Settlement FRS ICIS Facility ID :	N/R
Final Order FRS Name :	N/R
SEP Category :	N/R
SEP Description :	N/R

Complaint Summary

Respondent/Defendant Name :	N/R
Named in Complaint :	N/R
Named in Final Order :	N/R

Pollutant Summary

Pollutants (SRS) :	N/R

Violation and Enforcement Action Summary

Court Docket Number :	N/R
Complaint/Proposed Order Actual Date:	N/R
Final Order Issued Actual Date :	N/R
Admin EA Closed Actual Date :	10/08/2018
Enforcement Action Name :	N/R
Enforcement Action Resolution :	N/R
Violation Type :	N/R
Statute Code :	CWA
Law Section Code :	OTHER
Law Section Description :	Violations not covered elsewhere

Violation Penalties and Compliance Summary

Compliance Action Cost :	N/R
EPA Penalty Assessed Amount :	N/R
Cost Recovery Required :	N/R
Cost of SEP :	N/R
Cost of Complying Actions :	N/R

Map Id: F20
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : VIRAMONTES EXPRESS
17130 HELLMAN AVENUE
CORONA, CA 92880

Database(s) : [CIWQS - CA, CIWQS 2 - CA, DOCKET, ECHO, FRS, ICIS, PCS ENF, SWF_LOS ANGELES COUNTY - CA] ***(cont.)***

Envirosite ID: 22589234
EPA ID: N/R

ECHO

Facility Name :	VIRAMONTES EXPRESS
Facility Address :	17130 HELLMAN AVENUE, CORONA, CA 92880
County :	N/R

Site Details

Last Inspection Date :	08/30/2018
Registry ID :	110070086920
FIPS Code :	06065
EPA Region :	09
Inspection Count :	1
Last Inspection Days :	318
Informal Count :	1
Last Informal Action Date :	10/08/2018
Formal Action Count :	0
Last Formal Action Date :	N/R
Total Penalties :	0
Penalty Count :	N/R
Last Penalty Date :	N/R
Last Penalty Amount :	N/R
QTRS IN NC :	1
Programs IN SNC :	0
Current Compliance Status :	Violation Identified
Three-Year Compliance Status :	_____V
Collection Method :	N/R
Reference Point :	N/R
Accuracy Meters :	99999999
Derived Tribes :	N/R
Derived HUC :	18070203
Derived WBD :	180702030705
Derived STCTY FIPS :	06071
Derived Zip :	91708
Derived CD113 :	35
Derived CB2010 :	060710019032004
MYRTK Universe :	NNN
NPDES IDs :	CAW485789 CAZ503251
CWA Permit Types :	Minor
CWA Compliance Tracking :	On
CWA NAICS :	N/R
CWA SICS :	5093
CWA Inspection Count :	1
CWA Last Inspection Days :	318
CWA Informal Count :	1
CWA Formal Action Count :	N/R
CWA Last Formal Action Date :	N/R
CWA Penalties :	N/R
CWA Last Penalty Date :	N/R
CWA Last Penalty Amount :	N/R
CWA Quarters IN NC :	1
CWA Current Compliance Status :	Violation Identified
CWA Current SNC Flag :	N
CWA 13 Quarters Compliance Status :	_____V
CWA 13 Quarters Effluent Exceedances:	N/R
CWA Three-Year QNCR Codes :	N/R

Map Id: F20
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : VIRAMONTES EXPRESS
17130 HELLMAN AVENUE
CORONA, CA 92880

Database(s) : [CIWQS - CA, CIWQS 2 - CA, DOCKET, ECHO, FRS, ICIS, PCS ENF, SWF_LOS ANGELES COUNTY - CA] ***(cont.)***

Envirosite ID: 22589234
EPA ID: N/R

ECHO ***(cont.)***

DFR URL :	Click here for hyperlink provided by the agency.
Facility SIC Codes :	5093 - SCRAP AND WASTE MATERIALS
Facility NAICS Codes :	562920 - Materials Recovery Facilities
Facility Last Inspection EPA Date :	N/R
Facility Last Inspection State Date :	08/30/2018
Facility Last Formal Act EPA Date :	N/R
Facility Last Formal Act State Date :	N/R
Facility Last Informal Act EPA Date :	N/R
Facility Last Informal Act State Date:	10/08/2018
Facility Federal Agency :	N/R
TRI Reporter :	N/R
Facility Imp Water Flag :	N/R
Current SNC Flag :	N
Indian County Flag :	N
Federal Flag :	N/R
US Mexico Border Flag :	N
Chesapeak Bay Flag :	N/R
AIR Flag :	N
NPDES Flag :	Y
SDWIS Flag :	N
RCRA Flag :	Y
TRI Flag :	N
GHG Flag :	N
Major Flag :	N/R
Active Flag :	Y
NAA Flag :	Y
Latitude :	33.94049
Longitude :	-117.61856
Last Date in Agency List :	07/15/2019

FRS

Facility Name :	VIRAMONTES EXPRESS
Facility Address :	17130 HELLMAN AVENUE, CORONA, CA 92880
County :	N/R
Registry ID :	110070086920
FRS Facility URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	06/20/2019

Source Description :

RCRAInfo is EPA’s comprehensive information system that supports the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984 through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA. RCRAInfo also supports generation of the National Hazardous Waste Biennial Report. All generators and treatment, storage, and disposal facilities who handle hazardous waste are required to report to the EPA Administrator at least once every two years to support creation of the Biennial Report.

Map Id: F20
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : VIRAMONTES EXPRESS
17130 HELLMAN AVENUE
CORONA, CA 92880

Database(s) : [CIWQS - CA, CIWQS 2 - CA, DOCKET, ECHO, FRS, ICIS, PCS ENF, SWF_LOS ANGELES COUNTY - CA] ***(cont.)***

Envirosite ID: 22589234
EPA ID: N/R

FRS ***(cont.)***

Source Description :

The NPDES module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

FRS Environmental Interest

Source and System ID :	ICIS - CAW485789 ICIS - CAZ503251 RCRAINFO - CAC002991523

ICIS

Facility Name :	VIRAMONTES EXPRESS
Facility Address :	17130 HELLMAN AVENUE, CORONA, CA 92880

Site Details

NPDES ID :	CAW485789
ICIS Facility Interest ID :	3600739620
Facility UIN :	110070086920
Facility Type Code :	N/R
Impaired Waters :	N/R
Latitude :	33.9405
Longitude :	-117.619
Last Date in Agency List :	07/16/2019

Facility NAICS

NAICS Code :	N/R
NAICS Description :	N/R

Facility SIC

SIC Code :	N/R
SIC Description :	N/R

PCS ENF

Site Details

NPDES ID :	CAW485789
Last Date in Agency List :	07/16/2019

Map Id: F20
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : VIRAMONTES EXPRESS
17130 HELLMAN AVENUE
CORONA, CA 92880

Database(s) : [CIWQS - CA, CIWQS 2 - CA, DOCKET, ECHO, FRS, ICIS, PCS ENF, SWF_LOS ANGELES COUNTY - CA] ***(cont.)***

Envirosite ID: 22589234
EPA ID: N/R

PCS ENF ***(cont.)***

Formal Enforcement Actions

Settlement Entered Date :	N/R
ENF Identifier :	N/R
Activity ID :	N/R
Activity Type :	N/R
ENF Type :	N/R
Agency :	N/R
Fed Penalty Assessed Amount :	N/R
State Local Penalty Amount :	N/R

Informal Enforcement Actions

Achieved Date :	10/08/2018
Registry ID :	110070086920
ENF Identifier :	CA-ZIEA430802
Activity ID :	3601605631
Activity Type :	Administrative - Informal
ENF Type :	Notice of Noncompliance Issued
Agency :	State

SWF_Los Angeles County - CA

Facility Name :	Viramontes Express
Facility Address :	17130 Hellman Avenue, Corona, CA 92880
Site ID :	708
Alternative Site Name :	N/A
Alternative Site Address :	N/A
Site Type :	Out-of-County Facility
Status :	Active
Beginning Operation Date :	N/A
Ending Operation Date :	N/A
Hour of Operation :	Monday - Friday 6:30 am - 4:30 pm Saturday 6:30 am - 1 pm
Waste Accepted :	Green Materials;
Disposal Area (Acre) :	N/A
Local Enforcement Agency :	County of San Bernardino Div. of Environmental Health Services
Max Depth of Fill (Feet) :	N/A
Permitted Capacity :	5460
Present Use :	Composting Operation (Green Waste)
Remaining Capacity (Millions) :	N/A
Site SWIS Number :	36-AA-0441
Site Website :	N/A
Site Contact Phone :	(909) 597-7232
Site Mailing Address :	N/A
Site Email :	N/R
Last Date in Agency List :	06/27/2019

Map Id: F21
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : RED STAR FERTILIZER COMPANY
17130 HELLMAN AVENUE
CORONA, CA 92880

Database(s) : [CIWQS - CA, DOCKET, ECHO, FRS, ICIS, PCS ENF]

Envirosite ID: 350076787
EPA ID: N/R

CIWQS - CA

Facility Name :	Red Star Fertilizer Company
Facility Address :	17130 Hellman Avenue Corona, CA, 92880
County :	Riverside

Site Details

Place ID :	S857371
Agency Name :	Red Star Fertilizer Company
Last Date in Agency List :	07/09/2019

DOCKET

Facility Name :	RED STAR FERTILIZER COMPANY
Facility Address :	17130 HELLMAN AVENUE, CORONA, CA 92880

Standard Industrial Classification(SIC) Summary

Enforcement Action Name :	RED STAR FERTILIZER COMPANY
Registry ID :	110070087127
Primary SIC :	N/R
Primary NAICS :	N/R
Last Date in Agency List :	12/17/2018

Enforcement Action Case Number :	CA-ZIEA430804
Activity ID :	3601608335
Final Ordr Iss/Final Order Enter Date:	N/R
Final Order Name :	N/R
Settlement FRS ICIS Facility ID :	N/R
Final Order FRS Name :	N/R
SEP Category :	N/R
SEP Description :	N/R

Complaint Summary

Respondent/Defendant Name :	N/R
Named in Complaint :	N/R
Named in Final Order :	N/R

Pollutant Summary

Pollutants (SRS) :	N/R

Violation and Enforcement Action Summary

Court Docket Number :	N/R
Complaint/Proposed Order Actual Date:	N/R
Final Order Issued Actual Date :	N/R
Admin EA Closed Actual Date :	10/08/2018
Enforcement Action Name :	N/R
Enforcement Action Resolution :	N/R

Map Id: F21
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : RED STAR FERTILIZER COMPANY
17130 HELLMAN AVENUE
CORONA, CA 92880

Database(s) : [CIWQS - CA, DOCKET, ECHO, FRS, ICIS, PCS ENF] ***(cont.)***

Envirosite ID: 350076787
EPA ID: N/R

DOCKET ***(cont.)***

Violation Type :	N/R
Statute Code :	CWA
Law Section Code :	OTHER
Law Section Description :	Violations not covered elsewhere

Violation Penalties and Compliance Summary

Compliance Action Cost :	N/R
EPA Penalty Assessed Amount :	N/R
Cost Recovery Required :	N/R
Cost of SEP :	N/R
Cost of Complying Actions :	N/R

ECHO

Facility Name :	RED STAR FERTILIZER COMPANY
Facility Address :	17130 HELLMAN AVENUE, CORONA, CA 92880
County :	N/R

Site Details

Last Inspection Date :	08/30/2018
Registry ID :	110070087127
FIPS Code :	06065
EPA Region :	09
Inspection Count :	1
Last Inspection Days :	318
Informal Count :	1
Last Informal Action Date :	10/08/2018
Formal Action Count :	0
Last Formal Action Date :	N/R
Total Penalties :	0
Penalty Count :	N/R
Last Penalty Date :	N/R
Last Penalty Amount :	N/R
QTRS IN NC :	1
Programs IN SNC :	0
Current Compliance Status :	Violation Identified
Three-Year Compliance Status :	V
Collection Method :	Zip Code Centroid
Reference Point :	N/R
Accuracy Meters :	10000
Derived Tribes :	N/R
Derived HUC :	N/R
Derived WBD :	N/R
Derived STCTY FIPS :	N/R
Derived Zip :	N/R
Derived CD113 :	N/R
Derived CB2010 :	N/R
MYRTK Universe :	NNN
NPDES IDs :	CAW488984
CWA Permit Types :	Minor

Map Id: F21
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : RED STAR FERTILIZER COMPANY
17130 HELLMAN AVENUE
CORONA, CA 92880

Database(s) : [CIWQS - CA, DOCKET, ECHO, FRS, ICIS, PCS ENF] ***(cont.)***

Envirosite ID: 350076787
EPA ID: N/R

ECHO ***(cont.)***

CWA Compliance Tracking :	N/R
CWA NAICS :	N/R
CWA SICS :	N/R
CWA Inspection Count :	1
CWA Last Inspection Days :	318
CWA Informal Count :	1
CWA Formal Action Count :	N/R
CWA Last Formal Action Date :	N/R
CWA Penalties :	N/R
CWA Last Penalty Date :	N/R
CWA Last Penalty Amount :	N/R
CWA Quarters IN NC :	1
CWA Current Compliance Status :	Violation Identified
CWA Current SNC Flag :	N
CWA 13 Quarters Compliance Status :	V
CWA 13 Quarters Effluent Exceedances:	N/R
CWA Three-Year QNCR Codes :	N/R
DFR URL :	Click here for hyperlink provided by the agency.
Facility SIC Codes :	N/R
Facility NAICS Codes :	N/R
Facility Last Inspection EPA Date :	N/R
Facility Last Inspection State Date :	08/30/2018
Facility Last Formal Act EPA Date :	N/R
Facility Last Formal Act State Date :	N/R
Facility Last Informal Act EPA Date :	N/R
Facility Last Informal Act State Date:	10/08/2018
Facility Federal Agency :	N/R
TRI Reporter :	N/R
Facility Imp Water Flag :	N/R
Current SNC Flag :	N
Indian County Flag :	N
Federal Flag :	N/R
US Mexico Border Flag :	N/R
Chesapeak Bay Flag :	N/R
AIR Flag :	N
NPDES Flag :	Y
SDWIS Flag :	N
RCRA Flag :	N
TRI Flag :	N
GHG Flag :	N
Major Flag :	N/R
Active Flag :	N/R
NAA Flag :	N/R
Latitude :	33.952683
Longitude :	-117.58507
Last Date in Agency List :	07/15/2019

FRS

Facility Name :	RED STAR FERTILIZER COMPANY
Facility Address :	17130 HELLMAN AVENUE, CORONA, CA 92880
County :	N/R
Registry ID :	110070087127
FRS Facility URL :	Click here for hyperlink provided by the agency.

Map Id: F21
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : RED STAR FERTILIZER COMPANY
17130 HELLMAN AVENUE
CORONA, CA 92880

Database(s) : [CIWQS - CA, DOCKET, ECHO, FRS, ICIS, PCS ENF] ***(cont.)***

Envirosite ID: 350076787
EPA ID: N/R

FRS ***(cont.)***

Last Date in Agency List : 06/20/2019

Source Description :

The NPDES module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

FRS Environmental Interest
Source and System ID : ICIS - CAW488984

ICIS

Facility Name : RED STAR FERTILIZER COMPANY
Facility Address : 17130 HELLMAN AVENUE, CORONA, CA 92880

Site Details
NPDES ID : CAW488984
ICIS Facility Interest ID : 3600740211
Facility UIN : 110070087127
Facility Type Code : N/R
Impaired Waters : N/R
Latitude : 0
Longitude : -0
Last Date in Agency List : 07/16/2019

Facility NAICS
NAICS Code : N/R
NAICS Description : N/R

Facility SIC
SIC Code : N/R
SIC Description : N/R

PCS ENF

Site Details
NPDES ID : CAW488984
Last Date in Agency List : 07/16/2019

Map Id: F21
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : RED STAR FERTILIZER COMPANY
17130 HELLMAN AVENUE
CORONA, CA 92880

Database(s) : [CIWQS - CA, DOCKET, ECHO, FRS, ICIS, PCS ENF] ***(cont.)***

Envirosite ID: 350076787
EPA ID: N/R

PCS ENF ***(cont.)***

Formal Enforcement Actions

Settlement Entered Date :	N/R
ENF Identifier :	N/R
Activity ID :	N/R
Activity Type :	N/R
ENF Type :	N/R
Agency :	N/R
Fed Penalty Assessed Amount :	N/R
State Local Penalty Amount :	N/R

Informal Enforcement Actions

Achieved Date :	10/08/2018
Registry ID :	110070087127
ENF Identifier :	CA-ZIEA430804
Activity ID :	3601608335
Activity Type :	Administrative - Informal
ENF Type :	Notice of Noncompliance Issued
Agency :	State

Map Id: F22
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : VIRAMONTES EXPRESS INC
17130 HELLMAN AVE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ICIS, NPDES - CA, PCS FACILITY, RCRA_NONGEN, RFR - CA]

Envirosite ID: 418625552
EPA ID: CAC002991523

CALEPA SITES - CA

Facility Name :	Viramontes Express Inc
Facility Address :	17130 HELLMAN AVE, CORONA, 92880
Site ID :	546185
EI ID :	868265
EI Description :	Industrial Facility Storm Water
Latitude :	33.940490
Longitude :	-117.618560
Agency Hyperlink :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	07/24/2019

CIWQS - CA

Facility Name :	Viramontes Express Inc
Facility Address :	17130 Hellman Ave Corona, CA, 92880
County :	San Bernardino

Map Id: F22
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : VIRAMONTES EXPRESS INC
17130 HELLMAN AVE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ICIS, NPDES - CA, PCS FACILITY, RCRA_NONGEN, RFR - CA] ***(cont.)***

Envirosite ID: 418625552
EPA ID: CAC002991523

CIWQS - CA ***(cont.)***

Site Details

Place ID :	S868265
Agency Name :	Viramontes Expree
Last Date in Agency List :	07/09/2019

ICIS

Facility Name :	VIRAMONTES EXPRESS INC
Facility Address :	17130 HELLMAN AVE, CORONA, CA 92880

Site Details

NPDES ID :	CAZ503251
ICIS Facility Interest ID :	3600992247
Facility UIN :	110070086920
Facility Type Code :	Privately Owned Facility
Impaired Waters :	N/R
Latitude :	33.9405
Longitude :	-117.619
Last Date in Agency List :	07/16/2019

Facility NAICS

NAICS Code :	N/R
NAICS Description :	N/R

Facility SIC

SIC Code :	5093
SIC Description :	Scrap And Waste Materials

NPDES - CA

Facility Name :	Viramontes Express Inc
Facility Address :	17130 Hellman Ave, Corona, 92880
County :	San Bernardino

Site Details

Effective Date :	11/07/2018
Adoption Date :	N/R
Expiration Date :	N/R
Termination Date :	N/R
Order Number :	97-03-DWQ
NPDES Number :	CAS000001
WDID :	8 36I027944
RM Status :	Active
Reg Meas ID :	503251
Reg Meas Type :	Enrollee
Program :	Industrial

Map Id: F22
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : VIRAMONTES EXPRESS INC
17130 HELLMAN AVE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ICIS, NPDES - CA, PCS FACILITY, RCRA_NONGEN, RFR - CA] ***(cont.)***

Envirosite ID: 418625552
EPA ID: CAC002991523

NPDES - CA ***(cont.)***

Facility Place ID :	N/R
Region Code :	8
Discharger ID :	0
Discharger :	Viramontes Expree
Discharger Address :	17130 Hellman Ave, Corona, California 92880

PCS FACILITY

Issue Date :	11/07/2018
Original Issue Date :	11/07/2018
Effective Date :	11/07/2018
Expiration Date :	06/30/2020
Retirement Date :	N/R
Termination Date :	N/R
Issuing Agency :	CA Waterboards
Agency Type Code :	State
Activity ID :	3601636489
External Permit Number :	CAZ503251
Facility Type Indicator :	NON-POTW
Permit Type Code :	General Permit Covered Facility-NPDES)
Major Minor Status :	N
Permit Status Code :	Effective
Total Design Flow Number :	N/R
Actual Average Flow Number :	N/R
State Water Body :	N/R
State Water Body Name :	N/R
Permit Name :	Viramontes Expree
Permit Comp Status :	Y
RNC Tracking :	Y
Master External Permit Number :	CAS000001
TMDL Interface :	N/R
EDMR Authorization :	N
Pretreatment Indicator Code :	N/R
Last Date in Agency List :	07/16/2019

RCRA_NONGEN

Facility Name :	VIRAMONTES EXPRESS INC
Facility Address :	17130 HELLMAN AVE, CORONA, CA 92880
County :	RIVERSIDE
Date Form Received by Agency :	12/03/2018
EPA ID :	CAC002991523
Mailing Address :	17130 HELLMAN AVE, CORONA, CA 92880
Contact :	SUZANA VIRAMONTES
Contact Address :	17130 HELLMAN AVE, CORONA, CA 92880
Contact Country :	N/R
Contact Telephone :	951-545-1662
Contact Email :	SUZANAMARIE12@AOL.COM
EPA Region :	09
Land Type :	Not Reported
Source Type :	Implementer
Classification :	Not a generator, verified
Description :	Not a generator, verified

Map Id: F22
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : VIRAMONTES EXPRESS INC
17130 HELLMAN AVE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ICIS, NPDES - CA, PCS FACILITY, RCRA_NONGEN, RFR - CA] ***(cont.)***

Envirosite ID: 418625552
EPA ID: CAC002991523

RCRA_NONGEN ***(cont.)***

Last Date in Agency List : 07/19/2019

Owner/Operator Summary

Owner/Operator Name :	HENRY VIRAMONTES
Owner/Operator Address :	17130 HELLMAN AVE, CORONA, CA 92880
Owner/Operator Country :	N/R
Owner/Operator Telephone :	909-597-7232
Owner/Operator Email :	N/R
Owner/Operator Fax :	N/R
Legal Status :	Other land type
Owner/Operator Type :	Owner
Owner/Operator Start Date :	N/R
Owner/Operator End Date :	N/R

Owner/Operator Name :	SUZANA VIRAMONTES
Owner/Operator Address :	17130 HELLMAN AVE, CORONA, CA 92880
Owner/Operator Country :	N/R
Owner/Operator Telephone :	951-545-1662
Owner/Operator Email :	N/R
Owner/Operator Fax :	N/R
Legal Status :	Other land type
Owner/Operator Type :	Operator
Owner/Operator Start Date :	N/R
Owner/Operator End Date :	N/R

Handler Activities Summary

U.S. Importer of Hazardous Waste :	N
Mixed Waste (Haz. and Radioactive) :	N
Recycler of Hazardous Waste :	N
Transporter of Hazardous Waste :	N
Treater, Storer or Disposer of HW :	N
Underground Injection Activity :	N
On-site Burner Exemption :	N
Furnace Exemption :	N
Used Oil Fuel Burner :	N
Used Oil Processor :	N
Used Oil Refiner :	N
Used Oil Fuel Marketer to Burner :	N
Used Oil Specification Marketer :	N
Used Oil Transfer Facility :	N
Used Oil Transporter :	N

Notices of Violations Summary

Regulation Violated : N

RFR - CA

Facility Name : Viramontes Express Inc

Map Id: F22
Direction: SW
Distance: 0.644 mi.
Actual: 3400.330 ft.
Elevation: 0.107 mi. / 566.378 ft.
Relative: Lower

Site Name : VIRAMONTES EXPRESS INC
17130 HELLMAN AVE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ICIS, NPDES - CA, PCS FACILITY, RCRA_NONGEN, RFR - CA] ***(cont.)***

Envirosite ID: 418625552
EPA ID: CAC002991523

RFR - CA ***(cont.)***

Facility Address :	17130 Hellman Ave, Corona, CA 92880
County :	San Bernardino

Site Details

Effective Date :	11/07/2018
Adoption Date :	N/R
Termination Date :	N/R
Expiration/Review Date :	N/R
NPDES Number :	CAS000001
Order Number :	2014-0057-DWQ
WDID :	8 36I027944
SIC/NAICS :	5093
Program :	INDSTW
Regulatory Measure Status :	Active
Regulatory Measure Type :	Storm water industrial
Place/Project Type :	Industrial - Scrap and Waste Materials
Region :	8
Design Flow :	N/R
Major/Minor :	N/R
Complexity :	N/R
TTWQ :	N/R
Number of Enforcement Actions within Five Years:	N/R
Number of Violations within Five Years:	N/R
Agency :	Viramontes Expree
Agency Address :	17130 Hellman Ave, Corona, CA 92880
Latitude :	33.94049
Longitude :	-117.61856
Last Date in Agency List :	07/01/2019

Map Id: 23
Direction: SSE
Distance: 0.648 mi.
Actual: 3422.317 ft.
Elevation: 0.109 mi. / 578.153 ft.
Relative: Higher

Site Name : PROPOSED YORBA ELEMENTARY SCHOOL
NE CORNER OF FIELDMASTER STREET
AND CHERRY CREEK CIRCLE
EASTVALE, CA 92880

Database(s) : [ENVIROSTOR - CA, NFA - CA, SCH - CA]

Envirosite ID: 9491135
EPA ID: N/R

ENVIROSTOR - CA

Facility Name :	Proposed Yorba Elementary School
Facility Address :	NE corner of Fieldmaster Street and Cherry Creek Circle, Eastvale, CA 92880
County :	RIVERSIDE

Map Id: 23
Direction: SSE
Distance: 0.648 mi.
Actual: 3422.317 ft.
Elevation: 0.109 mi. / 578.153 ft.
Relative: Higher

Site Name : PROPOSED YORBA ELEMENTARY SCHOOL
NE CORNER OF FIELDMASTER STREET
AND CHERRY CREEK CIRCLE
EASTVALE, CA 92880

Database(s) : [ENVIROSTOR - CA, NFA - CA, SCH - CA] ***(cont.)***

Envirosite ID: 9491135
EPA ID: N/R

ENVIROSTOR - CA ***(cont.)***

Site Details

Cleanup Date :	06/01/2012
Cleanup Status :	No Further Action
Site Type :	School Investigation
Site Type Detailed :	School
Acreage :	10.9
APN :	130-030-037
National Priorities List :	NO
Regulatory Agencies Involved :	DTSC - Site Cleanup Program
Lead Agency :	DTSC - Site Cleanup Program
Project Manager :	Rana Georges
Supervisor :	Thomas Cota
Office :	Southern California Schools & Brownfields Outreach
Envirostor ID :	60000901
Site Code :	404800
Assembly :	60
Senate :	31
Congressional District :	42
Special Program :	N/R
Past Uses :	AGRICULTURAL - LIVESTOCK, AGRICULTURAL - ROW CROPS
Potential COC :	Methane; TPH-gas
Confirmed COC :	Methane; TPH-gas-NO
Potential Media Affected :	Soil Vapor
Restricted Use :	NO
Site Management Req :	NONE SPECIFIED
Funding :	School District
Latitude :	33.937652
Longitude :	-117.596809
Link to Agency Data :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	07/11/2019

Alias Details

Alias :	130-030-037
Alias Type :	APN
Alias :	404800
Alias Type :	Project Code (Site Code)
Alias :	60000901
Alias Type :	Envirostor ID Number

Completed Activities

Completed Date :	08/02/2012
Area Name :	PROJECT WIDE
Sub Area Name :	N/R
Document Type :	Cost Recovery Closeout Memo
Comments :	CRU memo issued to close out the project.

Map Id: 23
Direction: SSE
Distance: 0.648 mi.
Actual: 3422.317 ft.
Elevation: 0.109 mi. / 578.153 ft.
Relative: Higher

Site Name : PROPOSED YORBA ELEMENTARY SCHOOL
NE CORNER OF FIELDMASTER STREET
AND CHERRY CREEK CIRCLE
EASTVALE, CA 92880

Database(s) : [ENVIROSTOR - CA, NFA - CA, SCH - CA] ***(cont.)***

Envirosite ID: 9491135
EPA ID: N/R

ENVIROSTOR - CA ***(cont.)***

Completed Date : 06/01/2012
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Technical Report

Comments : Approved the site with No Further Action determination based on methane sampling data (concentration and pressure trends).

Completed Date : 01/23/2012
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Monitoring Report
Comments : DTSC approved the methane monitoring report.

Completed Date : 09/29/2011
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Monitoring Report
Comments : Sampling completed

Completed Date : 06/29/2011
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Monitoring Report
Comments : Second quaterly report of 2011.

Completed Date : 03/25/2011
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Correspondence
Comments : DTSC forwarded an ESI letter to the District.

Completed Date : 03/15/2011
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Monitoring Report
Comments : Methane quaterly monitoring completed. Mr. Joe Hwong provided oversight.

Completed Date : 12/15/2010
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Monitoring Report
Comments : Fieldwork completed.

Completed Date : 11/18/2010
Area Name : PROJECT WIDE
Sub Area Name : N/R

Map Id: 23
Direction: SSE
Distance: 0.648 mi.
Actual: 3422.317 ft.
Elevation: 0.109 mi. / 578.153 ft.
Relative: Higher

Site Name : PROPOSED YORBA ELEMENTARY SCHOOL
NE CORNER OF FIELDMASTER STREET
AND CHERRY CREEK CIRCLE
EASTVALE, CA 92880

Database(s) : [ENVIROSTOR - CA, NFA - CA, SCH - CA] ***(cont.)***

Envirosite ID: 9491135
EPA ID: N/R

ENVIROSTOR - CA ***(cont.)***

Document Type : Supplemental Site Investigation Report
Comments : N/R

Completed Date : 06/21/2010
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Monitoring Report

Comments : Third round of quaterly monitoring activities was completed. Three additional soil gas probes were installed for methane caracterization in addition to replacement probes for the damaged probes.

Completed Date : 03/23/2010
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Monitoring Report

Comments : Second round of quaterly sampling completed. Some probes were not sampled due to accumulation of water from the recent storms.

Completed Date : 01/07/2010
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Monitoring Report

Comments :

1st monitoring event showed a decrease in methane values from the original PEA investigation except for one location north central of the site. A new probe was installed near that location and also showed elevated methane. Both locations are outside of the building footprint. DTSC discussed the sampling results with the consultant and possible actions. 4 additional probes will be installed to delineate the methane and provide clearance for the building footprint. This will possibly lead to elemination of the membrane and passive venting system.

Completed Date : 11/09/2009
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Technical Workplan

Comments : DTSC approved the SSI Tech Memo with conditional approval that site be surveyed for condition of sampling probes prior to sampling.

Completed Date : 01/26/2009
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : 4.15 Request
Comments : DTSC approved the 4.15 from.

Map Id: 23
Direction: SSE
Distance: 0.648 mi.
Actual: 3422.317 ft.
Elevation: 0.109 mi. / 578.153 ft.
Relative: Higher

Site Name : PROPOSED YORBA ELEMENTARY SCHOOL
NE CORNER OF FIELDMASTER STREET
AND CHERRY CREEK CIRCLE
EASTVALE, CA 92880

Database(s) : [ENVIROSTOR - CA, NFA - CA, SCH - CA] ***(cont.)***

Envirosite ID: 9491135
EPA ID: N/R

ENVIROSTOR - CA ***(cont.)***

Completed Date : 01/23/2009
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : School Cleanup Agreement
Comments : Signed document will be sent to District via FedEx on Monday.

Completed Date : 01/02/2009
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Supplemental Site Investigation Report

Comments : DTSC conditionally approved the SSI Report w/ further action determination given that the District addresses DTSCs comments on the draft SSI Report.

Completed Date : 11/17/2008
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Fieldwork

Comments : Conference call involving DTSC (project manager, toxicologist, geologist) and Leighton (project manager, geologist) to discuss step out sample results, entire data, and TPH analysis by the MA laboratory. Consultant discussed proposed cleanup goal for TPH (diesel range).

Completed Date : 09/19/2008
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Supplemental Site Investigation Workplan
Comments : N/R

Completed Date : 09/02/2008
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Preliminary Endangerment Assessment Report

Comments : DTSC approved the PEA for Further Action. A supplemental site investigation is ongoing for the site.

Completed Date : 05/27/2008
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Environmental Oversight Agreement
Comments : Signed agreement sent (FedEx) to District.

Future Activities
Area Name : N/R
Sub Area Name : N/R

Map Id: 23
Direction: SSE
Distance: 0.648 mi.
Actual: 3422.317 ft.
Elevation: 0.109 mi. / 578.153 ft.
Relative: Higher

Site Name : PROPOSED YORBA ELEMENTARY SCHOOL
NE CORNER OF FIELDMASTER STREET
AND CHERRY CREEK CIRCLE
EASTVALE, CA 92880

Database(s) : [ENVIROSTOR - CA, NFA - CA, SCH - CA] ***(cont.)***

Envirosite ID: 9491135
EPA ID: N/R

ENVIROSTOR - CA ***(cont.)***

Document Type :	N/R
Due Date :	N/R

Scheduled Activites

Due Date :	N/R
Revised Date :	N/R
Area Name :	N/R
Sub Area Name :	N/R
Document Type :	N/R

NFA - CA

Facility Name :	Proposed Yorba Elementary School
Facility Address :	NE corner of Fieldmaster Street and Cherry Creek Circle, Eastvale, CA 92880
County :	RIVERSIDE
Cleanup Date :	06/01/2012
Cleanup Status :	No Further Action
Site Type :	School Investigation
Site Type Detailed :	School
Acreage :	10.9
APN :	130-030-037
National Priorities List :	NO
Regulatory Agencies Involved :	DTSC - Site Cleanup Program
Lead Agency :	DTSC - Site Cleanup Program
Project Manager :	Rana Georges
Supervisor :	Thomas Cota
Office :	Southern California Schools & Brownfields Outreach
Envirostor ID :	60000901
Site Code :	404800
Assembly :	60
Senate :	31
Congressional District :	42
Special Program :	N/R
Past Uses :	AGRICULTURAL - LIVESTOCK, AGRICULTURAL - ROW CROPS
Potential COC :	Methane; TPH-gas
Confirmed COC :	Methane; TPH-gas-NO
Potential Media Affected :	Soil Vapor
Restricted Use :	NO
Site Management Req :	NONE SPECIFIED
Funding :	School District
Latitude :	33.937652
Longitude :	-117.596809
Link to Agency Data :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	07/11/2019

SCH - CA

Facility Name :	PROPOSED YORBA ELEMENTARY SCHOOL
Facility Address :	NE CORNER OF FIELDMASTER STREET AND CHERRY CREEK CIRCLE, EASTVALE, 92880

Map Id: 23
Direction: SSE
Distance: 0.648 mi.
Actual: 3422.317 ft.
Elevation: 0.109 mi. / 578.153 ft.
Relative: Higher

Site Name : PROPOSED YORBA ELEMENTARY SCHOOL
NE CORNER OF FIELDMASTER STREET
AND CHERRY CREEK CIRCLE
EASTVALE, CA 92880

Database(s) : [ENVIROSTOR - CA, NFA - CA, SCH - CA] ***(cont.)***

Envirosite ID: 9491135
EPA ID: N/R

SCH - CA ***(cont.)***

County :	RIVERSIDE
Status Date :	06/01/2012
Status :	NO FURTHER ACTION
Envirostor ID :	60000901
School District :	CORONA-NORCO UNIFIED
Program Type :	SCHOOL INVESTIGATION
Site Code :	404800
CalEnviroScreen Score :	61-65%
Latitude :	33.937652
Longitude :	-117.596809
Last Date in Agency List :	08/16/2019

Map Id: 24
Direction: W
Distance: 0.655 mi.
Actual: 3457.497 ft.
Elevation: 0.106 mi. / 557.782 ft.
Relative: Lower

Site Name : MARTIN FEED LLC
8755 CHINO-CORONA ROAD
CORONA, CA 92880

Database(s) : [CIWQS - CA, ECHO, FRS, ICIS, PCS ENF]

Envirosite ID: 414148696
EPA ID: N/R

CIWQS - CA

Facility Name :	Martin Feed LLC
Facility Address :	8755 Chino-Corona Road Corona, CA, 92880
County :	San Bernardino

Site Details

Place ID :	S867063
Agency Name :	Martin Feed LLC
Last Date in Agency List :	07/09/2019

ECHO

Facility Name :	MARTIN FEED LLC
Facility Address :	8755 CHINO-CORONA ROAD, CORONA, CA 92880
County :	RIVERSIDE COUNTY

Site Details

Last Inspection Date :	08/30/2018
Registry ID :	110070375902
FIPS Code :	06065
EPA Region :	09
Inspection Count :	1
Last Inspection Days :	318

Map Id: 24
Direction: W
Distance: 0.655 mi.
Actual: 3457.497 ft.
Elevation: 0.106 mi. / 557.782 ft.
Relative: Lower

Site Name : MARTIN FEED LLC
8755 CHINO-CORONA ROAD
CORONA, CA 92880

Database(s) : [CIWQS - CA, ECHO, FRS, ICIS, PCS ENF] ***(cont.)***

Envirosite ID: 414148696
EPA ID: N/R

ECHO ***(cont.)***

Informal Count :	2
Last Informal Action Date :	11/08/2018
Formal Action Count :	0
Last Formal Action Date :	N/R
Total Penalties :	0
Penalty Count :	N/R
Last Penalty Date :	N/R
Last Penalty Amount :	N/R
QTRS IN NC :	1
Programs IN SNC :	0
Current Compliance Status :	Violation Identified
Three-Year Compliance Status :	V
Collection Method :	Zip Code Centroid
Reference Point :	N/R
Accuracy Meters :	10000
Derived Tribes :	N/R
Derived HUC :	N/R
Derived WBD :	N/R
Derived STCTY FIPS :	N/R
Derived Zip :	N/R
Derived CD113 :	N/R
Derived CB2010 :	N/R
MYRTK Universe :	NNN
NPDES IDs :	CAW501675
CWA Permit Types :	Minor
CWA Compliance Tracking :	N/R
CWA NAICS :	N/R
CWA SICS :	N/R
CWA Inspection Count :	1
CWA Last Inspection Days :	318
CWA Informal Count :	2
CWA Formal Action Count :	N/R
CWA Last Formal Action Date :	N/R
CWA Penalties :	N/R
CWA Last Penalty Date :	N/R
CWA Last Penalty Amount :	N/R
CWA Quarters IN NC :	1
CWA Current Compliance Status :	Violation Identified
CWA Current SNC Flag :	N
CWA 13 Quarters Compliance Status :	V
CWA 13 Quarters Effluent Exceedances:	N/R
CWA Three-Year QNCR Codes :	N/R
DFR URL :	Click here for hyperlink provided by the agency.
Facility SIC Codes :	N/R
Facility NAICS Codes :	N/R
Facility Last Inspection EPA Date :	N/R
Facility Last Inspection State Date :	08/30/2018
Facility Last Formal Act EPA Date :	N/R
Facility Last Formal Act State Date :	N/R
Facility Last Informal Act EPA Date :	N/R
Facility Last Informal Act State Date:	11/08/2018
Facility Federal Agency :	N/R
TRI Reporter :	N/R
Facility Imp Water Flag :	N/R
Current SNC Flag :	N
Indian County Flag :	N

Map Id: 24
Direction: W
Distance: 0.655 mi.
Actual: 3457.497 ft.
Elevation: 0.106 mi. / 557.782 ft.
Relative: Lower

Site Name : MARTIN FEED LLC
8755 CHINO-CORONA ROAD
CORONA, CA 92880

Database(s) : [CIWQS - CA, ECHO, FRS, ICIS, PCS ENF] ***(cont.)***

Envirosite ID: 414148696
EPA ID: N/R

ECHO ***(cont.)***

Federal Flag :	N/R
US Mexico Border Flag :	N/R
Chesapeak Bay Flag :	N/R
AIR Flag :	N
NPDES Flag :	Y
SDWIS Flag :	N
RCRA Flag :	N
TRI Flag :	N
GHG Flag :	N
Major Flag :	N/R
Active Flag :	N/R
NAA Flag :	N/R
Latitude :	33.952683
Longitude :	-117.58507
Last Date in Agency List :	07/15/2019

FRS

Facility Name :	MARTIN FEED LLC
Facility Address :	8755 CHINO-CORONA ROAD, CORONA, CA 92880
County :	RIVERSIDE COUNTY
Registry ID :	110070375902
FRS Facility URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	06/20/2019

Source Description :

The NPDES module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

FRS Environmental Interest

Source and System ID :	ICIS - CAW501675

ICIS

Facility Name :	MARTIN FEED LLC
Facility Address :	8755 CHINO-CORONA ROAD, CORONA, CA 92880

Site Details

NPDES ID :	CAW501675
ICIS Facility Interest ID :	3600940992
Facility UIN :	110070375902
Facility Type Code :	N/R
Impaired Waters :	N/R
Latitude :	0

Map Id: 24
Direction: W
Distance: 0.655 mi.
Actual: 3457.497 ft.
Elevation: 0.106 mi. / 557.782 ft.
Relative: Lower

Site Name : MARTIN FEED LLC
8755 CHINO-CORONA ROAD
CORONA, CA 92880

Database(s) : [CIWQS - CA, ECHO, FRS, ICIS, PCS ENF] ***(cont.)***

Envirosite ID: 414148696
EPA ID: N/R

ICIS ***(cont.)***

Longitude : -0
Last Date in Agency List : 07/16/2019

Facility NAICS
NAICS Code : N/R
NAICS Description : N/R

Facility SIC
SIC Code : N/R
SIC Description : N/R

PCS ENF

Site Details
NPDES ID : CAW501675
Last Date in Agency List : 07/16/2019

Formal Enforcement Actions
Settlement Entered Date : N/R
ENF Identifier : N/R
Activity ID : N/R
Activity Type : N/R
ENF Type : N/R
Agency : N/R
Fed Penalty Assessed Amount : N/R
State Local Penalty Amount : N/R

Informal Enforcement Actions
Achieved Date : 11/08/2018
Registry ID : 110070375902
ENF Identifier : CA-ZIEA432830
Activity ID : 3601777345
Activity Type : Administrative - Informal
ENF Type : Notice of Noncompliance Issued
Agency : State

Achieved Date : 10/08/2018
Registry ID : 110070375902
ENF Identifier : CA-ZIEA432829
Activity ID : 3601777344
Activity Type : Administrative - Informal
ENF Type : Notice of Noncompliance Issued
Agency : State

Map Id: 25
Direction: SW
Distance: 0.699 mi.
Actual: 3688.332 ft.
Elevation: 0.106 mi. / 559.869 ft.
Relative: Lower

Site Name : RED STAR FERTILIZER CO
17132 HELLMAN AVE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ECHO, FRS, ICIS, NPDES - CA, PCS FACILITY, RFR - CA]

Envirosite ID: 411184247
EPA ID: N/R

CALEPA SITES - CA

Facility Name :	Red Star Fertilizer Co
Facility Address :	17132 HELLMAN AVE, CORONA, 92880
Site ID :	540565
EI ID :	868263
EI Description :	Industrial Facility Storm Water
Latitude :	33.936880
Longitude :	-117.611270
Agency Hyperlink :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	07/24/2019

CIWQS - CA

Facility Name :	Red Star Fertilizer Co
Facility Address :	17132 Hellman Ave Corona, CA, 92880
County :	San Bernardino

Site Details

Place ID :	S868263
Agency Name :	Red Star Fertilzer Co
Last Date in Agency List :	07/09/2019

ECHO

Facility Name :	RED STAR FERTILIZER CO
Facility Address :	17132 HELLMAN AVE, CORONA, CA 92880
County :	N/R

Site Details

Last Inspection Date :	N/R
Registry ID :	110070389704
FIPS Code :	06065
EPA Region :	09
Inspection Count :	0
Last Inspection Days :	N/R
Informal Count :	0
Last Informal Action Date :	N/R
Formal Action Count :	0
Last Formal Action Date :	N/R
Total Penalties :	0
Penalty Count :	N/R
Last Penalty Date :	N/R
Last Penalty Amount :	N/R
QTRS IN NC :	0
Programs IN SNC :	0
Current Compliance Status :	No Violation Identified
Three-Year Compliance Status :	_____
Collection Method :	N/R
Reference Point :	N/R
Accuracy Meters :	99999999

Map Id: 25
Direction: SW
Distance: 0.699 mi.
Actual: 3688.332 ft.
Elevation: 0.106 mi. / 559.869 ft.
Relative: Lower

Site Name : RED STAR FERTILIZER CO
17132 HELLMAN AVE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ECHO, FRS, ICIS, NPDES - CA, PCS FACILITY, RFR - CA] ***(cont.)***

Envirosite ID: 411184247
EPA ID: N/R

ECHO ***(cont.)***

Derived Tribes :	N/R
Derived HUC :	18070203
Derived WBD :	180702030705
Derived STCTY FIPS :	06071
Derived Zip :	91708
Derived CD113 :	42
Derived CB2010 :	060710019032004
MYRTK Universe :	NNN
NPDES IDs :	CAZ503249
CWA Permit Types :	Minor
CWA Compliance Tracking :	On
CWA NAICS :	N/R
CWA SICS :	2875
CWA Inspection Count :	N/R
CWA Last Inspection Days :	N/R
CWA Informal Count :	N/R
CWA Formal Action Count :	N/R
CWA Last Formal Action Date :	N/R
CWA Penalties :	N/R
CWA Last Penalty Date :	N/R
CWA Last Penalty Amount :	N/R
CWA Quarters IN NC :	0
CWA Current Compliance Status :	No Violation Identified
CWA Current SNC Flag :	N
CWA 13 Quarters Compliance Status :	_____
CWA 13 Quarters Effluent Exceedances:	N/R
CWA Three-Year QNCR Codes :	N/R
DFR URL :	Click here for hyperlink provided by the agency.
Facility SIC Codes :	2875 - FERTILIZERS, MIXING ONLY
Facility NAICS Codes :	N/R
Facility Last Inspection EPA Date :	N/R
Facility Last Inspection State Date :	N/R
Facility Last Formal Act EPA Date :	N/R
Facility Last Formal Act State Date :	N/R
Facility Last Informal Act EPA Date :	N/R
Facility Last Informal Act State Date:	N/R
Facility Federal Agency :	N/R
TRI Reporter :	N/R
Facility Imp Water Flag :	N/R
Current SNC Flag :	N
Indian County Flag :	N
Federal Flag :	N/R
US Mexico Border Flag :	N
Chesapeak Bay Flag :	N/R
AIR Flag :	N
NPDES Flag :	Y
SDWIS Flag :	N
RCRA Flag :	N
TRI Flag :	N
GHG Flag :	N
Major Flag :	N/R
Active Flag :	Y
NAA Flag :	Y
Latitude :	33.93688
Longitude :	-117.61127

Map Id: 25
Direction: SW
Distance: 0.699 mi.
Actual: 3688.332 ft.
Elevation: 0.106 mi. / 559.869 ft.
Relative: Lower

Site Name : RED STAR FERTILIZER CO
17132 HELLMAN AVE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ECHO, FRS, ICIS, NPDES - CA, PCS FACILITY, RFR - CA] ***(cont.)***

Envirosite ID: 411184247
EPA ID: N/R

ECHO ***(cont.)***

Last Date in Agency List : 07/15/2019

FRS

Facility Name : RED STAR FERTILIZER CO
Facility Address : 17132 HELLMAN AVE, CORONA, CA 92880
County : N/R

Registry ID : 110070389704
FRS Facility URL : Click here for hyperlink provided by the agency.
Last Date in Agency List : 06/20/2019

Source Description :

The NPDES module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

FRS Environmental Interest
Source and System ID : ICIS - CAZ503249

ICIS

Facility Name : RED STAR FERTILIZER CO
Facility Address : 17132 HELLMAN AVE, CORONA, CA 92880

Site Details
NPDES ID : CAZ503249
ICIS Facility Interest ID : 3600992246
Facility UIN : 110070389704
Facility Type Code : Privately Owned Facility
Impaired Waters : N/R
Latitude : 33.9369
Longitude : -117.611
Last Date in Agency List : 07/16/2019

Facility NAICS
NAICS Code : N/R
NAICS Description : N/R

Map Id: 25
Direction: SW
Distance: 0.699 mi.
Actual: 3688.332 ft.
Elevation: 0.106 mi. / 559.869 ft.
Relative: Lower

Site Name : RED STAR FERTILIZER CO
17132 HELLMAN AVE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ECHO, FRS, ICIS, NPDES - CA, PCS FACILITY, RFR - CA] ***(cont.)***

Envirosite ID: 411184247
EPA ID: N/R

ICIS ***(cont.)***

Facility SIC

SIC Code :	2875
SIC Description :	Fertilizers, Mixing Only

NPDES - CA

Facility Name :	Red Star Fertilizer Co
Facility Address :	17132 Hellman Ave, Corona, 92880
County :	San Bernardino

Site Details

Effective Date :	11/07/2018
Adoption Date :	N/R
Expiration Date :	N/R
Termination Date :	N/R
Order Number :	97-03-DWQ
NPDES Number :	CAS000001
WDID :	8 36I027943
RM Status :	Active
Reg Meas ID :	503249
Reg Meas Type :	Enrollee
Program :	Industrial
Facility Place ID :	N/R
Region Code :	8
Discharger ID :	0
Discharger :	Red Star Fertilzer Co
Discharger Address :	17132 Hellman Ave, Corona, California 92880

PCS FACILITY

Issue Date :	11/07/2018
Original Issue Date :	11/07/2018
Effective Date :	11/07/2018
Expiration Date :	06/30/2020
Retirement Date :	N/R
Termination Date :	N/R
Issuing Agency :	CA Waterboards
Agency Type Code :	State
Activity ID :	3601636486
External Permit Number :	CAZ503249
Facility Type Indicator :	NON-POTW
Permit Type Code :	General Permit Covered Facility-NPDES)
Major Minor Status :	N
Permit Status Code :	Effective
Total Design Flow Number :	N/R
Actual Average Flow Number :	N/R
State Water Body :	N/R
State Water Body Name :	N/R
Permit Name :	Red Star Fertilzer Co
Permit Comp Status :	Y
RNC Tracking :	Y
Master External Permit Number :	CAS000001
TMDL Interface :	N/R

Map Id: 25
Direction: SW
Distance: 0.699 mi.
Actual: 3688.332 ft.
Elevation: 0.106 mi. / 559.869 ft.
Relative: Lower

Site Name : RED STAR FERTILIZER CO
17132 HELLMAN AVE
CORONA, CA 92880

Database(s) : [CALEPA SITES - CA, CIWQS - CA, ECHO, FRS, ICIS, NPDES - CA, PCS FACILITY, RFR - CA] ***(cont.)***

Envirosite ID: 411184247
EPA ID: N/R

PCS FACILITY ***(cont.)***

EDMR Authorization :	N
Pretreatment Indicator Code :	N/R
Last Date in Agency List :	07/16/2019

RFR - CA

Facility Name :	Red Star Fertilizer Co
Facility Address :	17132 Hellman Ave, Corona, CA 92880
County :	San Bernardino

Site Details

Effective Date :	11/07/2018
Adoption Date :	N/R
Termination Date :	N/R
Expiration/Review Date :	N/R
NPDES Number :	CAS000001
Order Number :	2014-0057-DWQ
WDID :	8 36I027943
SIC/NAICS :	2875
Program :	INDSTW
Regulatory Measure Status :	Active
Regulatory Measure Type :	Storm water industrial
Place/Project Type :	Industrial - Fertilizers, Mixing Only
Region :	8
Design Flow :	N/R
Major/Minor :	N/R
Complexity :	N/R
TTWQ :	N/R
Number of Enforcement Actions within Five Years:	N/R
Number of Violations within Five Years:	N/R
Agency :	Red Star Fertilzer Co
Agency Address :	17132 Hellman Ave, Corona, CA 92880
Latitude :	33.93688
Longitude :	-117.61127
Last Date in Agency List :	07/01/2019

Map Id: 26
Direction: NW
Distance: 0.757 mi.
Actual: 3995.288 ft.
Elevation: 0.111 mi. / 587.261 ft.
Relative: Higher

Site Name : R T LEE CONSTRUCTION
7200 HELLMAN AVE
CORONA, CA

Database(s) : [CORRECTIVE ACTION_RIVERSIDE COUNTY - CA]

Envirosite ID: 30244869
EPA ID: N/R

CORRECTIVE ACTION_Riverside County - CA

Facility Name :	R T Lee Construction

Map Id: 26
Direction: NW
Distance: 0.757 mi.
Actual: 3995.288 ft.
Elevation: 0.111 mi. / 587.261 ft.
Relative: Higher

Site Name : R T LEE CONSTRUCTION
7200 HELLMAN AVE
CORONA, CA

Database(s) : [CORRECTIVE ACTION_RIVERSIDE COUNTY - CA] ***(cont.)***

Envirosite ID: 30244869
EPA ID: N/R

CORRECTIVE ACTION_Riverside County - CA ***(cont.)***

Facility Address : 7200 Hellman Ave, Corona

Site Details
Date Opened : 07/01/1991
Date Closed : 08/26/1992
Case Closed : Y
Case Type : Soil Impacted
RCDEH LOP ID : 91579
GeoTracker Global ID : T0606500240
Last Date in Agency List : 11/16/2017

Map Id: 27
Direction: NNE
Distance: 0.898 mi.
Actual: 4740.417 ft.
Elevation: 0.115 mi. / 606.047 ft.
Relative: Higher

Site Name : Marketplace at the Enclave PP 19946 PM 36283
14170 Schliesman Road
Mira Loma, CA 91752

Database(s) : [CIWQS - CA, ECHO, FRS, ICIS, INACTIVE PCS, NPDES - CA, RFR - CA]

Envirosite ID: 9772884
EPA ID: N/R

CIWQS - CA

Facility Name : Marketplace at the Enclave PP 19946 PM 36283
Facility Address : 14170 Schliesman Road Mira Loma, CA, 91752
County : Riverside

Site Details
Place ID : S802296
Agency Name : Enclave Holding Co
Last Date in Agency List : 07/09/2019

ECHO

Facility Name : MARKETPLACE AT THE ENCLAVE PP 19946 PM 36283
Facility Address : 14170 SCHLIESMAN ROAD, MIRA LOMA, CA 91752
County : N/R

Site Details
Last Inspection Date : N/R
Registry ID : 110070091096
FIPS Code : 06065
EPA Region : 09
Inspection Count : 0
Last Inspection Days : N/R
Informal Count : 0

Map Id: 27
Direction: NNE
Distance: 0.898 mi.
Actual: 4740.417 ft.
Elevation: 0.115 mi. / 606.047 ft.
Relative: Higher

Site Name : Marketplace at the Enclave PP 19946 PM 36283
14170 Schliesman Road
Mira Loma, CA 91752

Database(s) : [CIWQS - CA, ECHO, FRS, ICIS, INACTIVE PCS, NPDES - CA, RFR - CA] ***(cont.)***

Envirosite ID: 9772884
EPA ID: N/R

ECHO ***(cont.)***

Last Informal Action Date :	N/R
Formal Action Count :	0
Last Formal Action Date :	N/R
Total Penalties :	0
Penalty Count :	N/R
Last Penalty Date :	N/R
Last Penalty Amount :	N/R
QTRS IN NC :	0
Programs IN SNC :	0
Current Compliance Status :	N/R
Three-Year Compliance Status :	_____U
Collection Method :	N/R
Reference Point :	N/R
Accuracy Meters :	36031
Derived Tribes :	San Manuel Band of Mission Indians, California - 24.6 mile(s), San Manuel Band of Mission Indians, California - 24.7 mile(s)
Derived HUC :	18070203
Derived WBD :	180702030705
Derived STCTY FIPS :	06065
Derived Zip :	92880
Derived CD113 :	42
Derived CB2010 :	060650406092015
MYRTK Universe :	NNN
NPDES IDs :	CAZ402536
CWA Permit Types :	Minor
CWA Compliance Tracking :	Off
CWA NAICS :	N/R
CWA SICS :	N/R
CWA Inspection Count :	N/R
CWA Last Inspection Days :	N/R
CWA Informal Count :	N/R
CWA Formal Action Count :	N/R
CWA Last Formal Action Date :	N/R
CWA Penalties :	N/R
CWA Last Penalty Date :	N/R
CWA Last Penalty Amount :	N/R
CWA Quarters IN NC :	0
CWA Current Compliance Status :	Terminated Permit
CWA Current SNC Flag :	N
CWA 13 Quarters Compliance Status :	_____U
CWA 13 Quarters Effluent Exceedances:	N/R
CWA Three-Year QNCR Codes :	N/R
DFR URL :	Click here for hyperlink provided by the agency.
Facility SIC Codes :	N/R
Facility NAICS Codes :	N/R
Facility Last Inspection EPA Date :	N/R
Facility Last Inspection State Date :	N/R
Facility Last Formal Act EPA Date :	N/R
Facility Last Formal Act State Date :	N/R
Facility Last Informal Act EPA Date :	N/R
Facility Last Informal Act State Date:	N/R
Facility Federal Agency :	N/R
TRI Reporter :	N/R

Map Id: 27
Direction: NNE
Distance: 0.898 mi.
Actual: 4740.417 ft.
Elevation: 0.115 mi. / 606.047 ft.
Relative: Higher

Site Name : Marketplace at the Enclave PP 19946 PM 36283
14170 Schliesman Road
Mira Loma, CA 91752

Database(s) : [CIWQS - CA, ECHO, FRS, ICIS, INACTIVE PCS, NPDES - CA, RFR - CA] ***(cont.)***

Envirosite ID: 9772884
EPA ID: N/R

ECHO ***(cont.)***

Facility Imp Water Flag :	Y
Current SNC Flag :	N
Indian County Flag :	N
Federal Flag :	N/R
US Mexico Border Flag :	N
Chesapeak Bay Flag :	N/R
AIR Flag :	N
NPDES Flag :	Y
SDWIS Flag :	N
RCRA Flag :	N
TRI Flag :	N
GHG Flag :	N
Major Flag :	N/R
Active Flag :	N/R
NAA Flag :	Y
Latitude :	33.9597
Longitude :	-117.5947
Last Date in Agency List :	07/15/2019

FRS

Facility Name :	MARKETPLACE AT THE ENCLAVE PP 19946 PM 36283
Facility Address :	14170 SCHLIESMAN ROAD, MIRA LOMA, CA 91752
County :	N/R
Registry ID :	110070091096
FRS Facility URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	06/20/2019

Source Description :

The NPDES module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

FRS Environmental Interest

Source and System ID :	ICIS - CAZ402536

ICIS

Facility Name :	MARKETPLACE AT THE ENCLAVE PP 19946 PM 36283
Facility Address :	14170 SCHLIESMAN ROAD, MIRA LOMA, CA 91752

Map Id: 27
Direction: NNE
Distance: 0.898 mi.
Actual: 4740.417 ft.
Elevation: 0.115 mi. / 606.047 ft.
Relative: Higher

Site Name : Marketplace at the Enclave PP 19946 PM 36283
14170 Schliesman Road
Mira Loma, CA 91752

Database(s) : [CIWQS - CA, ECHO, FRS, ICIS, INACTIVE PCS, NPDES - CA, RFR - CA] ***(cont.)***

Envirosite ID: 9772884
EPA ID: N/R

ICIS ***(cont.)***

Site Details

NPDES ID :	CAZ402536
ICIS Facility Interest ID :	3600728281
Facility UIN :	110070091096
Facility Type Code :	Privately Owned Facility
Impaired Waters :	303(D) Listed
Latitude :	33.9597
Longitude :	-117.595
Last Date in Agency List :	07/16/2019

Facility NAICS

NAICS Code :	N/R
NAICS Description :	N/R

Facility SIC

SIC Code :	N/R
SIC Description :	N/R

INACTIVE PCS

Issue Date :	03/17/2010
Original Issue Date :	03/17/2010
Effective Date :	03/17/2010
Expiration Date :	09/02/2014
Retirement Date :	N/R
Termination Date :	02/07/2019
Issuing Agency :	CA Waterboards
Agency Type Code :	State
Activity ID :	3601107642
External Permit Number :	CAZ402536
Facility Type Indicator :	NON-POTW
Permit Type Code :	General Permit Covered Facility-NPDES)
Major Minor Status :	N
Permit Status Code :	Terminated
Total Design Flow Number :	4
Actual Average Flow Number :	N/R
State Water Body :	N/R
State Water Body Name :	N/R
Permit Name :	Enclave Holding Co
Permit Comp Status :	Y
RNC Tracking :	Y
Master External Permit Number :	CAS000002
TMDL Interface :	N/R
EDMR Authorization :	N
Pretreatment Indicator Code :	N/R
Last Date in Agency List :	07/16/2019

NPDES - CA

Facility Name :	Marketplace at the Enclave PP 19946 PM 36283
Facility Address :	14170 Schliesman Road, Mira Loma, 91752

Map Id: 27
Direction: NNE
Distance: 0.898 mi.
Actual: 4740.417 ft.
Elevation: 0.115 mi. / 606.047 ft.
Relative: Higher

Site Name : Marketplace at the Enclave PP 19946 PM 36283
14170 Schliesman Road
Mira Loma, CA 91752

Database(s) : [CIWQS - CA, ECHO, FRS, ICIS, INACTIVE PCS, NPDES - CA, RFR - CA] ***(cont.)***

Envirosite ID: 9772884
EPA ID: N/R

NPDES - CA ***(cont.)***

County : Riverside

Site Details

Effective Date : 03/17/2010
Adoption Date : N/R
Expiration Date : N/R
Termination Date : 02/07/2019
Order Number : 2009-0009-DWQ
NPDES Number : CAS000002
WDID : 8 33C357601
RM Status : Terminated
Reg Meas ID : 402536
Reg Meas Type : Enrollee
Program : Construction
Facility Place ID : N/R
Region Code : 8
Discharger ID : 0
Discharger : Enclave Holding Co
Discharger Address : 1156 N Mountain Ave, Upland, California 91785

Effective Date : 03/17/2010
Adoption Date : N/R
Expiration Date : N/R
Termination Date : N/R
Order Number : 2009-0009-DWQ
NPDES Number : CAS000002
WDID : 8 33C357601
RM Status : Active
Reg Meas ID : 402536
Reg Meas Type : Enrollee
Program : Construction
Facility Place ID : N/R
Region Code : 8
Discharger ID : 0
Discharger : Enclave Holding Co
Discharger Address : 1156 N Mountain Ave, Upland, California 91785

Effective Date : 03/17/2010
Adoption Date : N/R
Expiration Date : N/R
Termination Date : N/R
Order Number : 2009-0009-DWQ
NPDES Number : CAS000002
WDID : 8 33C357601
RM Status : Active
Reg Meas ID : 402536
Reg Meas Type : Enrollee
Program : N/R
Facility Place ID : N/R
Region Code : 8
Discharger ID : 0

Map Id: 27
Direction: NNE
Distance: 0.898 mi.
Actual: 4740.417 ft.
Elevation: 0.115 mi. / 606.047 ft.
Relative: Higher

Site Name : Marketplace at the Enclave PP 19946 PM 36283
14170 Schliesman Road
Mira Loma, CA 91752

Database(s) : [CIWQS - CA, ECHO, FRS, ICIS, INACTIVE PCS, NPDES - CA, RFR - CA] ***(cont.)***

Envirosite ID: 9772884
EPA ID: N/R

NPDES - CA ***(cont.)***

Discharger :	Enclave Holding Co
Discharger Address :	1156 N Mountain Ave, Upland, California 91785

RFR - CA

Facility Name :	Marketplace at the Enclave PP 19946 PM 36283
Facility Address :	14170 Schliesman Road, Mira Loma, CA 91752
County :	Riverside

Site Details

Effective Date :	03/17/2010
Adoption Date :	N/R
Termination Date :	N/R
Expiration/Review Date :	N/R
NPDES Number :	CAS000002
Order Number :	2009-0009-DWQ
WDID :	8 33C357601
SIC/NAICS :	N/R
Program :	CONSTW
Regulatory Measure Status :	Active
Regulatory Measure Type :	Storm water construction
Place/Project Type :	Construction - Commercial
Region :	8
Design Flow :	N/R
Major/Minor :	N/R
Complexity :	N/R
TTWQ :	N/R
Number of Enforcement Actions within Five Years:	N/R
Number of Violations within Five Years:	N/R
Agency :	Enclave Holding Co
Agency Address :	1156 N Mountain Ave, Upland, CA 91785
Latitude :	33.9597
Longitude :	-117.5947
Last Date in Agency List :	02/11/2019

Map Id: 28
Direction: NNW
Distance: 0.939 mi.
Actual: 4957.432 ft.
Elevation: 0.115 mi. / 606.686 ft.
Relative: Higher

Site Name : PIETERSMA DAIRY (FORMER)
14955 SCHLEISMAN ROAD
CORONA, CA 92880

Database(s) : [ENVIROSTOR - CA, FRS, VCP - CA]

Envirosite ID: 4068878
EPA ID: N/R

ENVIROSTOR - CA

Facility Name :	Pietersma Dairy (Former)
Facility Address :	14955 Schleisman Road, Corona, CA 92880

Map Id: 28
Direction: NNW
Distance: 0.939 mi.
Actual: 4957.432 ft.
Elevation: 0.115 mi. / 606.686 ft.
Relative: Higher

Site Name : PIETERSMA DAIRY (FORMER)
14955 SCHLEISMAN ROAD
CORONA, CA 92880

Database(s) : [ENVIROSTOR - CA, FRS, VCP - CA] ***(cont.)***

Envirosite ID: 4068878
EPA ID: N/R

ENVIROSTOR - CA ***(cont.)***

County : RIVERSIDE

Site Details

Cleanup Date :	06/30/2010
Cleanup Status :	Certified
Site Type :	Voluntary Cleanup
Site Type Detailed :	Voluntary Cleanup
Acreage :	54
APN :	NONE SPECIFIED
National Priorities List :	NO
Regulatory Agencies Involved :	DTSC - Site Cleanup Program
Lead Agency :	DTSC - Site Cleanup Program
Project Manager :	Joseph Cully
Supervisor :	Douglas Bautista
Office :	Cleanup Cypress
Envirostor ID :	60000781
Site Code :	401398
Assembly :	60
Senate :	31
Congressional District :	42
Special Program :	Voluntary Cleanup Program
Past Uses :	AGRICULTURAL - LIVESTOCK
Potential COC :	Chlordane
Confirmed COC :	Chlordane-NO
Potential Media Affected :	Soil
Restricted Use :	NO
Site Management Req :	NONE SPECIFIED
Funding :	Responsible Party
Latitude :	33.96081
Longitude :	-117.60859
Link to Agency Data :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	07/11/2019

Alias Details

Alias :	110033605891
Alias Type :	EPA (FRS #)
Alias :	401398
Alias Type :	Project Code (Site Code)
Alias :	60000781
Alias Type :	Envirostor ID Number

Completed Activities

Completed Date :	06/30/2010
Area Name :	PROJECT WIDE
Sub Area Name :	N/R
Document Type :	Certification

Map Id: 28
Direction: NNW
Distance: 0.939 mi.
Actual: 4957.432 ft.
Elevation: 0.115 mi. / 606.686 ft.
Relative: Higher

Site Name : PIETERSMA DAIRY (FORMER)
14955 SCHLEISMAN ROAD
CORONA, CA 92880

Database(s) : [ENVIROSTOR - CA, FRS, VCP - CA] ***(cont.)***

Envirosite ID: 4068878
EPA ID: N/R

ENVIROSTOR - CA ***(cont.)***

Comments : N/R

Completed Date : 01/19/2010
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Removal Action Completion Report
Comments : N/R

Completed Date : 10/13/2009
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Annual Oversight Cost Estimate
Comments : Letter sent on October 13, 2009.

Completed Date : 07/15/2009
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Removal Action Workplan
Comments : N/R

Completed Date : 04/02/2009
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Preliminary Endangerment Assessment Report
Comments : N/R

Completed Date : 12/18/2008
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Technical Report
Comments : DTSC approved this document.

Completed Date : 12/16/2008
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Technical Workplan
Comments : N/R

Completed Date : 12/21/2007
Area Name : PROJECT WIDE
Sub Area Name : N/R
Document Type : Voluntary Cleanup Agreement
Comments : Agreement Fully Executed.

Future Activities
Area Name : N/R
Sub Area Name : N/R

Map Id: 28
Direction: NNW
Distance: 0.939 mi.
Actual: 4957.432 ft.
Elevation: 0.115 mi. / 606.686 ft.
Relative: Higher

Site Name : PIETERSMA DAIRY (FORMER)
14955 SCHLEISMAN ROAD
CORONA, CA 92880

Database(s) : [ENVIROSTOR - CA, FRS, VCP - CA] ***(cont.)***

Envirosite ID: 4068878
EPA ID: N/R

ENVIROSTOR - CA ***(cont.)***

Document Type :	N/R
Due Date :	N/R

Scheduled Activites

Due Date :	N/R
Revised Date :	N/R
Area Name :	N/R
Sub Area Name :	N/R
Document Type :	N/R

FRS

Facility Name :	PIETERSMA DAIRY (FORMER)
Facility Address :	14955 SCHLEISMAN ROAD, CORONA, CA 92880
County :	RIVERSIDE
Registry ID :	110033605891
FRS Facility URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	06/20/2019

Source Description :

DTSC EnviroStor is an online search and Geographic Information System (GIS) tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. The EnviroStor database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites.

FRS Environmental Interest

Source and System ID :	CA-ENVIROSTOR - 60000781

VCP - CA

Facility Name :	Pietersma Dairy (Former)
Facility Address :	14955 Schleisman Road, Corona, CA 92880
County :	RIVERSIDE
Cleanup Date :	06/30/2010
Cleanup Status :	Certified
Site Type :	Voluntary Cleanup
Site Type Detailed :	Voluntary Cleanup
Acreage :	54
APN :	NONE SPECIFIED
National Priorities List :	NO
Regulatory Agencies Involved :	DTSC - Site Cleanup Program
Lead Agency :	DTSC - Site Cleanup Program
Project Manager :	Joseph Cully
Supervisor :	Douglas Bautista
Office :	Cleanup Cypress

Map Id: 28
Direction: NNW
Distance: 0.939 mi.
Actual: 4957.432 ft.
Elevation: 0.115 mi. / 606.686 ft.
Relative: Higher

Site Name : PIETERSMA DAIRY (FORMER)
14955 SCHLEISMAN ROAD
CORONA, CA 92880

Database(s) : [ENVIROSTOR - CA, FRS, VCP - CA]
(cont.)

Envirosite ID: 4068878
EPA ID: N/R

VCP - CA ***(cont.)***

Envirostor ID :	60000781
Site Code :	401398
Assembly :	60
Senate :	31
Congressional District :	42
Special Program :	Voluntary Cleanup Program
Past Uses :	AGRICULTURAL - LIVESTOCK
Potential COC :	Chlordane
Confirmed COC :	Chlordane-NO
Potential Media Affected :	Soil
Restricted Use :	NO
Site Management Req :	NONE SPECIFIED
Funding :	Responsible Party
Latitude :	33.96081
Longitude :	-117.60859
Link to Agency Data :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	07/11/2019

ENVIROSITE ID	NAME	ADDRESS	CITY	ZIP	DATABASE(S)
345180860	N/R	ALMOND GROVE & WALNUT GRO...			HIST CHMIRS - CA
9483012	AEROJET GENERAL CORPORATI...	SOQUEL CANYON ROAD	CHINO	91710	ENVIROSTOR - CA, HIS...
361655534	BRINE FAC,MARCH AFB				CIWQS - CA, CIWQS 2 ...
361655535	BRINE FAC,NORCO				CIWQS - CA, CIWQS 2 ...
405992510	CAC390355	14389 SULTANA	ONTARIO	91710	PCS FACILITY
401279270	CAZ438265	-			PCS FACILITY
406001542	CAZ439006				PCS FACILITY
406089327	CAZ439051				PCS FACILITY
405995521	CAZ439234				PCS FACILITY
360945000	CAZ446343	SOUTH OF BICKMORE AVENUE ...	CHINO	91710	PCS FACILITY
360952579	CAZ479544	5040 GOODMAN ROAD	EASTVALE	92880	PCS FACILITY
19114387	CHEVRON 210408	12464 LIMONITE AVE	CORONA	92880	ARCHIVED RCRA TSDF,...
327462816	CHINO PRISONER OF WAR CAM...		CHINO		FUDS
9786153	Flamingo Dairy McCune	Southeast corner of Hellm...	CORONA	92880	CIWQS - CA, NPDES - CA
340004237	HENRY & RICHARD WESTRA	7851 BRICKMORE AVE	CHINO	91710	DOCKET, ECHO, FRS, I...
9488079	KINDER MORGAN ENERGY PART...	S/E OF GUASTI ROAD AND MI...	ONTARIO	91710	ENVIROSTOR - CA
396782254	LAND APPLICATION OF BIOSO...	RIVERSIDE COUNTY			HIST LDS - CA
396782284	LANDFILL,HOME GARDENS				HIST LDS - CA, LDS - CA
337080766	MORGAN HILL	SEC BUTTERFIELD STAGE RD....	TEMECULA	91710	ECHO, FRS, ICIS, INACT...
9490295	PACIFIC AIRMOTIVE	ONTARIO AIRPORT	CHINO	91710	ENVIROSTOR - CA, HIS...
419036818	PHASE II SMALL MS4				INACTIVE PCS
19477777	TRACT 29677	SW QUAD OF THE INT OF CHA...	CORONA	92880	CIWQS - CA
19500804	TRACT 29677	SW QUAD OF INTERSECTF CHA...	CORONA	92880	CIWQS - CA
350077943	TRACT 29677 & LOTS 1 TO 6...	SW OF CHANDLER ST & ARCHI...	CORONA	92880	CIWQS - CA, ECHO, FR...
19500782	TRACT 29677 & LOTS 1 TO 6...	SW OF CHANDLER ST & ARCHI...	CORONA	92880	CIWQS - CA
19499301	TRACT 29677 LOTS 7 TO 82 ...	SW QUAD OF INTERSECTION C...	CORONA	92880	CIWQS - CA
19477804	TRACT 30576	SOUTH OF CHANDLER ST AT S...	NORCO	92880	CIWQS - CA
19477856	TRACT 31405 APN 130 020 0...	S SIDE CHANDLER ST BTWN H...	CORONA	92880	CIWQS - CA

FEDERAL RCRA NON-CORRACTS TSD FACILITIES LIST

ARCHIVED RCRA TSDF: Resource Conservation and Recovery Act hazardous waste transportation storage disposal and treatment facilities

Agency Version Date: 07/19/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/27/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 07/19/2019

RCRA_TSDF: Resource Conservation and Recovery Act hazardous waste transportation storage disposal and treatment facilities

Agency Version Date: 07/19/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/27/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 07/19/2019

FEDERAL CERCLIS LIST

CERCLIS NFRAP: The CERCLIS sites with No Further Remedial Action Planned from the CERCLIS program database. The Environmental Protection Agency decommissioned the CERCLIS data in 2014. The last update was November 12, 2013.

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 800-424-9346
Most Recent Contact: 08/19/2019

CERCLIS-HIST: The CERCLIS program database contains information on the assessment and remediation of federal hazardous waste sites. The Environmental Protection Agency decommissioned the CERCLIS data in 2014. The last update was November 12, 2013.

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 800-424-9346
Most Recent Contact: 08/19/2019

FEDERAL FACILITY: Sites where Federal Facilities Restoration and Reuse Office (FFRRO) arranged cleanup for Base Closure and Property Transfer at Federal Facilities

Agency Version Date: 06/10/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8712
Most Recent Contact: 08/19/2019

SEMS_8R_ACTIVE SITES: The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted. NPL sites include latitude and longitude information. For non-NPL sites, a brief site status is provided.

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 08/19/2019

SEMS_8R_ARCHIVED SITES: The Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 08/19/2019

FEDERAL RCRA CORRACTS FACILITIES LIST

CORRACTS: List of facilities where Resource Conservation and Recovery Act Corrective Action Program used to investigate and remediate hazardous releases

Agency Version Date: 07/19/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/27/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-1667
Most Recent Contact: 07/19/2019

HIST CORRACTS 2: List of facilities where Resource Conservation and Recovery Act Corrective Action Program used to investigate and remediate hazardous releases that are no longer in current agency list.

Agency Version Date: 10/12/2018
Agency Update Frequency: Annually
Planned Next Contact: 10/24/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-1667
Most Recent Contact: 07/26/2019

FEDERAL DELISTED NPL SITE LIST

DELISTED NPL: National Priority List of sites that were delisted and no longer require action

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 08/19/2019

DELISTED PROPOSED NPL: Sites that have been delisted from the proposed National Priority List

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 08/19/2019

SEMS_DELETED NPL: All Deleted National Priority List Sties

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 08/19/2019

FEDERAL LANDFILL AND/OR SOLID WASTE DISPOSAL SITE LISTS

EPA LF MOP: Sites in the EPA Landfill Methane Outreach Program

Agency Version Date: 07/15/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/23/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 07/15/2019

FEDERAL ERNS LIST

ERNS: Emergency Response Notification System records of reported spills

Agency Version Date: 06/12/2019
Agency Update Frequency: Annually
Planned Next Contact: 10/30/2019
Agency: National Response Center United States Coast Guard
Agency Contact: N/R
Most Recent Contact: 08/21/2019

FEDERAL RCRA GENERATORS LIST

HIST RCRA_CESQG: List of Resource Conservation and Recovery Act licensed conditionally exempt small quantity generators that are no longer in current agency list.

Agency Version Date: 10/12/2018
Agency Update Frequency: Annually
Planned Next Contact: 10/24/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 07/26/2019

FEDERAL RCRA GENERATORS LIST (cont.)

HIST RCRA_LQG: List of Resource Conservation and Recovery Act licensed large quantity generators that are no longer in current agency list.

Agency Version Date: 10/12/2018
Agency Update Frequency: Annually
Planned Next Contact: 10/24/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 07/26/2019

HIST RCRA_NONGEN: List of Resource Conservation and Recovery Act licensed non-generators that are no longer in current agency list.

Agency Version Date: 10/12/2018
Agency Update Frequency: Annually
Planned Next Contact: 10/24/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 07/26/2019

HIST RCRA_SQG: List of Resource Conservation and Recovery Act licensed small quantity generators that are no longer in current agency list.

Agency Version Date: 10/12/2018
Agency Update Frequency: Annually
Planned Next Contact: 10/24/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 07/26/2019

RCRA_LQG: Resource Conservation and Recovery Act listing of licensed large quantity generators

Agency Version Date: 07/19/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/27/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 07/19/2019

RCRA_NONGEN: Resource Conservation and Recovery Act listing of licensed non-generators

Agency Version Date: 07/19/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/27/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 07/19/2019

RCRA_SQG: Resource Conservation and Recovery Act listing of licensed small quantity generators

Agency Version Date: 07/19/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/27/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 07/19/2019

RCRA_VSQG: Resource Conservation and Recovery Act listing of licensed very small quantity generators.

Agency Version Date: 07/19/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/27/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 07/19/2019

FEDERAL NPL SITE LIST

NPL: List of priority contaminated sites among identified releases or threatened releases of hazardous substances pollutants or contaminants nationally

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 08/19/2019

NPL EPA R1 GIS: Geospatial data for the Environmental Protection Agency Region 1 National Priority List subject to environmental regulation

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-2132
Most Recent Contact: 08/19/2019

FEDERAL NPL SITE LIST (cont.)

NPL EPA R3 GIS: Geospatial data for the Environmental Protection Agency Region 3 National Priority List subject to environmental regulation

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-2132
Most Recent Contact: 08/19/2019

NPL EPA R6 GIS: Geospatial data for the Environmental Protection Agency Region 6 National Priority List subject to environmental regulation

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-2132
Most Recent Contact: 08/19/2019

NPL EPA R8 GIS: Geospatial data for the Environmental Protection Agency Region 8 National Priority List subject to environmental regulation

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-2132
Most Recent Contact: 08/19/2019

NPL EPA R9 GIS: Geospatial data for the Environmental Protection Agency Region 9 National Priority List subject to environmental regulation

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-2132
Most Recent Contact: 08/19/2019

PART NPL: Sites that are a part of an National Priority List site referred to as the parent site

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 08/19/2019

PROPOSED NPL: Sites that have been proposed for the National Priority List

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 08/19/2019

SEMS_FINAL NPL: All Included National Priority List Sites

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 08/19/2019

SEMS_PROPOSED NPL: All Proposed National Priority List Sites

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 08/19/2019

FEDERAL INSTITUTIONAL CONTROLS / ENGINEERING CONTROLS REGISTRIES

RCRA IC_EC: Sites with institutional or engineering controls related to Resource Conservation and Recovery Act

Agency Version Date: 06/18/2019
Agency Update Frequency: Varies
Planned Next Contact: 11/05/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 08/27/2019

FEDERAL INSTITUTIONAL CONTROLS / ENGINEERING CONTROLS REGISTRIES (cont.)

Fed E C: Federal listing of remediation sites with engineering controls

Agency Version Date: 09/30/2013
Agency Update Frequency: Varies
Planned Next Contact: 11/13/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 800-424-9346
Most Recent Contact: 09/04/2019

Fed I C: Federal listing of remediation sites with institutional controls

Agency Version Date: 09/30/2013
Agency Update Frequency: Varies
Planned Next Contact: 11/13/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 800-424-9346
Most Recent Contact: 09/04/2019

STATE AND TRIBAL REGISTERED STORAGE TANK LISTS

FEMA UST: FEMA underground storage tank listing

Agency Version Date: 06/21/2019
Agency Update Frequency: Varies
Planned Next Contact: 11/18/2019
Agency: FEMA
Agency Contact: 202-212-5283
Most Recent Contact: 08/20/2019

AST - CA: Listing of tank facilities that are subject to the California Aboveground Petroleum Storage Act

Agency Version Date: 05/10/2019
Agency Update Frequency: No update
Planned Next Contact: 09/27/2019
Agency: California Environmental Protection Agency Unified Program Section
Agency Contact: 916-327-5092
Most Recent Contact: 07/19/2019

FID UST - CA: The State Water Resource Control Board's Facility Inventory Database underground storage tank locations listing

Agency Version Date: 07/08/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/16/2019
Agency: California Environmental Protection Agency
Agency Contact: 916-341-5791
Most Recent Contact: 07/08/2019

HIST AST - CA: Historical listing of tank facilities that are subject to the California Aboveground Petroleum Storage Act

Agency Version Date: 05/15/2018
Agency Update Frequency: Quarterly
Planned Next Contact: 09/27/2019
Agency: California Environmental Protection Agency Unified Program Section
Agency Contact: 916-327-5092
Most Recent Contact: 07/19/2019

HIST UST - CA: Historical UST listing

Agency Version Date: 05/25/2016
Agency Update Frequency: Varies
Planned Next Contact: 09/16/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 07/08/2019

UST - CA: Listing of active underground storage tank facilities

Agency Version Date: 06/23/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 11/13/2019
Agency: CA Gov geotracker state water resources control board
Agency Contact: N/R
Most Recent Contact: 09/04/2019

UST_Riverside County - CA: Riverside county underground storage tank sites

Agency Version Date: 06/23/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 11/13/2019
Agency: CA Gov geotracker state water resources control board
Agency Contact: N/R
Most Recent Contact: 09/04/2019

STATE AND TRIBAL BROWNFIELD SITES

TRIBAL BROWNFIELDS: Tribal brownfield remediation site listing

Agency Version Date: 02/10/2014
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 11/04/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 08/06/2019

STATE- AND TRIBAL - EQUIVALENT CERCLIS

ENVIROSTOR - CA: Department of Toxic Substances Controls

Agency Version Date: 07/11/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/19/2019
Agency: Department of Toxic Substances Control
Agency Contact: 916-327-1077
Most Recent Contact: 07/11/2019

HIST TOXIC PITS - CA: Listing of Toxic Pit Cleanup Act sites that are no longer in current agency list.

Agency Version Date: 10/12/2018
Agency Update Frequency: Quarterly
Planned Next Contact: 11/27/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5810
Most Recent Contact: 08/29/2019

OIL & GAS CLEANUP - CA: List of SWRCB Oil & Gas Cleanup Sites from GeoTracker Site Cleanup Program database.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: California Regional Water Quality Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

SWRCB CLEANUP - CA: List of SWRCB Cleanups from Geotracker including CAF, Sampling Points, and Projects.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: California Regional Water Quality Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

SWRCB NON_CASE - CA: List of SWRCB Non-Case sites from GeoTracker Site Cleanup Program database.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: California Regional Water Quality Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

TOXIC PITS - CA: Listing of Toxic Pit Cleanup Act sites

Agency Version Date: 06/26/2019
Agency Update Frequency: No update
Planned Next Contact: 11/27/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5810
Most Recent Contact: 08/29/2019

STATE- AND TRIBAL - EQUIVALENT NPL

HIST RESPONSE - CA: List of state response sites with confirmed releases and potential high risk that are no longer in current agency list.

Agency Version Date: 10/19/2017
Agency Update Frequency: Annually
Planned Next Contact: 10/10/2019
Agency: Department of Toxic Substances Control
Agency Contact: 916-327-1077
Most Recent Contact: 07/12/2019

RESPONSE - CA: State response sites with confirmed releases and potential high risk

Agency Version Date: 07/11/2019
Agency Update Frequency: Annually
Planned Next Contact: 09/19/2019
Agency: Department of Toxic Substances Control
Agency Contact: 916-327-1077
Most Recent Contact: 07/11/2019

STATE AND TRIBAL LANDFILL AND/OR SOLID WASTE DISPOSAL SITE LISTS

HIST SWF/LF - CA: List of Solid Waste Information System's solid waste facilities and landfills that is no longer in current agency list.

Agency Version Date: 10/01/2018
Agency Update Frequency: Annually
Planned Next Contact: 10/08/2019
Agency: Department of Resources Recycling and Recovery
Agency Contact: 916-341-6066
Most Recent Contact: 07/10/2019

SWF/LF - CA: Solid Waste Information System's facility listing of solid waste facilities and landfills

Agency Version Date: 07/08/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/16/2019
Agency: Department of Resources Recycling and Recovery
Agency Contact: 916-341-6066
Most Recent Contact: 07/08/2019

STATE AND TRIBAL LEAKING STORAGE TANK LISTS

LUST REG 1 - CA: Leaking underground storage tanks in Region 1: Del Norte Glenn Humboldt Lake Marin Mendocino Modoc Siskiyou Sonoma andTrinity counties.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

LUST REG 2 - CA: Leaking underground storage tanks in Region 2: Alameda Contra Costa San Francisco Santa Clara (north of Morgan Hill) San Mateo Marin Sonoma Napa Solano counties

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

LUST REG 3 - CA: Leaking underground storage tanks in Region 3: Santa Clara (south of Morgan Hill) San Mateo (southern part) Santa Cruz SanBenito Monterey Kern (some parts) San Luis Obispo Santa Barbara Ventura(northern part) counties

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

LUST REG 4 - CA: Leaking underground storage tanks in Region 4: Los Angeles Ventura counties (Small parts of Kern and Santa Barbara counties).

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

LUST REG 5 - CA: Leaking underground storage tanks in Region 5: Modoc Shasta Lassen Plumas Butte Glen Colusa Lake Sutter Yuba Sierra Nevada Placer Yolo Napa (Northeast) Solano (West) Sacramento El Dorado Amador Calaveras San Joaquin Contra Costa (East) Stanislaus Toulumne Merced Mariposa Madera Kings Fresno Tulare Kern (Very small portions of San Benito and SanLuis Obispo) counties

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

LUST REG 6 - CA: Leaking underground storage tanks in Region 6: Modoc (East) Lassen (East side and Eagle Lake) Sierra Nevada Placer El Dorado Alpine Mono Inyo Kern (East) San Bernardino Los Angeles (Northeast corner) counties

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

STATE AND TRIBAL LEAKING STORAGE TANK LISTS (cont.)

LUST REG 7 - CA: Leaking underground storage tanks in Region 7: Imperial San Bernardino Riverside and San Diego counties.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

LUST REG 8 - CA: Leaking underground storage tanks in Region 8: Orange Riverside San Bernardino counties.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

LUST REG 9 - CA: Leaking underground storage tanks in Region 9: San Diego Imperial Riverside counties.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

SLIC REG 1 - CA: List of Region 1 sites from GeoTracker Site Cleanup Program (formerly known as SLIC) database.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

SLIC REG 2 - CA: List of Region 2 sites from GeoTracker Site Cleanup Program (formerly known as SLIC) database.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

SLIC REG 3 - CA: List of Region 3 sites from GeoTracker Site Cleanup Program (formerly known as SLIC) database.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

SLIC REG 4 - CA: List of Region 4 sites from GeoTracker Site Cleanup Program (formerly known as SLIC) database.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

SLIC REG 5 - CA: List of Region 5 sites from GeoTracker Site Cleanup Program (formerly known as SLIC) database.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

SLIC REG 6 - CA: List of Region 6 sites from GeoTracker Site Cleanup Program (formerly known as SLIC) database that is no longer in current agency list.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

SLIC REG 7 - CA: List of Region 7 sites from GeoTracker Site Cleanup Program (formerly known as SLIC) database.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

STATE AND TRIBAL LEAKING STORAGE TANK LISTS (cont.)

SLIC REG 8 - CA: List of Region 8 sites from GeoTracker Site Cleanup Program (formerly known as SLIC) database.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

SLIC REG 9 - CA: List of Region 9 sites from GeoTracker Site Cleanup Program (formerly known as SLIC) database that is no longer in current agency list.

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

LUST_Riverside County - CA: Riverside county leaking underground storage tank sites

Agency Version Date: 08/08/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/17/2019
Agency: CA Gov geotracker state water resources control board
Agency Contact: 916-341-5791
Most Recent Contact: 08/08/2019

STATE AND TRIBAL VOLUNTARY CLEANUP SITES

VCP - CA: Voluntary Cleanup Program remediation sites listing

Agency Version Date: 07/11/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/19/2019
Agency: Department of Toxic Substances Control
Agency Contact: 916-322-2861
Most Recent Contact: 07/11/2019

STATE RCRA GENERATORS LIST

HWG_Yolo County - CA: Listing of permitted hazardous waste generators

Agency Version Date: 07/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/20/2019
Agency: Yolo County Environmental Health
Agency Contact: 530-666-8646
Most Recent Contact: 06/24/2019

LOCAL BROWNFIELD LISTS

BROWNFIELDS-ACRES: EPA Brownfields Assessment, Cleanup and Redevelopment Exchange System.

Agency Version Date: 07/04/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 11/21/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 09/12/2019

Fed Brownfields: Federal brownfield remediation sites

Agency Version Date: 08/13/2019
Agency Update Frequency: Semi Annually
Planned Next Contact: 10/22/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 08/13/2019

LOCAL LISTS OF HAZARDOUS WASTE / CONTAMINATED SITES

FED CDL: The U.S. Department of Justice listing of clandestine drug lab locations

Agency Version Date: 08/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/14/2019
Agency: U.S. Department of Justice
Agency Contact: 202-307-7610
Most Recent Contact: 08/05/2019

LOCAL LISTS OF HAZARDOUS WASTE / CONTAMINATED SITES (cont.)

US HIST CDL: The U.S. Department of Justice historical listing of clandestine drug lab locations

Agency Version Date: 08/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/14/2019
Agency: U.S. Department of Justice
Agency Contact: 202-307-7610
Most Recent Contact: 08/05/2019

CDL - CA: Listing of Meth and clandestine drug labs maintained by the Department of Toxic Substances Control

Agency Version Date: 07/16/2019
Agency Update Frequency: Varies
Planned Next Contact: 11/29/2019
Agency: Department of Toxic Substances Control
Agency Contact: 916-322-2861
Most Recent Contact: 09/03/2019

SCH - CA: Listing of possible hazardous material contamination sites on existing school properties

Agency Version Date: 08/16/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/25/2019
Agency: Department of Toxic Substances Control
Agency Contact: 916-322-2861
Most Recent Contact: 08/16/2019

CORRECTIVE ACTION_Riverside County - CA: Riverside county corrective action sites list

Agency Version Date: 11/15/2017
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 11/04/2019
Agency: Riverside County Environmental Health
Agency Contact: 888-722-4234
Most Recent Contact: 08/06/2019

RECORDS OF EMERGENCY RELEASE REPORTS

HMIRS (DOT): Hazardous Material spills reported by the Department of Transportation

Agency Version Date: 07/02/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/18/2019
Agency: U.S. Department of Transportation
Agency Contact: (202) 366-4996
Most Recent Contact: 07/10/2019

CHMIRS - CA: California Hazardous Material Incident Reporting System's reported accidental hazardous material incidents releases or spills

Agency Version Date: 05/24/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/11/2019
Agency: California Emergency Management Agency
Agency Contact: 916-845-8275
Most Recent Contact: 08/02/2019

HIST CHMIRS - CA: California Hazardous Material Incident Reporting System's reported accidental hazardous material incidents releases or spills

Agency Version Date: 04/06/2017
Agency Update Frequency: Quarterly
Planned Next Contact: 10/10/2019
Agency: California Emergency Management Agency
Agency Contact: 916-845-8275
Most Recent Contact: 07/12/2019

LOCAL LAND RECORDS

LIENS 2: Comprehensive Environmental Response Compensation and Liability Act sites with liens

Agency Version Date: 05/11/2017
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 11/04/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 800-424-9346
Most Recent Contact: 08/06/2019

DEED - CA: The Department of Toxic Substances Control's listing of property locations with Deed restrictions

Agency Version Date: 08/16/2019
Agency Update Frequency: Semi Annually
Planned Next Contact: 10/25/2019
Agency: Department of Toxic Substances Control
Agency Contact: 916-341-5791
Most Recent Contact: 08/16/2019

LOCAL LAND RECORDS (cont.)

HIST LIENS - CA: The Department of Toxic Substances Control's listing of property locations with environmental liens that is no longer in current agency list.

Agency Version Date: 12/04/2018
Agency Update Frequency: Annually
Planned Next Contact: 10/03/2019
Agency: Department of Toxic Substances Control
Agency Contact: 916-322-2861
Most Recent Contact: 07/05/2019

LIENS - CA: The Department of Toxic Substances Control's listing of property locations with environmental liens

Agency Version Date: 07/01/2019
Agency Update Frequency: Varies
Planned Next Contact: 11/18/2019
Agency: Department of Toxic Substances Control
Agency Contact: 916-322-2861
Most Recent Contact: 09/09/2019

LOCAL LISTS OF LANDFILL / SOLID WASTE DISPOSAL SITES

ODI: Open dump inventory sites

Agency Version Date: 10/03/2017
Agency Update Frequency: No Update
Planned Next Contact: 11/12/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 09/03/2019

TRIBAL ODI: Indian land open dump inventory for all regions

Agency Version Date: 06/27/2019
Agency Update Frequency: Varies
Planned Next Contact: 11/14/2019
Agency: Indian Health Service
Agency Contact: 301-443-3593
Most Recent Contact: 09/05/2019

HAULERS - CA: Waste Tire Manifest Program Hauler Registration listing

Agency Version Date: 07/15/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/24/2019
Agency: California Department of Resources Recycling and Recovery (CalRecycle)
Agency Contact: 916-341-6066
Most Recent Contact: 07/15/2019

SWRCY - CA: Listing of facilities which perform recycled material processing activities

Agency Version Date: 06/24/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 11/11/2019
Agency: California Department of Resources Recycling and Recovery (CalRecycle)
Agency Contact: 916-341-6066
Most Recent Contact: 09/02/2019

OTHER ASCERTAINABLE RECORDS

AFS: Air Facility Systems Quarterly Extract

Agency Version Date: 06/14/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 11/01/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 08/23/2019

ALT FUELING: Alternative Fueling Stations by fuel type.

Agency Version Date: 07/17/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/25/2019
Agency: U.S. Department of Energy
Agency Contact: N/R
Most Recent Contact: 07/17/2019

BRS: Reporting of hazardous waste generation and management from large quantity generators

Agency Version Date: 07/19/2019
Agency Update Frequency: Biennial
Planned Next Contact: 09/27/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 07/19/2019

OTHER ASCERTAINABLE RECORDS (cont.)

CDC HAZDAT: The Agency for Toxic Substances and Disease Registry's Hazardous Substance Release/Health Effects Database.

Agency Version Date: 06/10/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/28/2019
Agency: Agency for Toxic Substances and Disease Registry
Agency Contact: 770-488-6399
Most Recent Contact: 08/19/2019

COAL ASH DOE: List of existing and planned generators with 1 megawatt or greater of combined capacity that are utilizing coal ash impoundments.

Agency Version Date: 07/11/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/19/2019
Agency: Department of Energy
Agency Contact: (202) 586-8800
Most Recent Contact: 07/11/2019

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

Agency Version Date: 07/31/2014
Agency Update Frequency: Varies
Planned Next Contact: 11/04/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 08/26/2019

COAL GAS: Manufactured Gas Plant locations

Agency Version Date: 06/20/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 12/02/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 09/04/2019

CONSENT (DECREES): Legal decisions regarding responsibility for Superfund locations

Agency Version Date: 06/10/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/28/2019
Agency: Environmental Protection Agency
Agency Contact: (800) 424-9346
Most Recent Contact: 08/19/2019

DEBRIS R5 LF: US EPA Region 5 Disaster Debris Recovery Database is a list of public facilities for disaster construction and demolition materials, electronics, household hazardous waste, metals, tires, and vehicles in EPA Region 5.

Agency Version Date: 03/15/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/11/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 08/02/2019

DEBRIS R5 SWRCY: US EPA Region 5 Disaster Debris Recovery Database is a list of public facilities for disaster construction and demolition materials, electronics, household hazardous waste, metals, tires, and vehicles in EPA Region 5.

Agency Version Date: 03/15/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/11/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 08/02/2019

DOD: Department of Defense sites

Agency Version Date: 06/10/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/28/2019
Agency: Environmental Protection Agency
Agency Contact: (800) 424-9346
Most Recent Contact: 08/19/2019

DOT OPS: Incident Data Report

Agency Version Date: 06/24/2019
Agency Update Frequency: Varies
Planned Next Contact: 11/11/2019
Agency: U.S. Department of Transportation
Agency Contact: (202) 366-4996
Most Recent Contact: 09/02/2019

OTHER ASCERTAINABLE RECORDS (cont.)

ECHO: ECHO is EPA Enforcement and Compliance History Online website to search for facilities in your community to assess their compliance with environmental regulations related to CAA, CWA, RCRA, & SDWA.

Agency Version Date: 07/15/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/23/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-1667
Most Recent Contact: 07/15/2019

ENOI: The Electronic Notice of Intent (eNOI) database contains construction sites and industrial facilities that submit permit requests to EPA for Construction General Permits (CGP) and Multi-Sector General Permits (MSGP).

Agency Version Date: 06/28/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 11/15/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 09/06/2019

EPA FUELS: List of companies and facilities registered to participate in EPA Fuel Programs under Title 40 CFR Part 80.

Agency Version Date: 06/14/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 11/01/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: (202) 564-2307
Most Recent Contact: 08/23/2019

EPA OSC: Listing of oil spills and hazardous substance release sites requiring EPA On-Site Coordinators.

Agency Version Date: 07/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/18/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: (202) 564-2307
Most Recent Contact: 07/10/2019

EPA WATCH: The EPA Watch List was used to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. EPA maintained the lists from 2011 - 2013.

Agency Version Date: 02/09/2018
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 11/01/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: (202) 564-2307
Most Recent Contact: 08/23/2019

FA HWF: Hazardous Waste Facilities with Financial Assurance

Agency Version Date: 07/30/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/08/2019
Agency: Environmental Protection Agency
Agency Contact: (800) 424-9346
Most Recent Contact: 07/30/2019

FEDLAND: Federal land locations

Agency Version Date: 06/10/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/28/2019
Agency: Environmental Protection Agency
Agency Contact: (800) 424-9346
Most Recent Contact: 08/19/2019

FRS: Facility Registry Systems

Agency Version Date: 06/20/2019
Agency Update Frequency: Varies
Planned Next Contact: 11/07/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 08/29/2019

FTTS: Tracking of administrative and enforcement activities related to FIFRA/TSCA

Agency Version Date: 04/16/2013
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 11/26/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 564-2280
Most Recent Contact: 08/28/2019

OTHER ASCERTAINABLE RECORDS (cont.)

FTTS INSP: Tracking of inspections related to FIFRA/TSCA

Agency Version Date: 05/08/2017
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 11/18/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 564-2280
Most Recent Contact: 08/20/2019

FUDS: Defense sites that require cleanup

Agency Version Date: 09/30/2015
Agency Update Frequency: Varies
Planned Next Contact: 11/04/2019
Agency: US Army Corps of Engineering
Agency Contact: (202) 761-0011
Most Recent Contact: 08/26/2019

HIST AFS: List of Air Facility Systems Quarterly Extract that are no longer in current agency list.

Agency Version Date: 06/14/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 11/01/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 08/23/2019

HIST AFS 2: List of Air Facility Systems Quarterly Extract that are no longer in current agency list.

Agency Version Date: 11/26/2018
Agency Update Frequency: Quarterly
Planned Next Contact: 09/18/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 06/20/2019

HIST DOD: Department of Defense historical sites

Agency Version Date: 08/17/2018
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 09/20/2019
Agency: Environmental Protection Agency
Agency Contact: (800) 424-9346
Most Recent Contact: 06/24/2019

HIST LEAD_SMELTER: List of former lead smelter sites that is no longer in current agency list.

Agency Version Date: 12/12/2018
Agency Update Frequency: Annually
Planned Next Contact: 11/22/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 08/26/2019

HIST MLTS: List of sites in possession/use of radioactive materials regulated by NRC that is no longer in current agency list.

Agency Version Date: 07/13/2016
Agency Update Frequency: Annually
Planned Next Contact: 12/02/2019
Agency: Nuclear Regulatory Commission
Agency Contact: (800) 397-4209
Most Recent Contact: 09/04/2019

HIST PCB TRANS: List of PCB Disposal Facilities that are no longer in current agency list.

Agency Version Date: 01/18/2018
Agency Update Frequency: No Update
Planned Next Contact: 09/30/2019
Agency: Environmental Protection Agency
Agency Contact: (703) 308-8404
Most Recent Contact: 07/02/2019

HIST PCS ENF: List of permitted facilities to discharge wastewater (Federal equivalent to NPDES) that are no longer in current agency list.

Agency Version Date: 12/08/2018
Agency Update Frequency: Annually
Planned Next Contact: 10/17/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 564-6582
Most Recent Contact: 07/19/2019

OTHER ASCERTAINABLE RECORDS (cont.)

HIST PCS FACILITY: List of Permitted facilities to discharge wastewater (Federal equivalent to NPDES) that are no longer in current agency list.

Agency Version Date: 12/18/2018
Agency Update Frequency: Annually
Planned Next Contact: 10/17/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 564-6582
Most Recent Contact: 07/19/2019

HIST SSTS: List of tracking of facilities who produce pesticides and their quantity that are no longer in current agency list.

Agency Version Date: 02/13/2019
Agency Update Frequency: Annually
Planned Next Contact: 10/04/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 07/08/2019

ICIS: Comprised of all Federal Administrative and Judicial enforcement information [intended to replace PCS] by tracking enforcement and compliance information (also contains what used to be known as FFTS)

Agency Version Date: 07/16/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/24/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 07/16/2019

INACTIVE PCS: Inactive Permitted facilities to discharge wastewater

Agency Version Date: 07/16/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/24/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 564-6582
Most Recent Contact: 07/16/2019

LUCIS: Land Use Control Information Systems

Agency Version Date: 08/13/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 11/05/2019
Agency: Department of the Navy: BRAC PMO
Agency Contact: (619) 532-0900
Most Recent Contact: 08/07/2019

LUCIS 2: Land Use Control Information Systems

Agency Version Date: 01/17/2018
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 09/30/2019
Agency: Department of the Navy: BRAC PMO
Agency Contact: (619) 532-0900
Most Recent Contact: 10/02/2018

MINES: Mines Master Index Files

Agency Version Date: 07/17/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/25/2019
Agency: Department of Labor
Agency Contact: (202) 693-9400
Most Recent Contact: 07/17/2019

MINES USGS: Listing of all active mines and mineral plants in 2003

Agency Version Date: 07/22/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/30/2019
Agency: USGS Mineral Resources Program
Agency Contact: (703) 648-5953
Most Recent Contact: 07/22/2019

MLTS: Sites in possession/use of radioactive materials regulated by NRC

Agency Version Date: 03/28/2019
Agency Update Frequency: Varies
Planned Next Contact: 12/06/2019
Agency: Nuclear Regulatory Commission
Agency Contact: (800) 397-4209
Most Recent Contact: 09/10/2019

OTHER ASCERTAINABLE RECORDS (cont.)

NPL AOC: Areas of Concern related to NPL remediation sites

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: Environmental Protection Agency
Agency Contact: N/R
Most Recent Contact: 08/19/2019

NPL LIENS: National Priority List of sites with Liens

Agency Version Date: 06/11/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 08/19/2019

OSHA: OSHA's listing of inspections violations and fatality information

Agency Version Date: 07/16/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/24/2019
Agency: Occupational Safety & Health Administration
Agency Contact: 800-321-6742
Most Recent Contact: 07/16/2019

PADS: Listing of generators transporters commercial store/ brokers and disposers of PCB

Agency Version Date: 03/29/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/25/2019
Agency: Environmental Protection Agency
Agency Contact: (703) 308-8404
Most Recent Contact: 08/16/2019

PCB TRANSFORMER: Disposal and Storage of Polychlorinated Biphenyl (PCB) Waste

Agency Version Date: 06/19/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 11/06/2019
Agency: Environmental Protection Agency
Agency Contact: (703) 308-8404
Most Recent Contact: 08/28/2019

PCS ENF: Permitted facilities to discharge wastewater (Federal equivalent to NPDES)

Agency Version Date: 07/16/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/24/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 564-6582
Most Recent Contact: 07/16/2019

PCS FACILITY: Permitted facilities to discharge wastewater (Federal equivalent to NPDES)

Agency Version Date: 07/16/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/24/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 564-6582
Most Recent Contact: 07/16/2019

PRP: A listing of verified Potentially Responsible Parties at CERCLIS sites

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 800-424-9346
Most Recent Contact: 08/19/2019

RAATS: Listing of major violators with enforcement actions issued under RCRA. Includes administrative and civil actions filed by the EPA. This dataset is no longer maintained.

Agency Version Date: 08/07/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/29/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 07/31/2019

RADINFO: EPA regulated facilities with radiation and radioactive materials

Agency Version Date: 08/01/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/10/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 08/01/2019

OTHER ASCERTAINABLE RECORDS (cont.)

RMP: Facilities producing/handling/ process/ distribute/ store specific chemicals report plans required by the Clean Air Act

Agency Version Date: 06/10/2019
Agency Update Frequency: Monthly
Planned Next Contact: 11/18/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 564-2534
Most Recent Contact: 08/20/2019

ROD: Permanent remedy at an NPL site

Agency Version Date: 06/10/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/28/2019
Agency: Environmental Protection Agency
Agency Contact: (800) 424-9346
Most Recent Contact: 08/19/2019

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners

Agency Version Date: 06/27/2019
Agency Update Frequency: No Update
Planned Next Contact: 11/14/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 09/05/2019

SEMS_SMELTER: This report includes sites that have smelting-related, or potentially smelting-related, indicators in the SEMS database. The report includes information on the site location as well as contaminants of concern.

Agency Version Date: 06/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/28/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 08/19/2019

SSTS: Tracking of facilities who produce pesticides and their quantity

Agency Version Date: 07/03/2019
Agency Update Frequency: Annually
Planned Next Contact: 11/20/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 09/11/2019

STORMWATER: Permitted storm water sites

Agency Version Date: 07/16/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/24/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 07/16/2019

TOSCA-PLANT: Plants controlled by the Toxic Substance Control Act

Agency Version Date: 07/03/2019
Agency Update Frequency: Varies
Planned Next Contact: 11/20/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 09/11/2019

TRIS: Information regarding toxic chemicals that are being used/manufactured/ treated/ transported/released into the environment

Agency Version Date: 07/15/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/23/2019
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 07/15/2019

UMTRA: Uranium Recovery Sites

Agency Version Date: 07/18/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/26/2019
Agency: United States Nuclear Regulatory Commission
Agency Contact: (301) 415-8200
Most Recent Contact: 07/18/2019

OTHER ASCERTAINABLE RECORDS (cont.)

VAPOR: EPA Vapor Intrusion Database

Agency Version Date: 02/08/2019
Agency Update Frequency: Varies
Planned Next Contact: 11/15/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 09/06/2019

Corrective Actions_2020: The RCRA cleanup baseline includes facilities expected to need corrective action.

Agency Version Date: 12/21/2018
Agency Update Frequency: Quarterly
Planned Next Contact: 09/27/2019
Agency: U.S. Environmental Protection Agency
Agency Contact: N/R
Most Recent Contact: 07/19/2019

BOND EXPENDITURE PLAN - CA: Hazardous Substance Cleanup Bond Act of 1984 Article 7.5 of Health and Safety Code 25385 listing of orphan sites

Agency Version Date: 07/11/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/19/2019
Agency: Department of Toxic Substance Control
Agency Contact: 916-322-2861
Most Recent Contact: 07/11/2019

CALEPA SITES - CA: CalEPA Regulated Sites from the Certified Unified Program Agencies (CUPA).

Agency Version Date: 07/24/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/02/2019
Agency: California Environmental Protection Agency Unified Program Section
Agency Contact: 916-327-5092
Most Recent Contact: 07/24/2019

CIWQS - CA: California Integrated Water Quality System database facilities listing which includes owner information, violations, inspections, and other regulatory matters

Agency Version Date: 07/09/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/17/2019
Agency: CA State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 07/09/2019

CIWQS 2 - CA: California Integrated Water Quality System database facilities listing which includer owner information violations inspections and other regulatory matters

Agency Version Date: 06/26/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 11/27/2019
Agency: CA State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/29/2019

CORTESE - CA: Compliance document used in providing information about the location of hazardous material release sites utilized by the state local agencies and developers

Agency Version Date: 07/09/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/17/2019
Agency: Department of Toxic Substance Control
Agency Contact: 916-322-2861
Most Recent Contact: 07/09/2019

DAYCARE - CA: List of daycare locations

Agency Version Date: 07/28/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/10/2019
Agency: California Department of Social Services
Agency Contact: 916-651-6040
Most Recent Contact: 08/01/2019

DRYCLEANERS - CA: Listing of drycleaning facilities

Agency Version Date: 09/09/2014
Agency Update Frequency: Quarterly
Planned Next Contact: 11/11/2019
Agency: California EPA Air Resources Board
Agency Contact: 916-324-3013
Most Recent Contact: 08/13/2019

OTHER ASCERTAINABLE RECORDS (cont.)

EMI - CA: An estimation of air pollution for a listing of air permitted facilities

Agency Version Date: 07/08/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/16/2019
Agency: California Air Resources Board
Agency Contact: 916-327-6251
Most Recent Contact: 07/08/2019

FA - CA: Listing of the Department of Toxic Substance Control's Financial Assurance report sites and facilities

Agency Version Date: 06/24/2019
Agency Update Frequency: Varies
Planned Next Contact: 09/20/2019
Agency: Department of Toxic Substance Control
Agency Contact: 916-322-2861
Most Recent Contact: 06/24/2019

FA 2 - CA: Financial Assurance Information for solid waste facilities

Agency Version Date: 06/17/2019
Agency Update Frequency: Varies
Planned Next Contact: 12/02/2019
Agency: Department of Environment & Natural Resources
Agency Contact: 916-341-6066
Most Recent Contact: 09/04/2019

HAZNET - CA: Listing of hazardous waste manifests from when hazardous waste is transported from generators to permitted recycling treatment storage or disposal facilities by registered hazardous waste transporters

Agency Version Date: 10/10/2018
Agency Update Frequency: Annually
Planned Next Contact: 09/25/2019
Agency: California Environmental Protection Agency
Agency Contact: 916-341-5791
Most Recent Contact: 07/17/2019

HIGH FIRE - CA: Fire hazard severity zones mapped as areas of significant fire hazards on the basis of fuels terrain weather and other factors

Agency Version Date: 07/01/2019
Agency Update Frequency: No update
Planned Next Contact: 11/18/2019
Agency: California Department of Forestry and Fire Protection
Agency Contact: 916-445-4302
Most Recent Contact: 09/09/2019

HIST CORTESE - CA: The historical compliance document used in providing information about the location of hazardous material release sites utilized by the state local agencies and developers

Agency Version Date: 06/17/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 11/04/2019
Agency: Department of Toxic Substance Control
Agency Contact: 916-322-2861
Most Recent Contact: 08/26/2019

HIST HAZNET - CA: List of hazardous waste manifests from when hazardous waste is transported from generators to permitted recycling treatment storage or disposal facilities by registered hazardous waste transporters that are no longer in current agency list.

Agency Version Date: 10/10/2018
Agency Update Frequency: Annually
Planned Next Contact: 10/21/2019
Agency: California Environmental Protection Agency
Agency Contact: 916-341-5791
Most Recent Contact: 07/23/2019

HIST HWP - CA: List of the Department of Toxic Substance Control's hazardous waste transporters and corrective action that are no longer in current agency list.

Agency Version Date: 01/18/2019
Agency Update Frequency: Annually
Planned Next Contact: 09/23/2019
Agency: Department of Toxic Substance Control
Agency Contact: 916-322-2861
Most Recent Contact: 06/25/2019

HIST LDS - CA: List of areas of land on or in which hazardous waste is placed or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area that are no longer in current agency list.

Agency Version Date: 03/20/2018
Agency Update Frequency: Annually
Planned Next Contact: 10/25/2019
Agency: State Water Qualilty Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 07/29/2019

OTHER ASCERTAINABLE RECORDS (cont.)

HIST MCS - CA: List of the State Water Resources Control Boards investigation and remediation of water quality issues at military facilities that is no longer in current agency list.

Agency Version Date: 09/24/2018
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 11/05/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/07/2019

HIST NFA - CA: Historical No further action cleanup sites listing

Agency Version Date: 02/21/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/08/2019
Agency: Department of Toxic Substances Control
Agency Contact: 916-322-2861
Most Recent Contact: 07/10/2019

HIST NFE - CA: List of Unconfirmed contaminated properties that are no longer in current agency list.

Agency Version Date: 02/20/2019
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 09/18/2019
Agency: Department of Toxic Substances Control
Agency Contact: 916-322-2861
Most Recent Contact: 07/10/2019

HWM COMMERCIAL FACILITIES - CA: Listing of all commercial hazardous waste permitted off-site transfer recycling treatment storage and disposal facilities

Agency Version Date: 08/13/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/22/2019
Agency: Department of Toxic Substance Control
Agency Contact: 916-322-5308
Most Recent Contact: 08/13/2019

HWP - CA: Facility listing of the Department of Toxic Substance Control's hazardous waste transporters and corrective action

Agency Version Date: 08/16/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/25/2019
Agency: Department of Toxic Substance Control
Agency Contact: 916-322-2861
Most Recent Contact: 08/16/2019

HWT - CA: Listing of registered hazardous waste transporters

Agency Version Date: 08/20/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/29/2019
Agency: Department of Toxic Substance Control
Agency Contact: 916-322-2861
Most Recent Contact: 08/20/2019

LDS - CA: List of Land Disposal Cleanup Sites from Geotracker

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

MCS - CA: List of Military Cleanup Sites from Geotracker

Agency Version Date: 06/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/23/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5791
Most Recent Contact: 08/14/2019

MWMP - CA: Listing of treatment and transfer stations that properly handle and dispose of medical waste that are permitted and inspected by the Medical Waste Management Program

Agency Version Date: 08/14/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/23/2019
Agency: California-Health Human Services Department of Public Health
Agency Contact: 916-449-5661
Most Recent Contact: 08/14/2019

OTHER ASCERTAINABLE RECORDS (cont.)

MWMP 2 - CA: Listing of facilities that generate permitted medical waste and are inspected by the Medical Waste Management Program

Agency Version Date: 06/12/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 11/27/2019
Agency: California-Health Human Services Department of Public Health
Agency Contact: 916-449-5661
Most Recent Contact: 08/29/2019

NFA - CA: No further action cleanup sites listing

Agency Version Date: 07/11/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/19/2019
Agency: Department of Toxic Substances Control
Agency Contact: 916-322-2861
Most Recent Contact: 07/11/2019

NFE - CA: Unconfirmed contaminated properties listing

Agency Version Date: 07/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/18/2019
Agency: Department of Toxic Substances Control
Agency Contact: 916-322-2861
Most Recent Contact: 07/10/2019

NPDES - CA: Listing of facilities with wastewater and NPDES permits including stormwater

Agency Version Date: 06/27/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 11/14/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5810
Most Recent Contact: 09/05/2019

PERCHLORATE 2 - CA: Listing of contaminated sites where the primary known chemical is perchlorate

Agency Version Date: 07/10/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 09/18/2019
Agency: Department of Toxic Substances Control
Agency Contact: 916-322-2861
Most Recent Contact: 07/10/2019

PROPOSITION 65 - CA: Listing of Proposition 65 enforcement reporting notice sites in accordance with "The Safe Drinking Water and Toxic Enforcement Act of 1986"

Agency Version Date: 06/27/2019
Agency Update Frequency: No update
Planned Next Contact: 11/14/2019
Agency: State of California Department of JusticeOffice of the Attorney General
Agency Contact: 510-873-6321
Most Recent Contact: 09/05/2019

RFR - CA: State Water Resources Control Board Regulated Facility Report database listing which includes program agency type and their permit status

Agency Version Date: 07/01/2019
Agency Update Frequency: Varies
Planned Next Contact: 11/18/2019
Agency: CA State Water Resources Control Board
Agency Contact: 916-341-5810
Most Recent Contact: 09/09/2019

SWAT - CA: The SWAT Reports Summary Data and the Waste Management Unit Database were published by State Water Resources Control Board staff and the Regional Water Quality Control Boards for tracking and inventory of waste management units.

Agency Version Date: 08/28/2015
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 10/11/2019
Agency: Department of Ecology
Agency Contact: 916-322-2861
Most Recent Contact: 07/15/2019

WDS - CA: Listing of waste discharge system reporting facilities

Agency Version Date: 08/08/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 10/17/2019
Agency: State Water Resources Control Board
Agency Contact: 916-341-5810
Most Recent Contact: 08/08/2019

OTHER ASCERTAINABLE RECORDS (cont.)

WILDLANDS - CA: The Wildlands Conservancy listing of preserves in California

Agency Version Date: 06/24/2019
Agency Update Frequency: Varies
Planned Next Contact: 11/11/2019
Agency: The Wildlands Conservancy
Agency Contact: 909-797-8507
Most Recent Contact: 09/02/2019

WIP - CA: Listing of Well Investigation Program cases in the San Gabriel and San Fernando Valley area

Agency Version Date: 07/01/2009
Agency Update Frequency: Varies
Planned Next Contact: 10/03/2019
Agency: Los Angeles Water Quality Control Board
Agency Contact: 916-341-5810
Most Recent Contact: 07/05/2019

DRYCLEANERS_Mojave Desert - CA: Listing of drycleaning facilities in the Mojave Desert region

Agency Version Date: 07/11/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/09/2019
Agency: Mojave Desert AQMD
Agency Contact: 661-723-8070
Most Recent Contact: 07/11/2019

DRYCLEANERS_South Coast - CA: Listing of drycleaning facilities in the South Coast region

Agency Version Date: 07/17/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/15/2019
Agency: South Coast AQMD
Agency Contact: 909-396-2000
Most Recent Contact: 07/30/2019

SMU_Santa Barbara County - CA: Site Mitigation Unit site assessment and corrective actions at properties in Santa Barbara County

Agency Version Date: 07/24/2019
Agency Update Frequency: Varies
Planned Next Contact: 10/02/2019
Agency: Santa Barbara County APCD
Agency Contact: (805) 681-4900
Most Recent Contact: 07/24/2019

OTHER

SEISMIC - CA: Earthquake Zones of Required Investigation. Shows the location of both Seismic Hazard Zones and Earthquake Fault Zones

Agency Version Date: 03/07/2014
Agency Update Frequency: Varies
Planned Next Contact: 10/08/2019
Agency: State of California Department of Conservation
Agency Contact: 916-324-7299
Most Recent Contact: 07/30/2019

SUBJECT PROPERTY ADDRESS:

Residential Property
14555, 14577 and 14587 Chandler Street
Eastvale, California 92880

SUBJECT PROPERTY COORDINATES:

Latitude(North):	33.947081 - 33°56'49.5"
Longitude(West):	-117.601738 - -117°36'6.3"
Universal Transverse Mercator:	Zone 11N
UTM X (Meters):	444395.99
UTM Y (Meters):	3756451.45

ELEVATION:

Elevation:	574.580 ft. above sea level

USGS TOPOGRAPHIC MAP:

Subject Property Map:	33117-H5 Corona North, CA
Most Recent Revision:	2018

GEOHYDROLOGY DATA:

SUBJECT PROPERTY TOPOGRAPHY:

Topographic Gradient: West

DFIRM FLOOD ZONE:

	DFIRM Flood
Subject Property County:	Electronic Data:
RIVERSIDE	Yes - refer to the PROPERTY PROXIMITY MAP and AREA MAP
Flood Plain Panel at Subject Property:	06065C
Additional Panels in search area:	06071C

FEMA FLOOD ZONE:

	FEMA Flood
Subject Property County:	Electronic Data:
RIVERSIDE	Yes - refer to the PROPERTY PROXIMITY MAP and AREA MAP
Flood Plain Panel at Subject Property:	0602450680A
Additional Panels in search area:	0602450690B 06071C9375F

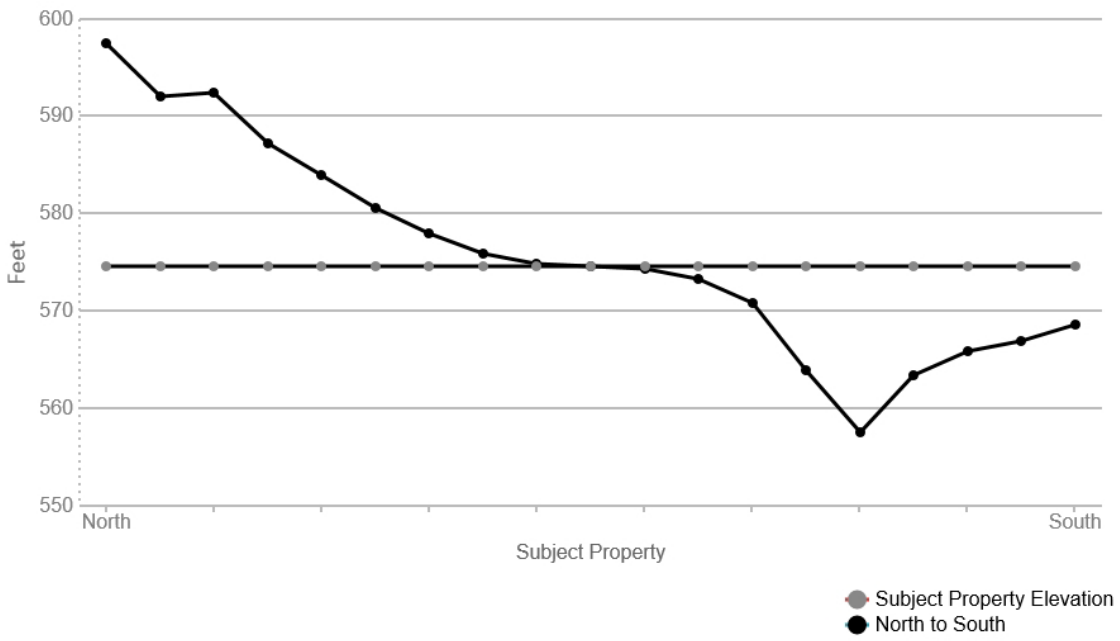
NATIONAL WETLAND INVENTORY:

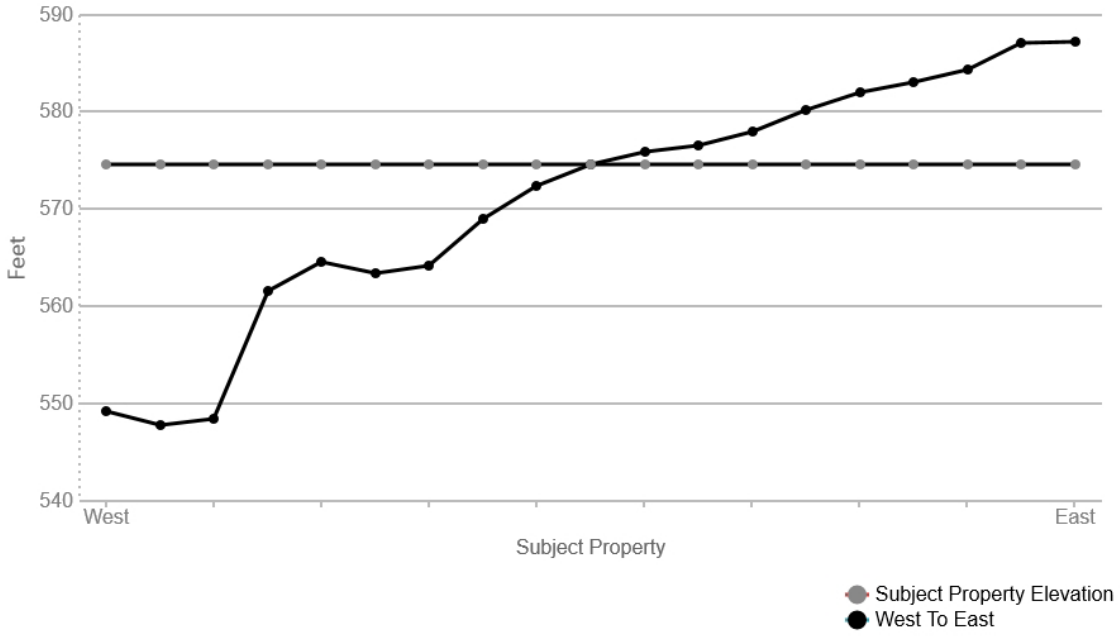
	NWI Electronic
NWI Quad at Subject Property:	Data Coverage:
Corona North	Yes - refer to the Geological Findings Map

LITHOSTRATIGRAPHIC INFORMATION:

ROCK STRATIGRAPHIC UNIT:		GEOLOGIC AGE IDENTIFICATION
Era:	N/R	Category: 4 Q Quaternary
System:	N/R	
Series:	Quaternary	
Code:	Q	

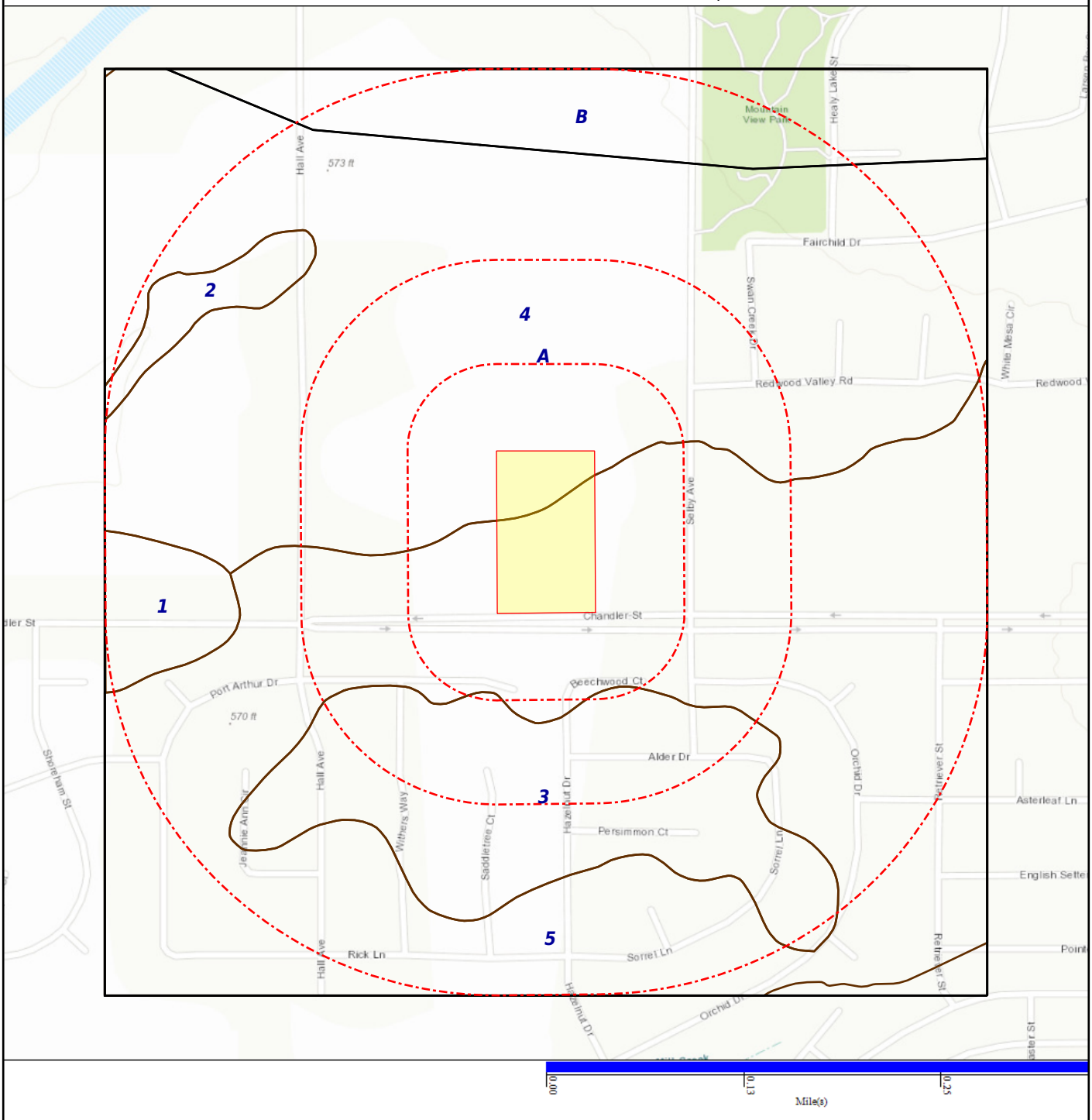
SURROUNDING ELEVATION PROFILES:





SUBJECT NAME: Residential Property
ADDRESS: 14555, 14577 and 14587 Chandler Street, Eas...
LAT/LONG: 33.947081 / -117.601738

PREPARED FOR: The Phase One Group
ORDER #: 33835
REPORT DATE: September 12, 2019



SOIL COMPOSITION IN GENERAL AREA OF SUBJECT PROPERTY:

Agency source: Soil Conservation Service, US Department of Agriculture

SOIL MAP ID 1

USDA Soil Name	Pachappa,Series
USDA Soil Texture	Fine sandy loam
Hydrologic Soil Group	B
Soil Drainage Class	Well drained
Hydric Classification	0
Corrosion Potential - Uncoated Steel	Moderate

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-20	Fine sandy loam	Silt-Clay materials (more than 35% passing NO. 200), silty soils. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	4-14	6.1-7.8
2	20-63	Loam	Silt-Clay materials (more than 35% passing NO. 200), silty soils. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	FINE-GRAINED SOILS, Silts and clays (liquid limit is less than 50%), Lean Clay. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	4-14	6.6-7.8

SOIL MAP ID 2

USDA Soil Name	Hilmar,Series
USDA Soil Texture	Loamy fine sand
Hydrologic Soil Group	C
Soil Drainage Class	Somewhat poorly drained
Hydric Classification	0
Corrosion Potential - Uncoated Steel	High

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-13	Loamy fine sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	6.1-7.8
2	13-16	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	7.4-8.4
3	16-23	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	7.4-8.4

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
4	23-60	Loam	Silt-Clay materials (more than 35% passing NO. 200), silty soils. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	No data	0.42-1.4	7.9-8.4

SOIL MAP ID 3

USDA Soil Name	Willows,Series
USDA Soil Texture	Silty clay
Hydrologic Soil Group	D
Soil Drainage Class	Poorly drained
Hydric Classification	0
Corrosion Potential - Uncoated Steel	High

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-10	Silty clay	Silt-Clay materials (more than 35% passing No. 200), clayey soils. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	FINE-GRAINED SOILS, Silts and clays (liquid limit is 50% or more), Fat Clay. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	0.01-0.42	7.4-9
2	10-60	Clay	Silt-Clay materials (more than 35% passing No. 200), clayey soils. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials,	FINE-GRAINED SOILS, Silts and clays (liquid limit is 50% or more), Fat Clay. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and	0.01-0.42	8.5-9

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
2	10-60	Clay	1984.	on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	0.01-0.42	8.5-9

SOIL MAP ID 4

USDA Soil Name	Chino,Series
USDA Soil Texture	Silt loam
Hydrologic Soil Group	C/D
Soil Drainage Class	Somewhat poorly drained
Hydric Classification	0
Corrosion Potential - Uncoated Steel	High

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-14	Silt loam	Silt-Clay materials (more than 35% passing NO. 200), silty soils. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	4-14	6.1-8.4
2	14-27	Silty clay loam	Silt-Clay materials (more than 35% passing No. 200) clayey soils. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	FINE-GRAINED SOILS, Silts and clays (liquid limit is less than 50%), Lean Clay. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in	1.4-4	7.9-8.4

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
2	14-27	Silty clay loam	Silt-Clay materials (more than 35% passing No. 200) clayey soils. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	organic matter (ASTM test D 2487, in ASTM, 1984).	1.4-4	7.9-8.4
3	27-60	Silty clay loam	Silt-Clay materials (more than 35% passing No. 200) clayey soils. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	FINE-GRAINED SOILS, Silts and clays (liquid limit is less than 50%), Lean Clay. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	1.4-4	7.9-8.4

SOIL MAP ID 5

USDA Soil Name	Waukena,Series
USDA Soil Texture	Fine sandy loam
Hydrologic Soil Group	C
Soil Drainage Class	Moderately well drained
Hydric Classification	0
Corrosion Potential - Uncoated Steel	High

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-11	Fine sandy loam	Silt-Clay materials (more than 35% passing NO. 200), silty soils. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75	4-14	7.8-9.6

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-11	Fine sandy loam	of State Highway and Transportation Officials, 1984.	mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	4-14	7.8-9.6
2	11-60	Sandy clay loam	Silt-Clay materials (more than 35% passing No. 200) clayey soils. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	FINE-GRAINED SOILS, Silts and clays (liquid limit is less than 50%), Lean Clay. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	0.42-1.4	7.8-9.6

SOIL MAP ID A

USDA Soil Name	Monserate,Series
USDA Soil Texture	Sandy loam
Hydrologic Soil Group	C
Soil Drainage Class	Well drained
Hydric Classification	0
Corrosion Potential - Uncoated Steel	Moderate

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-10	Sandy loam	No data	No data	4.2343-14.1143	6.1-7.3
2	10-28	No data	No data	No data	1.4114-4.2343	6.1-7.3
3	28-45		No data	No data	No data	No data
4	45-57		No data	No data	No data	No data
5	57-70	No data	No data	No data	4.2343-14.1143	6.6-8.4

SOIL MAP ID B

USDA Soil Name	Urban land,Miscellaneous area
USDA Soil Texture	Not Reported
Hydrologic Soil Group	Not Reported
Soil Drainage Class	Somewhat excessively drained
Hydric Classification	0
Corrosion Potential - Uncoated Steel	Not Reported

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-6		No data	No data	No data	No data

WATER AGENCY DATA:

WATER AGENCY SEARCH DISTANCES:

DATABASE:	SEARCH DISTANCE (MILES):
NWIS	1.000
OIL & GAS WELLS - CA	0.000
PWS	1.000
WELLS - GAMA - CA	0.000

DISTANCE TO NEAREST:	DISTANCE:
NWIS	0.032 mi / 167 ft
OIL & GAS WELLS - CA	N/A
PWS	0.306 mi / 1617 ft
WELLS - GAMA - CA	N/A

FEDERAL WATER AGENCY DATA SUMMARY:

MAP ID:	WELL ID:	LOCATION FROM SP:
1	335646117361001	< 1/8 Mile SW
2	CA3301736	1/4 - 1/2 Mile NNW
3	335645117365301	1/2 - 1 Mile W

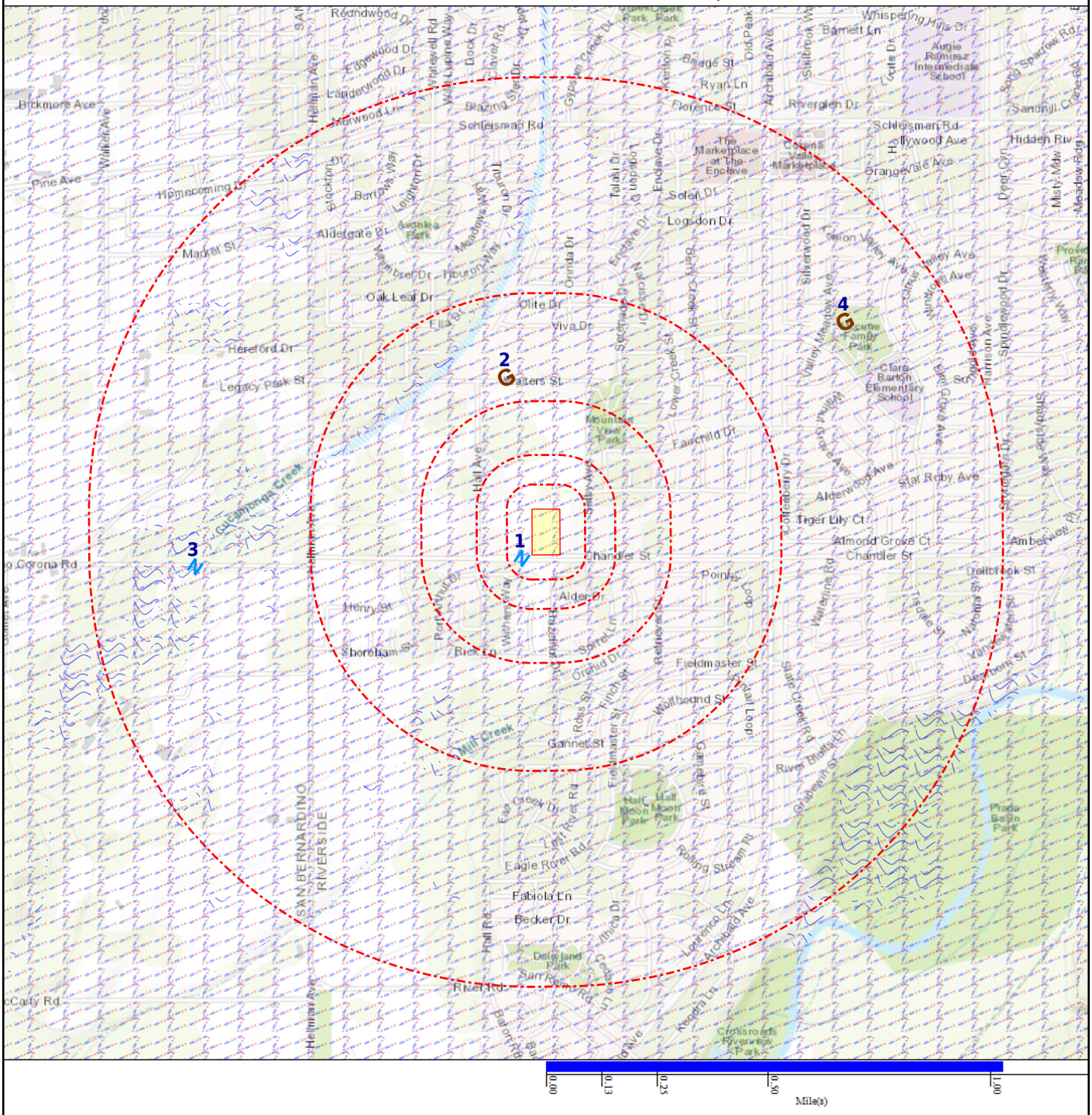
Note: PWS System location is not always the same as well location.

STATE/LOCAL WATER AGENCY DATA SUMMARY:

MAP ID:	WELL ID:	LOCATION FROM SP:
No Wells Found	N/R	N/R

SUBJECT NAME: Residential Property
ADDRESS: 14555, 14577 and 14587 Chandler Street, Eas...
LAT/LONG: 33.947081 / -117.601738

PREPARED FOR: The Phase One Group
ORDER #: 33835
REPORT DATE: September 12, 2019



Map Id: 1
Direction: SW
Distance: 0.032 mi.
Actual: 167.262 ft.
Elevation: 0.108 mi. / 572.812 ft.
Relative: Lower

Site Name : 335646117361001
33.94611110, -117.60277780
CA

Database(s) : [NWIS]

Envirosite ID: 404252905
EPA ID: N/R

NWIS

Site Identification Number :	335646117361001
Site Type :	Lake, Reservoir, Impoundment
Station Name :	WASH WATER POND ON VANDENBERG DAIRY IN CHINO CA
Agency :	U.S. Geological Survey
District :	California
State :	CA
County :	San Bernardino County
Country :	USA
Land Net Location :	N/R
Name of Location Map :	CORONA NORTH
Scale of Location Map :	24000
Altitude of Gage/Land Surface :	703
Method Altitude Determined :	Interpolated from topographic map.
Altitude Accuracy :	10
Altitude Datum :	National Geodetic Vertical Datum of 1929
Hydrologic Unit :	Santa Ana
Drainage Basin :	N/R
Topographic Setting :	N/R
Flags for the Type of Data Collected:	NNNANNNNNNNNNNNNNNNNNNNNNNNNN
Flags for Instruments at Site :	NNNNNNNNNNNNNNNNNNNNNNNNNNNNN
Date of First Construction :	N/R
Date Site Established or Inventoried:	N/R
Drainage Area :	N/R
Contributing Drainage Area :	N/R
Data Reliability :	N/R
Data-other GW Files :	NNNNNNNN
National Aquifer :	N/R
Local Aquifer :	N/R
Local Aquifer Type :	N/R
Well Depth :	N/R
Hole Depth :	N/R
Source of Depth Data :	N/R
Project Number :	470654500
Real-Time Data Flag :	0
Peak-Streamflow Data Begin Date :	N/R
Peak-Streamflow Data End Date :	N/R
Peak-Streamflow Data Count :	0
Water-Quality Data Begin Date :	07/29/1999
Water-Quality Data End Date :	07/29/1999
Water-Quality Data Count :	1
Field Water-Level Data Begin Date :	--
Field Water-Level Data End Date :	--
Field Water-Level Data Count :	0
Site-Visit Data Begin Date :	N/R
Site-Visit Data End Date :	N/R
Site-Visit Data Count :	0
Latitude :	33.94611110
Longitude :	-117.60277780
Last Date in Agency List :	06/21/2019

Map Id: 2
Direction: NNW
Distance: 0.306 mi.
Actual: 1616.767 ft.
Elevation: 0.109 mi. / 576.867 ft.
Relative: Higher

Site Name : CA3301736
14653_ WALTERS ST
CORONA, CA 91720

Database(s) : [PWS, PWS ENF]

Envirosite ID: 357953350
EPA ID: N/R

PWS

Facility Address :	14653_ WALTERS ST, CORONA, CA 91720
PWS ID :	CA3301736
PWS Type :	Community water system
PWS Name :	WALTERS WATER COMPANY
Activity Status :	Inactive
Primary Source :	Ground water
Submission Year :	2019
Submission Year Quarter :	2019Q1
Population Served Count :	40
Service Connections Count :	10
Population Category 2 :	<10,000
Population Category 3 :	<=3300
Population Category 4 :	<10K
Population Category 5 :	<=500
Population Category 11 :	<=100
Submission Quarter :	1
Submission Status Code :	Y
First Reported Date :	03/22/1979
Last Reported Date :	05/24/2003
Deactivation Date :	10/04/2005
GW or SW :	Groundwater
Is Grant Eligible :	N
Is Outstanding Performer :	N/R
Is School or Daycare :	N
Is Source Water Protected :	N/R
Primacy Agency :	California
Primacy Type :	State
Org Name :	N/R
EPA Region :	Region 9
Admin Name :	N/R
Owner Type :	Private
Phone Number :	N/R
Phone Ext Number :	N/R
Alt Phone Number :	N/R
Email Address :	N/R
Fax Number :	N/R
Is Wholesaler :	N
LT2 Schedule Category :	N/R
NPM Candidate :	N
CDS ID :	N/R
DBPR Schedule Category :	N/R
Outstanding Performer Date :	N/R
Season Begin Date :	1-Jan
Season End Date :	31-Dec
Source Water Protection Date :	N/R
Seasonal Startup System :	N/R
Reduced Monitoring Begin Date :	N/R
Reduced Monitoring End Date :	N/R
Reduced RTCR Monitoring :	N/R
Last Date in Agency List :	05/16/2019

PWS ENF

Facility Address :	14653_ WALTERS ST, CORONA, CA 91720

Map Id: 2
Direction: NNW
Distance: 0.306 mi.
Actual: 1616.767 ft.
Elevation: 0.109 mi. / 576.867 ft.
Relative: Higher

Site Name : CA3301736
14653_ WALTERS ST
CORONA, CA 91720

Database(s) : [PWS, PWS ENF] ***(cont.)***

Envirosite ID: 357953350
EPA ID: N/R

PWS ENF ***(cont.)***

PWS ID :	CA3301736
PWS Name :	WALTERS WATER COMPANY
EPA Region :	Region 9
Primacy Agency :	California
PWS Type :	Community water system
Primacy Type :	State
Primary Source :	Ground water
Activity Status :	Inactive
Deactivation Date :	10/04/2005
Owner Type :	Private
Phone Number :	N/R
Last Date in Agency List :	05/16/2019

Violation Details

RTC Enforcement ID :	N/R
Violation ID :	95V0001
Submission Year :	2019
Violation First Reported Date :	12/12/1995
Contaminant Name :	Lead and Copper Rule
Rule Family :	Lead and Copper Rule
Rule Group :	Chemicals
Rule Name :	Lead and Copper Rule
Violation Type :	Initial Tap Sampling for Pb and Cu
Is Health Based :	N
Is Major Violation :	N/R
Severity Indicator Count :	N/R
Public Notification Tier :	3
Address Line 1 :	CORONA, 91720
Address Line 2 :	14653_ WALTERS ST
Compliance Status :	System Inactive
RTC Date :	10/04/2005
Enforcement Action Description :	N/R
Admin Name :	N/R
Email Address :	N/R

RTC Enforcement ID :	N/R
Violation ID :	8321943
Submission Year :	2019
Violation First Reported Date :	09/30/1983
Contaminant Name :	N/R
Rule Family :	Miscellaneous
Rule Group :	Other
Rule Name :	Miscellaneous
Violation Type :	Notification, Public
Is Health Based :	N
Is Major Violation :	N/R
Severity Indicator Count :	N/R
Public Notification Tier :	3
Address Line 1 :	CORONA, 91720
Address Line 2 :	14653_ WALTERS ST
Compliance Status :	System Inactive
RTC Date :	10/04/2005
Enforcement Action Description :	N/R
Admin Name :	N/R

Map Id: 2
Direction: NNW
Distance: 0.306 mi.
Actual: 1616.767 ft.
Elevation: 0.109 mi. / 576.867 ft.
Relative: Higher

Site Name : CA3301736
14653_ WALTERS ST
CORONA, CA 91720

Database(s) : [PWS, PWS ENF] ***(cont.)***

Envirosite ID: 357953350
EPA ID: N/R

PWS ENF ***(cont.)***

Email Address :	N/R

RTC Enforcement ID :	N/R
Violation ID :	8321945
Submission Year :	2019
Violation First Reported Date :	09/30/1983
Contaminant Name :	N/R
Rule Family :	Miscellaneous
Rule Group :	Other
Rule Name :	Miscellaneous
Violation Type :	Notification, Public
Is Health Based :	N
Is Major Violation :	N/R
Severity Indicator Count :	N/R
Public Notification Tier :	3
Address Line 1 :	CORONA, 91720
Address Line 2 :	14653_ WALTERS ST
Compliance Status :	System Inactive
RTC Date :	10/04/2005
Enforcement Action Description :	N/R
Admin Name :	N/R
Email Address :	N/R

RTC Enforcement ID :	N/R
Violation ID :	8321947
Submission Year :	2019
Violation First Reported Date :	09/30/1983
Contaminant Name :	N/R
Rule Family :	Miscellaneous
Rule Group :	Other
Rule Name :	Miscellaneous
Violation Type :	Notification, Public
Is Health Based :	N
Is Major Violation :	N/R
Severity Indicator Count :	N/R
Public Notification Tier :	3
Address Line 1 :	CORONA, 91720
Address Line 2 :	14653_ WALTERS ST
Compliance Status :	System Inactive
RTC Date :	10/04/2005
Enforcement Action Description :	N/R
Admin Name :	N/R
Email Address :	N/R

RTC Enforcement ID :	N/R
Violation ID :	8321949
Submission Year :	2019
Violation First Reported Date :	09/30/1983
Contaminant Name :	N/R
Rule Family :	Miscellaneous
Rule Group :	Other
Rule Name :	Miscellaneous
Violation Type :	Notification, Public
Is Health Based :	N

Map Id: 2
Direction: NNW
Distance: 0.306 mi.
Actual: 1616.767 ft.
Elevation: 0.109 mi. / 576.867 ft.
Relative: Higher

Site Name : CA3301736
14653_ WALTERS ST
CORONA, CA 91720

Database(s) : [PWS, PWS ENF] ***(cont.)***

Envirosite ID: 357953350
EPA ID: N/R

PWS ENF ***(cont.)***

Is Major Violation :	N/R
Severity Indicator Count :	N/R
Public Notification Tier :	3
Address Line 1 :	CORONA, 91720
Address Line 2 :	14653_ WALTERS ST
Compliance Status :	System Inactive
RTC Date :	10/04/2005
Enforcement Action Description :	N/R
Admin Name :	N/R
Email Address :	N/R

RTC Enforcement ID :	N/R
Violation ID :	8321951
Submission Year :	2019
Violation First Reported Date :	09/30/1983
Contaminant Name :	N/R
Rule Family :	Miscellaneous
Rule Group :	Other
Rule Name :	Miscellaneous
Violation Type :	Notification, Public
Is Health Based :	N
Is Major Violation :	N/R
Severity Indicator Count :	N/R
Public Notification Tier :	3
Address Line 1 :	CORONA, 91720
Address Line 2 :	14653_ WALTERS ST
Compliance Status :	System Inactive
RTC Date :	10/04/2005
Enforcement Action Description :	N/R
Admin Name :	N/R
Email Address :	N/R

RTC Enforcement ID :	N/R
Violation ID :	8321953
Submission Year :	2019
Violation First Reported Date :	09/30/1983
Contaminant Name :	N/R
Rule Family :	Miscellaneous
Rule Group :	Other
Rule Name :	Miscellaneous
Violation Type :	Notification, Public
Is Health Based :	N
Is Major Violation :	N/R
Severity Indicator Count :	N/R
Public Notification Tier :	3
Address Line 1 :	CORONA, 91720
Address Line 2 :	14653_ WALTERS ST
Compliance Status :	System Inactive
RTC Date :	10/04/2005
Enforcement Action Description :	N/R
Admin Name :	N/R
Email Address :	N/R

Map Id: 2
Direction: NNW
Distance: 0.306 mi.
Actual: 1616.767 ft.
Elevation: 0.109 mi. / 576.867 ft.
Relative: Higher

Site Name : CA3301736
14653_ WALTERS ST
CORONA, CA 91720

Database(s) : [PWS, PWS ENF] ***(cont.)***

Envirosite ID: 357953350
EPA ID: N/R

PWS ENF ***(cont.)***

RTC Enforcement ID :	N/R
Violation ID :	8321955
Submission Year :	2019
Violation First Reported Date :	09/30/1983
Contaminant Name :	N/R
Rule Family :	Miscellaneous
Rule Group :	Other
Rule Name :	Miscellaneous
Violation Type :	Notification, Public
Is Health Based :	N
Is Major Violation :	N/R
Severity Indicator Count :	N/R
Public Notification Tier :	3
Address Line 1 :	CORONA, 91720
Address Line 2 :	14653_ WALTERS ST
Compliance Status :	System Inactive
RTC Date :	10/04/2005
Enforcement Action Description :	N/R
Admin Name :	N/R
Email Address :	N/R

RTC Enforcement ID :	N/R
Violation ID :	8234015
Submission Year :	2019
Violation First Reported Date :	09/30/1982
Contaminant Name :	Gross Alpha, Excl. Radon and U
Rule Family :	Radionuclides
Rule Group :	Chemicals
Rule Name :	Radionuclides
Violation Type :	Monitoring, Regular
Is Health Based :	N
Is Major Violation :	Y
Severity Indicator Count :	N/R
Public Notification Tier :	3
Address Line 1 :	CORONA, 91720
Address Line 2 :	14653_ WALTERS ST
Compliance Status :	System Inactive
RTC Date :	10/04/2005
Enforcement Action Description :	N/R
Admin Name :	N/R
Email Address :	N/R

RTC Enforcement ID :	N/R
Violation ID :	8100203
Submission Year :	2019
Violation First Reported Date :	09/30/1981
Contaminant Name :	Nitrate
Rule Family :	Inorganic Chemicals
Rule Group :	Chemicals
Rule Name :	Nitrates
Violation Type :	Monitoring, Check/Repeat/Confirmation
Is Health Based :	N
Is Major Violation :	N/R
Severity Indicator Count :	N/R
Public Notification Tier :	3

Map Id: 2
Direction: NNW
Distance: 0.306 mi.
Actual: 1616.767 ft.
Elevation: 0.109 mi. / 576.867 ft.
Relative: Higher

Site Name : CA3301736
14653_ WALTERS ST
CORONA, CA 91720

Database(s) : [PWS, PWS ENF] ***(cont.)***

Envirosite ID: 357953350
EPA ID: N/R

PWS ENF ***(cont.)***

Address Line 1 :	CORONA, 91720
Address Line 2 :	14653_ WALTERS ST
Compliance Status :	System Inactive
RTC Date :	10/04/2005
Enforcement Action Description :	N/R
Admin Name :	N/R
Email Address :	N/R

RTC Enforcement ID :	N/R
Violation ID :	8111468
Submission Year :	2019
Violation First Reported Date :	09/30/1981
Contaminant Name :	Gross Alpha, Excl. Radon and U
Rule Family :	Radionuclides
Rule Group :	Chemicals
Rule Name :	Radionuclides
Violation Type :	Monitoring, Regular
Is Health Based :	N
Is Major Violation :	Y
Severity Indicator Count :	N/R
Public Notification Tier :	3
Address Line 1 :	CORONA, 91720
Address Line 2 :	14653_ WALTERS ST
Compliance Status :	System Inactive
RTC Date :	10/04/2005
Enforcement Action Description :	N/R
Admin Name :	N/R
Email Address :	N/R

Map Id: 3
Direction: W
Distance: 0.766 mi.
Actual: 4045.772 ft.
Elevation: 0.101 mi. / 535.574 ft.
Relative: Lower

Site Name : 335645117365301
33.94584750, -117.61560760
CA

Database(s) : [NWIS]

Envirosite ID: 404209530
EPA ID: N/R

NWIS

Site Identification Number :	335645117365301
Site Type :	Stream
Station Name :	MILL C A CHINO CORONA RD NR NORCO CA
Agency :	U.S. Geological Survey
District :	California
State :	CA
County :	San Bernardino County
Country :	USA
Land Net Location :	N/R
Name of Location Map :	CORONA NORTH
Scale of Location Map :	24000
Altitude of Gage/Land Surface :	548
Method Altitude Determined :	Interpolated from topographic map.

Map Id: 3
Direction: W
Distance: 0.766 mi.
Actual: 4045.772 ft.
Elevation: 0.101 mi. / 535.574 ft.
Relative: Lower

Site Name : 335645117365301
33.94584750, -117.61560760
CA

Database(s) : [NWIS] ***(cont.)***

Envirosite ID: 404209530
EPA ID: N/R

NWIS ***(cont.)***

Altitude Accuracy :	10
Altitude Datum :	National Geodetic Vertical Datum of 1929
Hydrologic Unit :	Santa Ana
Drainage Basin :	N/R
Topographic Setting :	N/R
Flags for the Type of Data Collected:	NNNANNNNNNNANNNNNNNNNNNNNNNNN
Flags for Instruments at Site :	NNNNNNNNNNNNNNNNNNNNNNNNNNNNN
Date of First Construction :	N/R
Date Site Established or Inventoried:	N/R
Drainage Area :	N/R
Contributing Drainage Area :	N/R
Data Reliability :	N/R
Data-other GW Files :	NNNNNNNN
National Aquifer :	N/R
Local Aquifer :	N/R
Local Aquifer Type :	N/R
Well Depth :	N/R
Hole Depth :	N/R
Source of Depth Data :	N/R
Project Number :	470652400
Real-Time Data Flag :	0
Peak-Streamflow Data Begin Date :	N/R
Peak-Streamflow Data End Date :	N/R
Peak-Streamflow Data Count :	0
Water-Quality Data Begin Date :	09/15/1998
Water-Quality Data End Date :	02/24/2004
Water-Quality Data Count :	71
Field Water-Level Data Begin Date :	--
Field Water-Level Data End Date :	--
Field Water-Level Data Count :	0
Site-Visit Data Begin Date :	N/R
Site-Visit Data End Date :	N/R
Site-Visit Data Count :	0
Latitude :	33.94584750
Longitude :	-117.61560760
Last Date in Agency List :	06/21/2019

Map Id: 4
Direction: ENE
Distance: 0.771 mi.
Actual: 4070.772 ft.
Elevation: 0.112 mi. / 592.3 ft.
Relative: Higher

Site Name : VERTICAL STRUCTURE
33 57 14.76N, 117 35 24.23W
CORONA, CA

Database(s) : [DIGITAL OBSTACLE]

Envirosite ID: 398082217
EPA ID: N/R

DIGITAL OBSTACLE

Date of Action :	01/27/2018
Action :	Add
FAA Study Number :	2013AWP01294OE
OBS Number :	06-148724
Obstacle Type :	VERTICAL STRUCTURE
City Name :	CORONA

Map Id: 4
Direction: ENE
Distance: 0.771 mi.
Actual: 4070.772 ft.
Elevation: 0.112 mi. / 592.3 ft.
Relative: Higher

Site Name : VERTICAL STRUCTURE
33 57 14.76N, 117 35 24.23W
CORONA, CA

Database(s) : [DIGITAL OBSTACLE] ***(cont.)***

Envirosite ID: 398082217
EPA ID: N/R

DIGITAL OBSTACLE ***(cont.)***

State Identifier :	CA
Country Identifier :	US
Type of Lighting :	None
Verification Status :	Unverified
Quantity :	1
Mark Indicator :	None
Above Ground Level Height (Feet) :	00070
Above Mean Sea Level Height (Feet) :	00658
Horizontal Accuracy :	+-250'
Vertical Accuracy :	+-50'
Latitude :	33 57 14.76N
Longitude :	117 35 24.23W

RADON DATA:

STATE SOURCE: CA

Radon Test Results:

Zip:	Total Sites:	Cnt >=4 pCi/L:	Pct >= 4 pCi/L:	Max Result (pCi/L):
92880	18	1	5.556	7

Federal EPA Radon Zone for RIVERSIDE County:
Note: Zone 1 indoor average level > 4 pCI/L
: Zone 2 indoor average level > = 2 pCI/L and <= 4 pCI/L
: Zone 3 indoor average < 2 pCI/L

FEDERAL AREA RADON INFORMATION FOR: No Available Data

NUMBER OF SAMPLE SITES: No Available Data

HIST PWS ENF
Historical Public Water Supply locations with Enforcement Violations
Environmental Protection Agency
(800) 426-4791
List of Safe Drinking Water Information Systems (SDWIS) with enforcement violations that are no longer in current agency list.

NWIS
National Water Information Systems
United States Geological Society
(703) 648-5953
Information on all water resources for the United States. This database contains all current and historical data for the nation.

PWS
Public Water Supply
Environmental Protection Agency
(800) 426-4791
Safe drinking water information Systems

PWS ENF
Public Water Supply locations with Enforcement Violations
Environmental Protection Agency
(800) 426-4791
Safe drinking water information Systems with enforcememnt violations

WELLS - GAMA - CA
California Groundwater Ambient Monitoring Assessment
State Water Resources Control Board
916-341-5791
Brings together datasets from California state agencies including: Public Health Water Resources and Pesticide Regulation as well as from the US Geological Survey Lawrence Livermore National Laboratory and the Water Boards. It shows results for untreated raw water in different types of wells for naturally-occurring and man-made chemicals.

FLOOD Q3
Flood data
Environmental Protection Agency
(202) 566-1667
Q3 Flood Data

HYDROLOGIC UNIT
Hydrologic Unit Maps
USGS
The United States Geological Survey created a hierarchical system of hydrologic units originally called regions, sub-regions, accounting units, and cataloging units. Each unit was assigned a unique Hydrologic Unit Code (HUC). As first implemented the system had 21 regions, 221 subregions, 378 accounting units, and 2,264 cataloging units. Over time the system was changed and expanded. As of 2010 there are six levels in the hierarchy, represented by hydrologic unit codes from 2 to 12 digits long, called regions, subregions, basins, subbasins, watersheds, and subwatersheds. The table below describes the system's hydrologic unit levels and their characteristics, along with example names and codes.

WETLANDS NWI
National Wetland Inventory
U.S. Fish and Wildlife Service
(703) 358-2171
Wetland Inventory for the United States

SSURGO
Detailed Soil Data Map
Natural Resources Conservation Service: U.S. Department of Agriculture
(202) 690-4985
Detailed Soil Data Map

STATSGO & MUI
General Soil Data Map
Natural Resources Conservation Service: U.S. Department of Agriculture
(202) 690-4985
General Soil Data Map

USGS GEOLOGIC AGE
USGS Digital Data Series DDS
Natural Resources Conservation Service: U.S. Department of Agriculture
(202) 690-4985
USGS Digital Data Series DDS: Geologic Age and Rock Stratigraphic Unit

RADON
National Radon Database
USGS
703-605-6008
A study of the EPA/State Residential Radon Survey and the National Residential Radon Survey.

RADON - CA
Radon tested locations in California
California Department of Health Services
(916) 449-5674
A table of long term and short term indoor radon measurments

DAMS - CA
California Dam Inundation Maps
Department of Water Resources
916-845-8275
Dam inundation maps show the maximum extent of damage of a flood wave from a dam failure

OIL & GAS WELLS - CA
Oil and Gas Well Data
State of California Department of Conservation
916-327-1042
Oil and gas well locations and detail for all 6 districts

AIRPORT FACILITIES
Airport landing facilities
Federal Aviation Administration
(866) 835-5322
Airport landing facilities

BASINS
Better Assessment Science Integrating point & Non-point Sources
U.S. Environmental Protection Agency
855-246-3642
Integrated geographical information system national watershed data and environmental assessment known as Better Assessment Science Integrating point & Non-point Sources

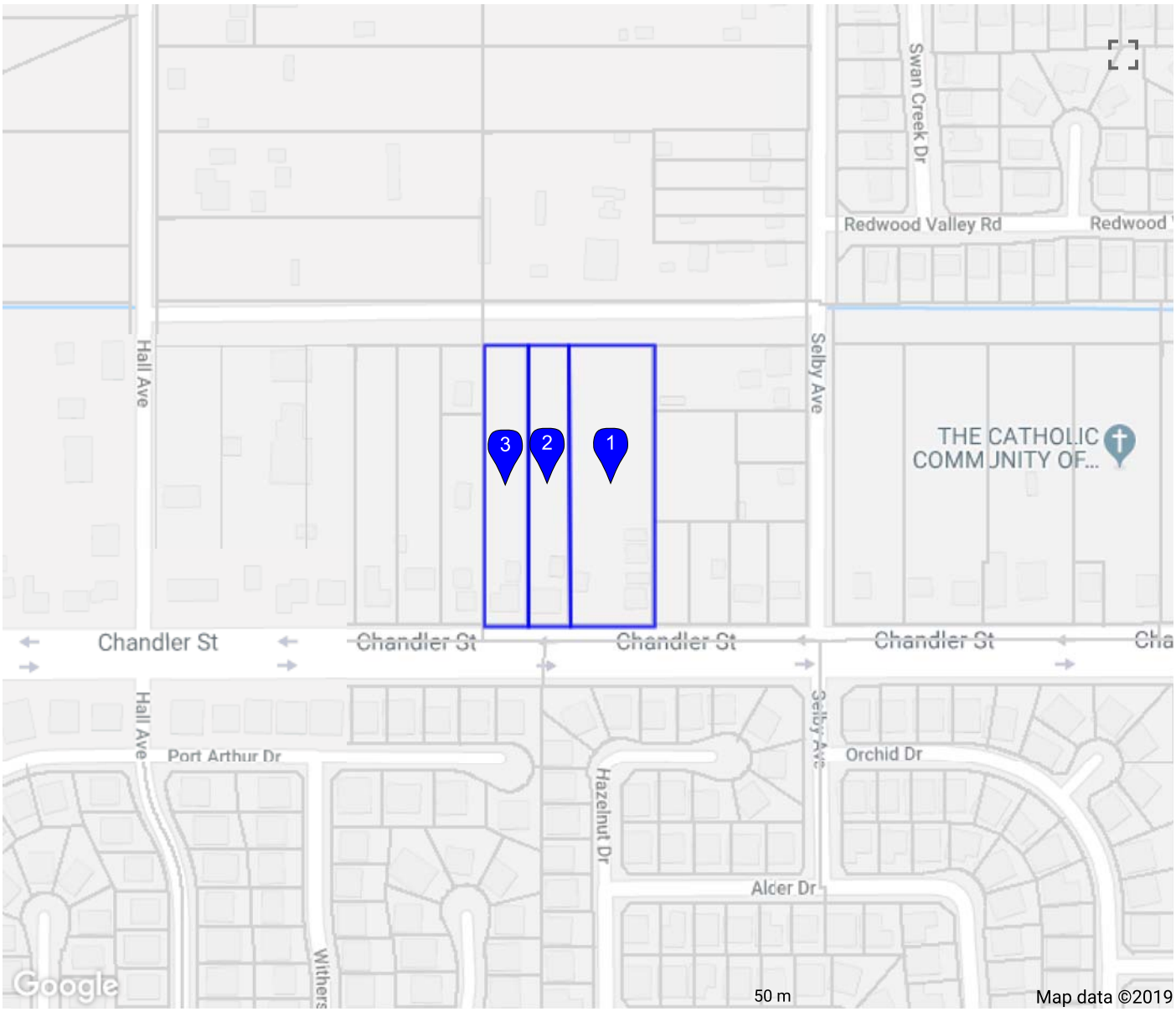
DIGITAL OBSTACLE
Obstacles of interest to aviation users
Federal Aviation Administration
855-379-6518
The Digital Obstacle File describes all known obstacles of interest to aviation users in the U.S. with limited coverage of the Pacific the Caribbean Canada and Mexico. The obstacles are assigned unique numerical identifiers; accuracy codes and listed in order of ascending latitude within each state or area by FAA Region.

EPICENTERS
National Geographical Data Center
National Geographical Data Center
303-497-6826
Data on over four million earthquakes dating from 2100 B.C. to 1995 A.D.

FLOOD DFIRM
National Flood Hazard Layer Database
Federal Emergency Management Agency
The National Flood Hazard Layer Database (NFHL) is a computer database that contains the flood hazard map information from FEMAs Flood Map Modernization program. These map data are from Digital Flood Insurance Rate Map (DFIRM) databases and Letters of Map Revision.

APPENDIX D

Other Pertinent Data



PARCELQUEST
LIST 0
DETAIL

	id	Co	APN ^	Owner	S Street Address	S City State Zip
☑	1	RIV	144-120-004	AJUSTA INV	14555 CHANDLER ST	CORONA CA 92880
☑	2	RIV	144-120-003	AJUSTA INV	14577 CHANDLER ST	CORONA CA 92880
☑	3	RIV	144-120-002	AJUSTA INV	14587 CHANDLER ST	CORONA CA 92880

PARCELQUEST

LIST 1
DETAIL

☑ 1 Property Address: 14555 CHANDLER ST CORONA CA 92880

Ownership

County:	**RIVERSIDE, CA**
Assessor:	**PETER ALDANA, ASSESSOR**
Parcel # (APN):	**144-120-004**
Parcel Status:	**ACTIVE**
Owner Name:	**AJUSTA INV**
Mailing Address:	**6677 DESERT SPRINGS ST CHOWCHILLA CA 93610**
Legal Description:	**POR LOT 61 MB 012/098 PERSIMMON REPUBLIC ACRES**

Assessment

Total Value:	**$90,822**	Use Code:	**R1**	Use Type:	**RESID. SINGLE FAMILY**
Land Value:	**$39,931**	Tax Rate Area:	**027-002**	Zoning:	
Impr Value:	**$50,891**	Year Assd:	**2019**	Census Tract:	**406.09/2**
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	**56%**	Delinquent Yr:			
Exempt Amt:		HO Exempt:	**N**		

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:				**03/00/2015**
Document Number:				**0109098**
Document Type:				
Transfer Amount:				
Seller (Grantor):				

Property Characteristics

Bedrooms:	**2**	Fireplace:	**1**	Units:	
Baths (Full):	**1**	A/C:		Stories:	**1.0**
Baths (Half):		Heating:		Quality:	**5.0**
Total Rooms:		Pool:		Building Class:	**D**
Bldg/Liv Area:	**1,256**	Park Type:	**DETACHED GARAGE**	Condition:	
Lot Acres:	**2.029**	Spaces:		Site Influence:	
Lot SqFt:	**88,426**	Garage SqFt:	**360**	Timber Preserve:	
Year Built:	**1950**			Ag Preserve:	
Effective Year:					

PARCELQUEST

LIST 1
DETAIL

1 Property Address: 14577 CHANDLER ST CORONA CA 92880

Ownership

County:	**RIVERSIDE, CA**
Assessor:	**PETER ALDANA, ASSESSOR**
Parcel # (APN):	**144-120-003**
Parcel Status:	**ACTIVE**
Owner Name:	**AJUSTA INV**
Mailing Address:	**6677 DESERT SPRINGS ST CHOWCHILLA CA 93610**
Legal Description:	**1.03 ACRES IN POR LOT 60 MB 012/098 PERSIMMON REPUBLIC ACRES**

Assessment

Total Value:	**$77,285**	Use Code:	**R1**	Use Type:	**RESID. SINGLE FAMILY**
Land Value:	**$29,566**	Tax Rate Area:	**027-002**	Zoning:	
Impr Value:	**$47,719**	Year Assd:	**2019**	Census Tract:	**406.09/2**
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	**61%**	Delinquent Yr:			
Exempt Amt:		HO Exempt:	**N**		

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:				**03/00/2015**
Document Number:				**0109096**
Document Type:				
Transfer Amount:				
Seller (Grantor):				

Property Characteristics

Bedrooms:	**3**	Fireplace:	**1**	Units:	
Baths (Full):	**2**	A/C:		Stories:	**1.0**
Baths (Half):		Heating:	**CENTRAL**	Quality:	**6.0**
Total Rooms:		Pool:		Building Class:	**D**
Bldg/Liv Area:	**1,416**	Park Type:	**ATTACHED GARAGE**	Condition:	
Lot Acres:	**1.030**	Spaces:		Site Influence:	
Lot SqFt:	**44,866**	Garage SqFt:	**400**	Timber Preserve:	
Year Built:	**1966**			Ag Preserve:	
Effective Year:					

PARCELQUEST

LIST 1
DETAIL

1 Property Address: 14587 CHANDLER ST CORONA CA 92880

Ownership

County:	**RIVERSIDE, CA**
Assessor:	**PETER ALDANA, ASSESSOR**
Parcel # (APN):	**144-120-002**
Parcel Status:	**ACTIVE**
Owner Name:	**AJUSTA INV**
Mailing Address:	**6677 DESERT SPRINGS ST CHOWCHILLA CA 93610**
Legal Description:	**1.03 ACRES IN POR LOT 60 MB 012/098 PERSIMMON REPUBLIC ACRES**

Assessment

Total Value:	**$93,084**	Use Code:	**R1**	Use Type:	**RESID. SINGLE FAMILY**
Land Value:	**$29,566**	Tax Rate Area:	**027-002**	Zoning:	
Impr Value:	**$63,518**	Year Assd:	**2019**	Census Tract:	**406.09/2**
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	**68%**	Delinquent Yr:			
Exempt Amt:		HO Exempt:	**N**		

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:				**03/00/2015**
Document Number:				**0109097**
Document Type:				
Transfer Amount:				
Seller (Grantor):				

Property Characteristics

Bedrooms:	**4**	Fireplace:	**1**	Units:	
Baths (Full):	**2**	A/C:	**CENTRAL**	Stories:	**1.0**
Baths (Half):	**1**	Heating:	**CENTRAL**	Quality:	**6.0**
Total Rooms:		Pool:		Building Class:	**D**
Bldg/Liv Area:	**2,084**	Park Type:	**DETACHED GARAGE**	Condition:	
Lot Acres:	**1.030**	Spaces:		Site Influence:	
Lot SqFt:	**44,866**	Garage SqFt:	**418**	Timber Preserve:	
Year Built:	**1966**			Ag Preserve:	
Effective Year:					

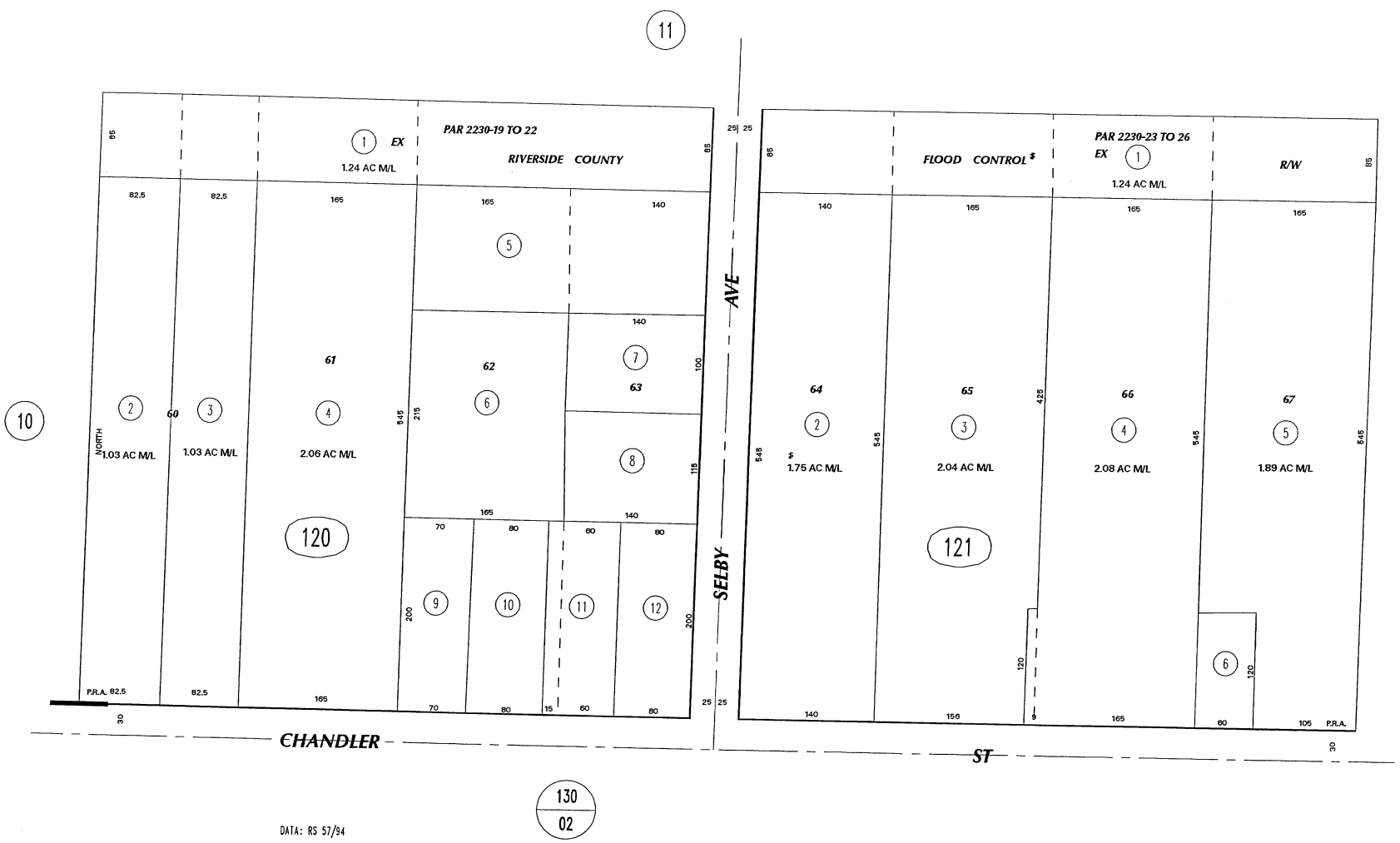
THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN. ASSESSOR'S PARCEL MAY NOT COMPLY WITH LOCAL LOT-SPLIT OR BUILDING SITE ORDINANCES.

POR.S 34 T.2S.,R.7W

T.R.A. 059-005

144-12

134-20



DATA: RS 57/94

ASSESSOR'S MAP BK144 PG.12
Riverside County, Calif.

MB 12/12-98 PERSIMMON REPUBLIC ACRES

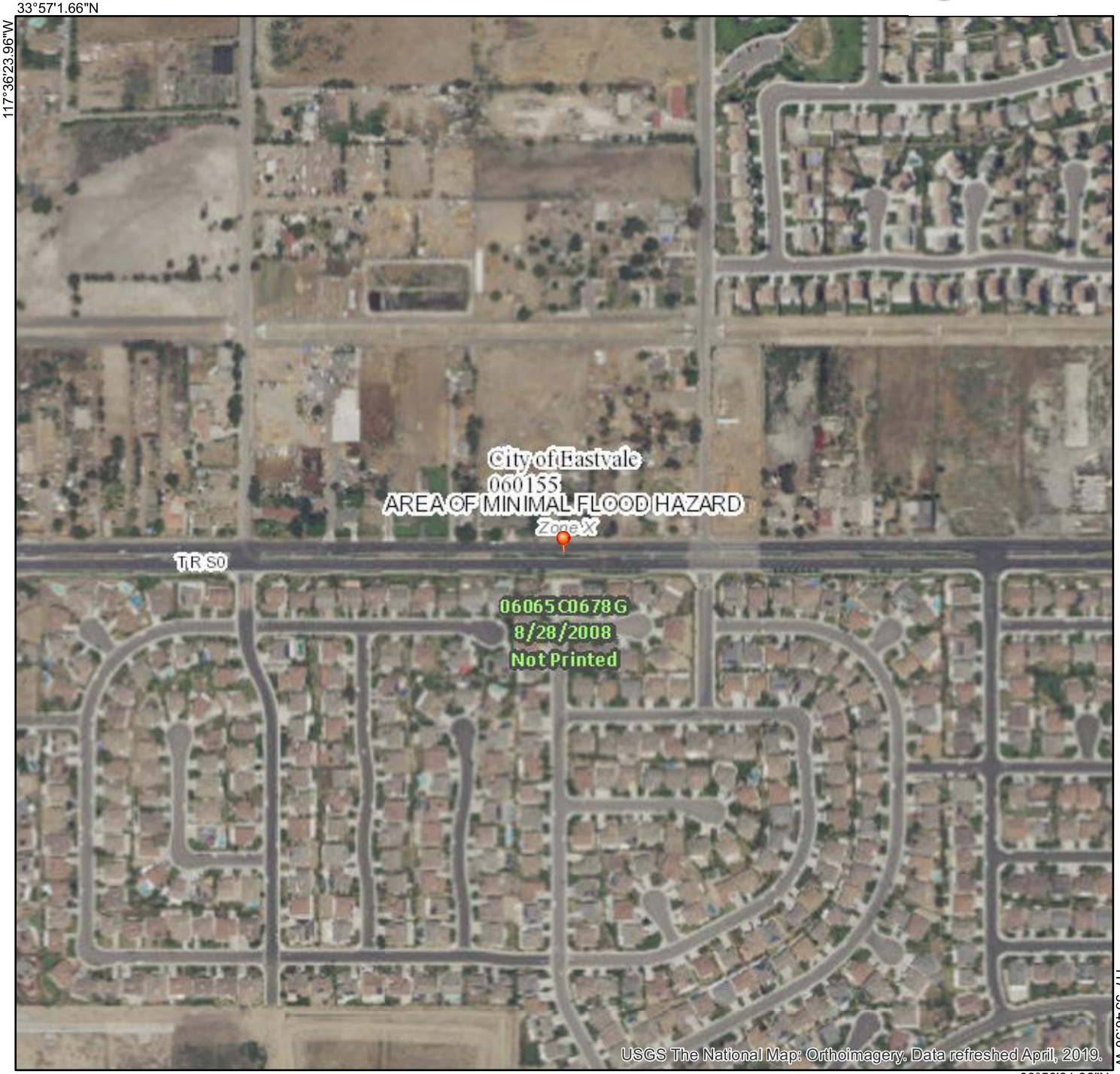
Nov 2003

National Flood Hazard Layer FIRMette

FEMA

33°57'1.66"N

117°36'23.96"W



117°35'46.50"W

33°56'31.82"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/1/2019 at 12:44:46 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX E

Qualifications

MARK E. SMITH
ENVIRONMENTAL PROFESSIONAL

PROFESSIONAL EDUCATION

University of California, Riverside (UCR), Riverside, CA, B.S. Environmental Science, 1994

CERTIFICATIONS/QUALIFICATIONS

- AHERA Asbestos Inspector
- 40-Hour OSHA HAZWOPER Training
- Certified Technical Writer

SELECTED EXPERIENCE

Mr. Smith has more than 25 years of experience in Phase 1 Environmental Site Assessments (Phase 1 ESAs) and Real Estate Transaction Screens of residential multifamily, commercial, retail, fueling facilities, agricultural and industrial properties throughout the United States for a wide range of financial clients, attorneys and real estate companies.

Mr. Smith has conducted over 2,300 environmental due diligence projects since 1994.

For a national environmental consulting firm, Mr. Smith served as a Senior Project Manager, where he supervised Phase I Environmental Site Assessments on various industrial, commercial, institutional and residential properties. Assessments included limited and comprehensive surveys for asbestos, lead-based paint, lead-in-drinking water and radon gas emissions. He also managed subsurface investigations to determine the presence of contamination in soil and groundwater, prepared and reviewed written reports in formats prescribed by various fiduciary institutions and performed peer reviews on environmental site assessments completed by other environmental firms. He was responsible for review of final reports and QA/QC.

In May 2007, Mr. Smith resigned from the national environmental consulting firm to start Smithmark LLC as an environmental subcontractor to provide Phase 1 ESA report services to existing national, regional and local environmental/engineering firms in need of report services for overflow projects unable to be covered by in-house staff. In February 2016, Mr. Smith dissolved Smithmark LLC and formed The Phase One Group LLC to provide Phase 1 ESA report services to property purchasers, brokers, investors and lenders.

PROFESSIONAL AFFILIATIONS:

- Association of Environmental Professionals, Los Angeles County Chapter, Member

RELEVANT PROJECT EXPERIENCE:

- **Embassy Suites – Glendale, California**

  Performed ESA of a 272-room Embassy Suites hotel facility in Glendale, California.

- **Limoneira Company – Santa Paula, California**

  Performed several ESAs of Limoneira Company corporate headquarters and numerous multi-acre orchards owned and operated by Limoneira Company.

- **Royal Truck Body – Paramount, California**

  Performed ESA of Royal Truck Body, a heavy industrial facility who manufactures truck service bodies. Facility comprised of over 300,000 square feet of manufacturing and assembly space.

- **Bank Branches – Pacific Northwest**

  Performed ESAs of over 20 bank branches throughout Oregon and Washington. ESAs were completed within a four-week period.

- **North DeKalb Mall – Decatur, Georgia**

  Performed ESA of the North DeKalb Mall, a regional shopping mall in Decatur, Georgia.

- **Various Properties – Hawaii**

  Performed ESAs of commercial, retail and residential properties on the islands of Oahu and Kauai, Hawaii.

APPENDIX 13:
Preliminary Hydrology Study

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Preliminary Hydrology Study

for

Eastvale Mini Storage

Prepared for:

Gossett Development, Inc.
207 Monarch Bay Drive
Dana Point, CA 92629

Prepared by:

639 Lakewood Drive
Riverside, CA 92506

October 23, 2019

Table of Contents

Purpose

The purpose of this report is to develop a hydrologic analysis of existing and proposed conditions of the proposed project site, to accommodate design storms for the 100-year storm event, and to design facilities and methods for flood protection for the proposed project site and existing downstream facilities.

Existing Conditions

The project is proposed on 3 existing parcels totaling 4.063 acres located northerly of Chandler Street and southerly of the Riverside County Flood Control and Water Conservation District's Chandler Street Drainage Channel, between Hall Avenue and Selby Street.

The site is currently developed with single family structures, accessory structures, and other miscellaneous improvements within the southerly one-third of the property. The northerly two-thirds of the site is an agricultural use. The site generally drains towards the north west corner of the property. There is no offsite drainage tributary to the project site.

Chandler Street has an approximate existing slope of 0.30% from east to west and the Chandler St Channel also drains from east to west.

The existing site has an impervious coverage of approximately 10%.

Proposed Conditions

The applicant is proposing to develop the site with four storage buildings, drive aisles, and associated parking and landscaping.

The proposed site will have an impervious coverage of approximately 90%.

It is assumed that the proposed offsite street section will carry the offsite runoff around the project within the public right-of-way.

Hydromodification

All downstream conveyance channels to an adequate sump (Prado Dam) from the project are engineered and regularly maintained to ensure design flow capacity, no sensitive stream habitat areas will be adversely affected or are not identified on the Co-Permittee's Hydromodification Sensitivity Maps.

Methodology

The hydrology study was performed under the guidelines of the Riverside County Hydrology Manual Rational Method to calculate peak runoff rates. The Rational Method is commonly used for determining peak discharge rates for small drainage areas, typically less than 300 acres.

The Rational Method is based on the following:

Q= CIA where:

Q = peak discharge rate in cubic feet per second (CFS)
C = runoff coefficient obtained from Plates D-5.1 thru D-5.4 of the hydrology manual (unitless).
I = average rainfall intensity obtained from Plates D-4.1 thru D-4.2 of the hydrology manual (in/hr).
A = drainage area in acres (AC).

Time of concentration (Tc) is the time required for an entire drainage area to contribute to runoff at the point of interest for hydraulic design. Tc is calculated as the time for runoff to flow from the most hydraulically remote point of the drainage area to the point under investigation. The time of concentration is a function of many variables, including the length of the flow path from the most remote point of the drainage area, the slope and other characteristics of the natural and improved flow surfaces, the infiltration characteristics of the soil, and the type of development.

Existing Site Calculations

C = 0.77
I = 2.03 in/hr
A = 4.063

Q = 0.77*2.03*4.063

Q = 6.35 CFS

Flow path is approximately 636', therefore:

Tc = 21.0 min

See supporting charts and nomographs in the Appendix.

Proposed Site Calculations

C = 0.89
I = 2.46 in/hr
A = 4.063

Q = 0.89*2.46*4.063

Q = 8.90 CFS

Flow path is approximately 980', therefore:

Tc = 14.2 min

See supporting charts and nomographs in the Appendix.

The project proposes the use of bio-retention trenches to comply with NPDES requirements. The bio-retention trenches are backfilled with 3' of engineered soil media. The engineered soil media has an assumed infiltration rate of 2 in/hr.

The drawdown time of a bio-retention trench is calculated using the following formula:

DDp = (dp/Kmedia) x 12 where:

DDp = draw down time in hours (HR).
Dp = depth of ponding above bio-retention area in feet (FT).
Kmedia = engineered soil media infiltration rate in in/hr (in/hr).
12 = conversion factor, inches to feet.

DDP = (0.5/2) x 12

DDp = 3 HR

The time of concentration thru the bio-retention trench to the underdrain is:

DDP = (3/2) x 12

DDp = 18 HR with minimal time of concentration within the underdrain piping to the outlet sump and pump to the Chandler Street channel.

Results and Conclusion:

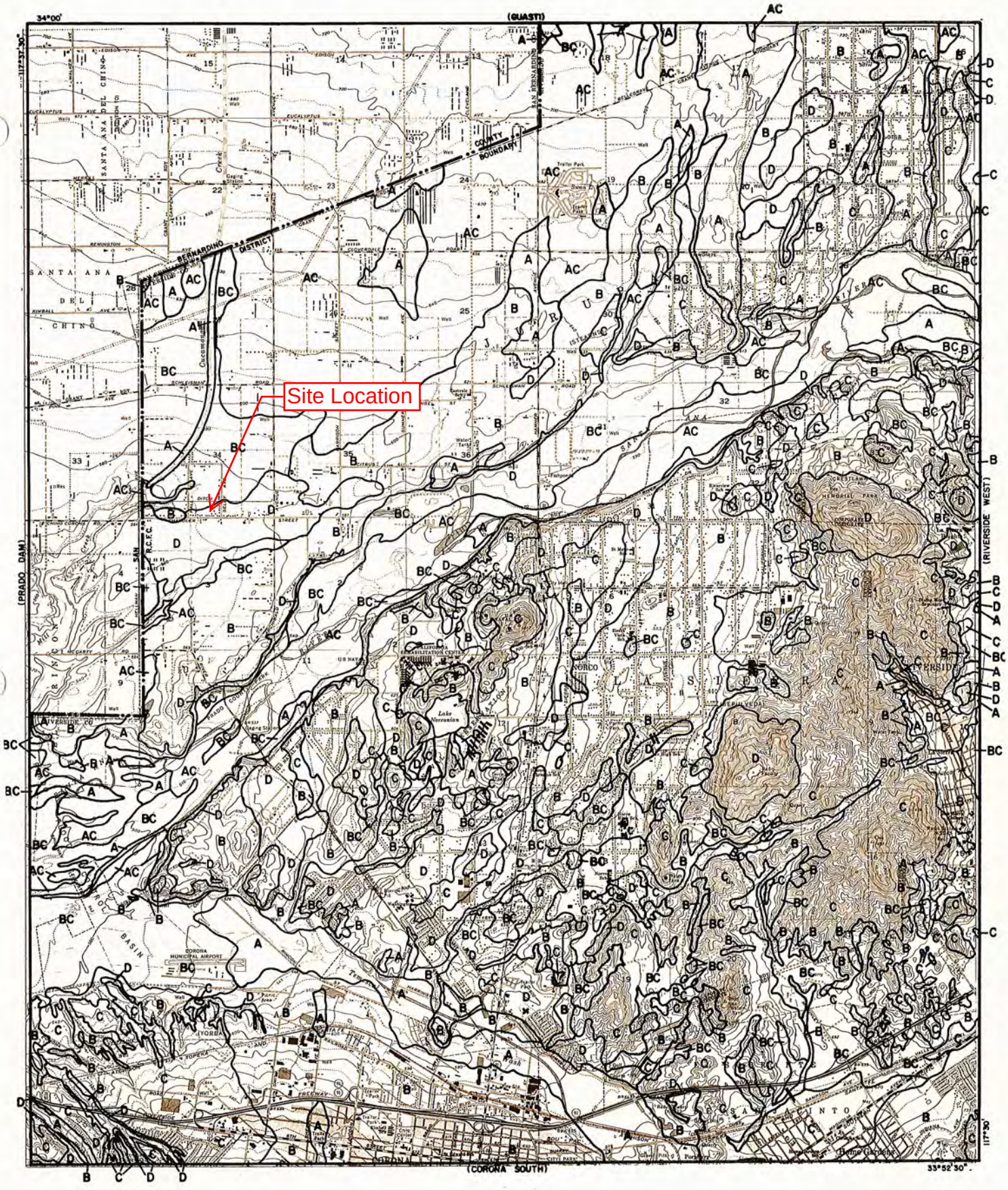
Peak flows determined through the Rational Method analysis are as follows:

Development Phase	**Q_{100} (CFS)**
Undeveloped	6.35
Developed	8.90

Bio-retention trenches will be constructed to satisfy NPDES requirements. The bio-retention trenches are designed to capture and treat the 85th-percentile storm event. The calculated draw down time for the ponded surface water is 3 hours, which is less than the required 48-hour maximum.

The bio-retention trenches will increase the time of concentration of the developed project, reduce pollutant generation thru filtration and absorption, and reduce runoff volume thru minor infiltration, absorption and evapotransporation.

APPENDIX



LEGEND

—— SOILS GROUP BOUNDARY

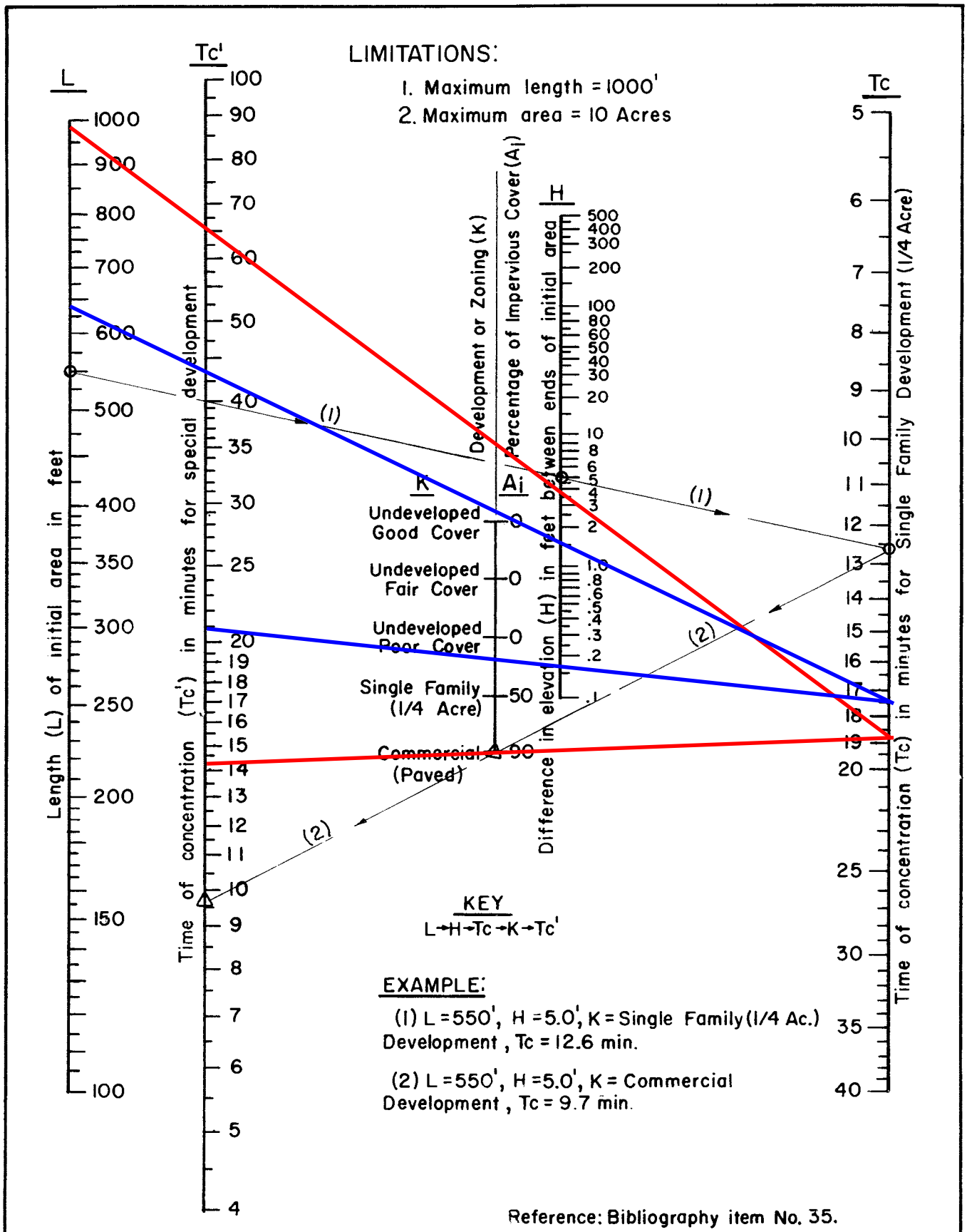
A SOILS GROUP DESIGNATION

RCFC&WCD

HYDROLOGY MANUAL

HYDROLOGIC SOILS GROUP MAP FOR CORONA–NORTH

PLATE C–1.14



Reference: Bibliography item No. 35.

RCFC & WCD
HYDROLOGY MANUAL

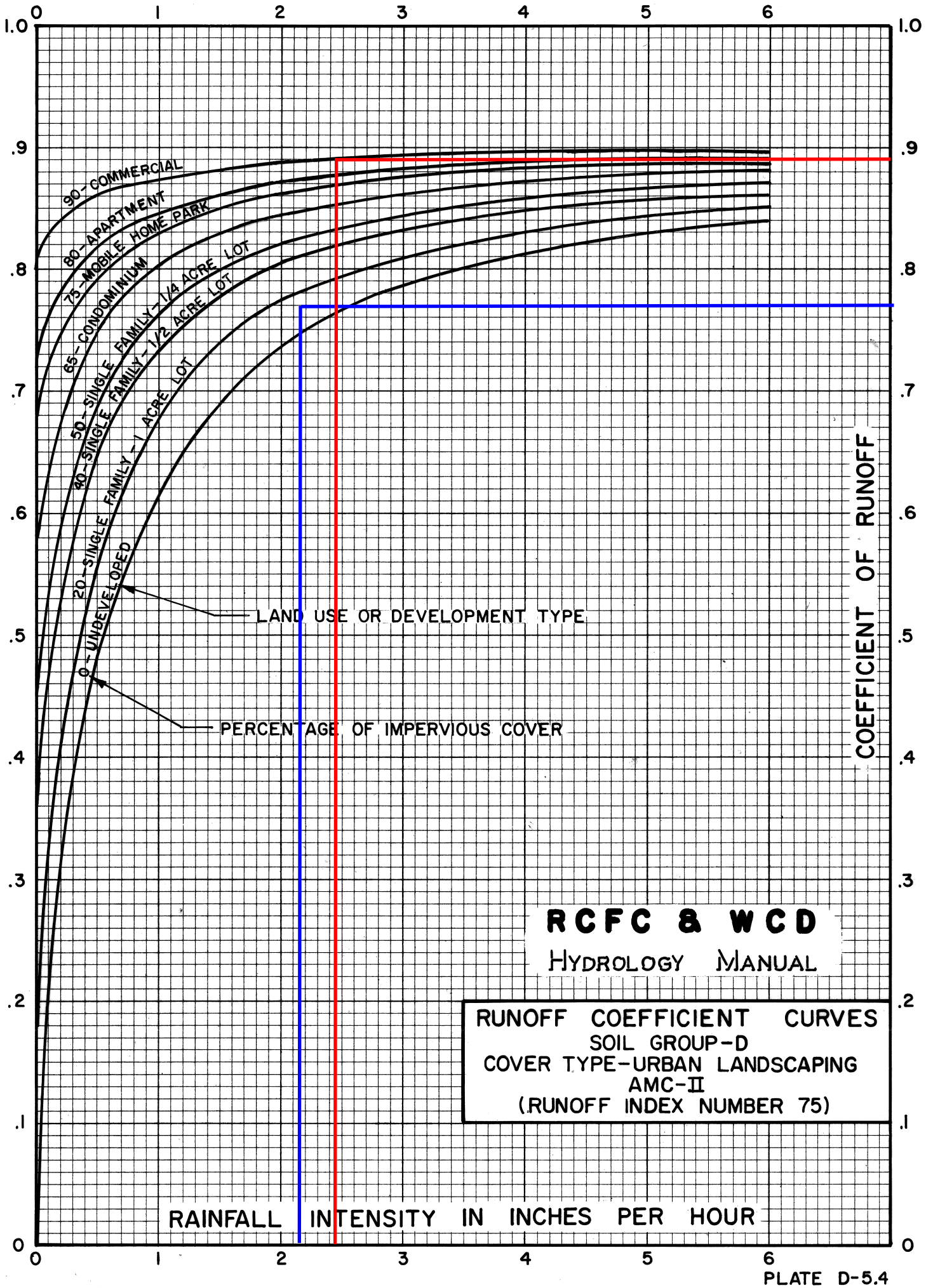
TIME OF CONCENTRATION FOR INITIAL SUBAREA

PLATE D-3

RAINFALL INTENSITY—INCHES PER HOUR

MIRA LOMA			MURRIETA - TEMECULA & RANCHO CALIFORNIA			NORCO			PALM SPRINGS			PERRIS VALLEY		
DURATION MINUTES	FREQUENCY		DURATION MINUTES	FREQUENCY		DURATION MINUTES	FREQUENCY		DURATION MINUTES	FREQUENCY		DURATION MINUTES	FREQUENCY	
	10 YEAR	100 YEAR		10 YEAR	100 YEAR		10 YEAR	100 YEAR		10 YEAR	100 YEAR		10 YEAR	100 YEAR
5	2.84	4.48	5	3.45	5.10	5	2.77	4.16	5	4.23	6.76	5	2.64	3.78
6	2.58	4.07	6	3.12	4.61	6	2.53	3.79	6	3.80	6.08	6	2.41	3.46
7	2.37	3.75	7	2.87	4.24	7	2.34	3.51	7	3.48	5.56	7	2.24	3.21
8	2.21	3.49	8	2.67	3.94	8	2.19	3.29	8	3.22	5.15	8	2.09	3.01
9	2.08	3.28	9	2.50	3.69	9	2.07	3.10	9	3.01	4.81	9	1.98	2.84
10	1.96	3.10	10	2.36	3.48	10	1.96	2.94	10	2.83	4.52	10	1.88	2.69
11	1.87	2.95	11	2.24	3.30	11	1.87	2.80	11	2.67	4.28	11	1.79	2.57
12	1.78	2.82	12	2.13	3.15	12	1.79	2.68	12	2.54	4.07	12	1.72	2.46
13	1.71	2.70	13	2.04	3.01	13	1.72	2.58	13	2.43	3.88	13	1.65	2.37
14	1.64	2.60	14	1.96	2.89	14	1.66	2.48	14	2.33	3.72	14	1.59	2.29
15	1.58	2.50	15	1.89	2.79	15	1.60	2.40	15	2.23	3.58	15	1.54	2.21
16	1.53	2.42	16	1.82	2.69	16	1.55	2.32	16	2.15	3.44	16	1.49	2.14
17	1.48	2.34	17	1.76	2.60	17	1.50	2.25	17	2.08	3.32	17	1.45	2.08
18	1.44	2.27	18	1.71	2.52	18	1.46	2.19	18	2.01	3.22	18	1.41	2.02
19	1.40	2.21	19	1.66	2.45	19	1.42	2.13	19	1.95	3.12	19	1.37	1.97
20	1.36	2.15	20	1.61	2.38	20	1.39	2.08	20	1.89	3.03	20	1.34	1.92
22	1.29	2.04	22	1.53	2.26	22	1.32	1.98	22	1.79	2.86	22	1.28	1.83
24	1.24	1.95	24	1.46	2.15	24	1.26	1.90	24	1.70	2.72	24	1.22	1.75
26	1.18	1.87	26	1.39	2.06	26	1.22	1.82	26	1.62	2.60	26	1.18	1.69
28	1.14	1.80	28	1.34	1.98	28	1.17	1.76	28	1.56	2.49	28	1.13	1.63
30	1.10	1.73	30	1.29	1.90	30	1.13	1.70	30	1.49	2.39	30	1.10	1.57
32	1.06	1.67	32	1.24	1.84	32	1.10	1.64	32	1.44	2.30	32	1.06	1.52
34	1.03	1.62	34	1.20	1.78	34	1.06	1.59	34	1.39	2.22	34	1.03	1.48
36	1.00	1.57	36	1.17	1.72	36	1.03	1.55	36	1.34	2.15	36	1.00	1.44
38	.97	1.53	38	1.13	1.67	38	1.01	1.51	38	1.30	2.09	38	.98	1.40
40	.94	1.49	40	1.10	1.62	40	.98	1.47	40	1.27	2.02	40	.95	1.37
45	.89	1.40	45	1.03	1.52	45	.92	1.39	45	1.18	1.89	45	.90	1.29
50	.84	1.32	50	.97	1.44	50	.88	1.31	50	1.11	1.78	50	.85	1.22
55	.80	1.26	55	.92	1.36	55	.84	1.25	55	1.05	1.68	55	.81	1.17
60	.76	1.20	60	.88	1.30	60	.80	1.20	60	1.00	1.60	60	.78	1.12
65	.73	1.15	65	.84	1.24	65	.77	1.15	65	.95	1.53	65	.75	1.08
70	.70	1.11	70	.81	1.19	70	.74	1.11	70	.91	1.46	70	.72	1.04
75	.68	1.07	75	.78	1.15	75	.72	1.07	75	.88	1.41	75	.70	1.00
80	.65	1.03	80	.75	1.11	80	.69	1.04	80	.85	1.35	80	.68	.97
85	.63	1.00	85	.73	1.07	85	.67	1.01	85	.82	1.31	85	.66	.94
SLOPE = .530			SLOPE = .550			SLOPE = .500			SLOPE = .580			SLOPE = .490		

STANDARD
INTENSITY-DURATION
CURVES DATA



RCFC & WCD

HYDROLOGY MANUAL

RUNOFF COEFFICIENT CURVES
SOIL GROUP-D
COVER TYPE-URBAN LANDSCAPING
AMC-II
(RUNOFF INDEX NUMBER 75)

PLATE D-5.4

APPENDIX 14:
Project-Specific
Water Quality Management Plan

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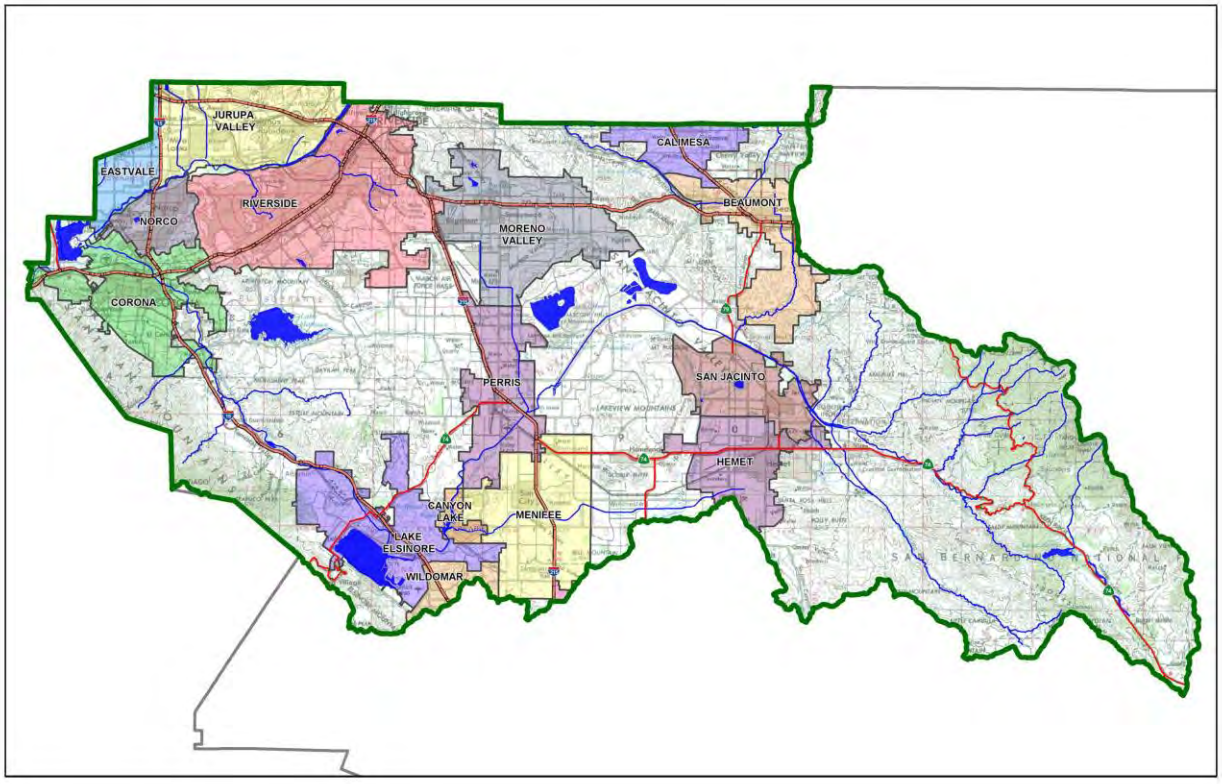
Project Specific Water Quality Management Plan

*A Template for Projects located within the **Santa Ana Watershed** Region of Riverside County*

Project Title: Eastvale Self Storage

Development No: Insert text here

Design Review/Case No: Insert text here



☒ **Preliminary**
☐ **Final**

Original Date Prepared: October 23, 2019

Revision Date(s):

Prepared for Compliance with
Regional Board Order No. **R8-2010-0033**
Template revised June 30, 2016

Contact Information:

Prepared for:
Gossett Development
207 Monarch Bay
Dana Point, CA 92629
(949) 735-6041

Prepared by:
MTH2 Engineering, Inc.
639 Lakewood Drive
Riverside, CA 92506
(951) 850-2190

OWNER'S CERTIFICATION

This Project-Specific Water Quality Management Plan (WQMP) has been prepared for Garrett Gossett by MTH2 Engineering, Inc. for the Eastvale Self Storage project.

This WQMP is intended to comply with the requirements of City of Eastvale for 14.12.060 which includes the requirement for the preparation and implementation of a Project-Specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation and funding of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. In addition, the property owner accepts responsibility for interim operation and maintenance of Stormwater BMPs until such time as this responsibility is formally transferred to a subsequent owner. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity. The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under Riverside County Water Quality Ordinance (Municipal Code Section14.12.110).

"I, the undersigned, certify under penalty of law that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Owner's Signature	Date
Owner's Printed Name	Owner's Title/Position

PREPARER'S CERTIFICATION

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan meet the requirements of Regional Water Quality Control Board Order No. **R8-2010-0033** and any subsequent amendments thereto."

Preparer's Signature	Date
Preparer's Printed Name	Preparer's Title/Position

Preparer's Licensure:

Table of Contents

List of Tables

List of Appendices

Section A: Project and Site Information

PROJECT INFORMATION	
Type of Project:	Commercial
Planning Area:	NA
Community Name:	City of Eastvale
Development Name:	Eastvale Self Storage
PROJECT LOCATION	
Latitude & Longitude (DMS): 33°56'49.65"N, 117°36'06.30"W	
Project Watershed and Sub-Watershed: Santa Ana- Cucamonga Creek	
Gross Acres: 4.13 acres	
APN(s): 144-120-002, -003, -004	
Map Book and Page No.: 12/98	
PROJECT CHARACTERISTICS	
Proposed or Potential Land Use(s)	Self-Storage
Proposed or Potential SIC Code(s)	4225
Area of Impervious Project Footprint (SF)	155217.42 SF
Total Area of proposed Impervious Surfaces within the Project Footprint (SF)/or Replacement	155217.42 SF
Does the project consist of offsite road improvements?	☒ Y ☐ N
Does the project propose to construct unpaved roads?	☐ Y ☒ N
Is the project part of a larger common plan of development (phased project)?	☐ Y ☒ N
EXISTING SITE CHARACTERISTICS	
Total area of existing Impervious Surfaces within the Project limits Footprint (SF)	17281.86
Is the project located within any MSHCP Criteria Cell?	☐ Y ☒ N
If so, identify the Cell number:	NA
Are there any natural hydrologic features on the project site?	☐ Y ☒ N
Is a Geotechnical Report attached?	☒ Y ☐ N
If no Geotech. Report, list the NRCS soils type(s) present on the site (A, B, C and/or D)	NA
What is the Water Quality Design Storm Depth for the project?	0.90

A.1 Maps and Site Plans

When completing your Project-Specific WQMP, include a map of the local vicinity and existing site. In addition, include all grading, drainage, landscape/plant palette and other pertinent construction plans in Appendix 2. At a **minimum**, your WQMP Site Plan should include the following:

- Drainage Management Areas
- Proposed Structural BMPs
- Drainage Path
- Drainage Infrastructure, Inlets, Overflows
- Source Control BMPs
- Buildings, Roof Lines, Downspouts
- Impervious Surfaces
- Standard Labeling
- BMP Locations (Lat/Long)

Use your discretion on whether or not you may need to create multiple sheets or can appropriately accommodate these features on one or two sheets. Keep in mind that the Co-Permittee plan reviewer must be able to easily analyze your project utilizing this template and its associated site plans and maps.

A.2 Identify Receiving Waters

Using Table A.1 below, list in order of upstream to downstream, the receiving waters that the project site is tributary to. Continue to fill each row with the Receiving Water's 303(d) listed impairments (if any), designated beneficial uses, and proximity, if any, to a RARE beneficial use. Include a map of the receiving waters in Appendix 1.

Table A.1 Identification of Receiving Waters

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Cucamonga Creek, Reach 1 (Valley Reach)	Copper, Indicator Bacteria, Lead	GWR, REC2, LWRM, WILD	NA
Mill Creek (Prado Area)	Nutrients, Pathogens, Total Suspended Solids	REC1, REC2, WARM, WILD, RARE	2.5 miles
Chino Creek, Reach 1B	Chemical Oxygen Demand, Nutrients, Pathogens	REC1, REC2, WARM, WILD, RARE	NA
Chino Creek, Reach 1A	Nutrients, Pathogens	REC1, REC2, WARM, WILD, RARE	NA
Santa Ana River, Reach 3	Copper, Lead, Pathogens	AGR, GWR, REC1, REC2, WARM, WILD, RARE, SPWN	NA

A.3 Additional Permits/Approvals required for the Project:

Table A.2 Other Applicable Permits

Agency	Permit Required	
State Department of Fish and Game, 1602 Streambed Alteration Agreement	☐ Y	☒ N
State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Cert.	☐ Y	☒ N
US Army Corps of Engineers, CWA Section 404 Permit	☐ Y	☒ N
US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion	☐ Y	☒ N
Statewide Construction General Permit Coverage	☒ Y	☐ N
Statewide Industrial General Permit Coverage	☐ Y	☒ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☐ Y	☒ N
Other *(please list in the space below as required)* City of Eastvale Grading and Construction Permits	☒ Y	☐ N

If yes is answered to any of the questions above, the Co-Permittee may require proof of approval/coverage from those agencies as applicable including documentation of any associated requirements that may affect this Project-Specific WQMP.

Section B: Optimize Site Utilization (LID Principles)

Review of the information collected in Section 'A' will aid in identifying the principal constraints on site design and selection of LID BMPs as well as opportunities to reduce imperviousness and incorporate LID Principles into the site and landscape design. For example, constraints might include impermeable soils, high groundwater, groundwater pollution or contaminated soils, steep slopes, geotechnical instability, high-intensity land use, heavy pedestrian or vehicular traffic, utility locations or safety concerns. Opportunities might include existing natural areas, low areas, oddly configured or otherwise unbuildable parcels, easements and landscape amenities including open space and buffers (which can double as locations for bioretention BMPs), and differences in elevation (which can provide hydraulic head). Prepare a brief narrative for each of the site optimization strategies described below. This narrative will help you as you proceed with your LID design and explain your design decisions to others.

The 2010 Santa Ana MS4 Permit further requires that LID Retention BMPs (Infiltration Only or Harvest and Use) be used unless it can be shown that those BMPs are infeasible. Therefore, it is important that your narrative identify and justify if there are any constraints that would prevent the use of those categories of LID BMPs. Similarly, you should also note opportunities that exist which will be utilized during project design. Upon completion of identifying Constraints and Opportunities, include these on your WQMP Site plan in Appendix 1.

Consideration of "highest and best use" of the discharge should also be considered. For example, Lake Elsinore is evaporating faster than runoff from natural precipitation can recharge it. Requiring infiltration of 85% of runoff events for projects tributary to Lake Elsinore would only exacerbate current water quality problems associated with Pollutant concentration due to lake water evaporation. In cases where rainfall events have low potential to recharge Lake Elsinore (i.e. no hydraulic connection between groundwater to Lake Elsinore, or other factors), requiring infiltration of Urban Runoff from projects is counterproductive to the overall watershed goals. Project proponents, in these cases, would be allowed to discharge Urban Runoff, provided they used equally effective filtration-based BMPs.

Site Optimization

The following questions are based upon Section 3.2 of the WQMP Guidance Document. Review of the WQMP Guidance Document will help you determine how best to optimize your site and subsequently identify opportunities and/or constraints, and document compliance.

Did you identify and preserve existing drainage patterns? If so, how? If not, why?

Yes, the existing drainage pattern is preserved. The existing site drains in a northwesterly direction which is mimicked in the proposed design.

Did you identify and protect existing vegetation? If so, how? If not, why?

No, the existing vegetation is minimal or not desirable, and conflicts with the proposed development.

Did you identify and preserve natural infiltration capacity? If so, how? If not, why?

The existing site is partially developed and various areas are compacted. The site soil is generally Type D. Infiltration testing rates are less than 1.6 inches per hour.

Did you identify and minimize impervious area? If so, how? If not, why?

Yes, the proposed project minimizes parking lot drive aisle and walkway widths.

Did you identify and disperse runoff to adjacent pervious areas? If so, how? If not, why?

Proposed impervious areas drain towards and over landscape areas prior to the entering the proposed bio-retention BMPs.

Section C: Delineate Drainage Management Areas (DMAs)

Utilizing the procedure in Section 3.3 of the WQMP Guidance Document which discusses the methods of delineating and mapping your project site into individual DMAs, complete Table C.1 below to appropriately categorize the types of classification (e.g., Type A, Type B, etc.) per DMA for your project site. Upon completion of this table, this information will then be used to populate and tabulate the corresponding tables for their respective DMA classifications.

Table C.1 DMA Classifications

DMA Name or ID	Surface Type(s)[1][2]	Area (Sq. Ft.)	DMA Type
1a	Concrete of Asphalt	32.61	C
1c	Landscape	1183.18	B
2a	Concrete of Asphalt	2673.45	C
2b	Roofs	5372.17	C
2c	Landscape	3981.19	B
3a	Concrete of Asphalt	520.67	C
3c	Landscape	812.42	B
4a	Concrete of Asphalt	43861.29	D
4b	Roofs	49332.71	D
4c	Landscape	11478.65	D
5a	Concrete of Asphalt	29644.60	D
5b	Roofs	23779.93	D
5c	Landscape	4306.80	D

[1]*Reference Table 2-1 in the WQMP Guidance Document to populate this column*
[2]*If multi-surface provide back-up*

Table C.2 Type 'A', Self-Treating Areas

DMA Name or ID	Area (Sq. Ft.)	Stabilization Type	Irrigation Type (if any)
Not Applicable			

Table C.3 Type 'B', Self-Retaining Areas

Self-Retaining Area				**Type 'C' DMAs that are draining to the Self-Retaining Area**		
DMA Name/ ID	Post-project surface type	Area (square feet) [A]	Storm Depth (inches) [B]	DMA Name / ID	[C] from Table C.4 = [C]	Required Retention Depth (inches) [D]
1c	Landscape	1183.18	0.90	1a	32.61	0.92
2c	Landscape	3981.19	0.90	2a, 2b	8045.62	2.72

3c	Landscape	812.42	0.90	3a	520.67	0.52

$$[D] = [B] + \frac{[B] \cdot [C]}{[A]}$$

Table C.4 Type 'C', Areas that Drain to Self-Retaining Areas

DMA					Receiving Self-Retaining DMA		
DMA Name/ ID	Area (square feet)	Post-project surface type	Impervious fraction	Product	DMA name /ID	Area (square feet)	Ratio
	[A]		[B]	[C] = [A] x [B]		[D]	[C]/[D]
1a	32.61	Concrete	1	32.61	1c	1183.18	0.03 < 2
2a	2673.45	Concrete	1	2673.45	-	-	-
2b	5372.17	Roof	1	5372.17	2c	3981.19	2.0 = 2
3a	520.67	Concrete	1	520.67	3c	812.42	0.64 < 2

Table C.5 Type 'D', Areas Draining to BMPs

DMA Name or ID	BMP Name or ID
4a,4b,4c	BR4
5a,5b,5c	BR5

Note: More than one drainage management area can drain to a single LID BMP, however, one drainage management area may not drain to more than one BMP.

Section D: Implement LID BMPs

D.1 Infiltration Applicability

Is there an approved downstream 'Highest and Best Use' for stormwater runoff (see discussion in Chapter 2.4.4 of the WQMP Guidance Document for further details)? ☐ Y ☒ N

If yes has been checked, Infiltration BMPs shall not be used for the site; proceed to section D.3

If no, continue working through this section to implement your LID BMPs. It is recommended that you contact your Co-Permittee to verify whether or not your project discharges to an approved downstream 'Highest and Best Use' feature.

Geotechnical Report

A Geotechnical Report or Phase I Environmental Site Assessment may be required by the Co-permittee to confirm present and past site characteristics that may affect the use of Infiltration BMPs. In addition, the Co-Permittee, at their discretion, may not require a geotechnical report for small projects as described in Chapter 2 of the WQMP Guidance Document. If a geotechnical report has been prepared, include it in Appendix 3. In addition, if a Phase I Environmental Site Assessment has been prepared, include it in Appendix 4.

Is this project classified as a small project consistent with the requirements of Chapter 2 of the WQMP Guidance Document? ☐ Y ☒ N

Infiltration Feasibility

Table D.1 below is meant to provide a simple means of assessing which DMAs on your site support Infiltration BMPs and is discussed in the WQMP Guidance Document in Chapter 2.4.5. Check the appropriate box for each question and then list affected DMAs as applicable. If additional space is needed, add a row below the corresponding answer.

Table D.1 Infiltration Feasibility

Does the project site…	YES	NO
…have any DMAs with a seasonal high groundwater mark shallower than 10 feet?		X
If Yes, list affected DMAs:		
…have any DMAs located within 100 feet of a water supply well?		X
If Yes, list affected DMAs:		
…have any areas identified by the geotechnical report as posing a public safety risk where infiltration of stormwater could have a negative impact?		X
If Yes, list affected DMAs:		
…have measured in-situ infiltration rates of less than 1.6 inches / hour?	X	
If Yes, list affected DMAs: DMA1 - 5		
…have significant cut and/or fill conditions that would preclude in-situ testing of infiltration rates at the final infiltration surface?		X
If Yes, list affected DMAs:		
…geotechnical report identify other site-specific factors that would preclude effective and safe infiltration?		X
Describe here:		

If you answered "Yes" to any of the questions above for any DMA, Infiltration BMPs should not be used for those DMAs and you should proceed to the assessment for Harvest and Use below.

D.2 Harvest and Use Assessment

Please check what applies*:*

☐ Reclaimed water will be used for the non-potable water demands for the project.

☐Downstream water rights may be impacted by Harvest and Use as approved by the Regional Board (verify with the Copermittee).

☐The Design Capture Volume will be addressed using Infiltration Only BMPs. In such a case, Harvest and Use BMPs are still encouraged, but it would not be required if the Design Capture Volume will be infiltrated or evapotranspired.

If any of the above boxes have been checked, Harvest and Use BMPs need not be assessed for the site. If none of the above criteria applies, follow the steps below to assess the feasibility of irrigation use, toilet use and other non-potable uses (e.g., industrial use).

Irrigation Use Feasibility

Complete the following steps to determine the feasibility of harvesting stormwater runoff for Irrigation Use BMPs on your site:

Step 1: Identify the total area of irrigated landscape on the site, and the type of landscaping used.

Total Area of Irrigated Landscape: 0.50 acres

Type of Landscaping (Conservation Design or Active Turf): Conservative

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for irrigation use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: 3.563 acres

Step 3: Cross reference the Design Storm depth for the project site (see Exhibit A of the WQMP Guidance Document) with the left column of Table 2-3 in Chapter 2 to determine the minimum area of Effective Irrigated Area per Tributary Impervious Area (EIATIA).

Enter your EIATIA factor: 2.38

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum irrigated area that would be required.

Minimum required irrigated area: 8.481 acres

Step 5: Determine if harvesting stormwater runoff for irrigation use is feasible for the project by comparing the total area of irrigated landscape (Step 1) to the minimum required irrigated area (Step 4).

Minimum required irrigated area (Step 4)	Available Irrigated Landscape (Step 1)
8.481 acres	0.500 acres

Toilet Use Feasibility

Complete the following steps to determine the feasibility of harvesting stormwater runoff for toilet flushing uses on your site:

Step 1: Identify the projected total number of daily toilet users during the wet season, and account for any periodic shut downs or other lapses in occupancy:

Projected Number of Daily Toilet Users: 4

Project Type: Commercial

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for toilet use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: 3.563

Step 3: Enter the Design Storm depth for the project site (see Exhibit A) into the left column of Table 2-2 in Chapter 2 to determine the minimum number or toilet users per tributary impervious acre (TUTIA).

Enter your TUTIA factor: 184

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum number of toilet users that would be required.

Minimum number of toilet users: 656

Step 5: Determine if harvesting stormwater runoff for toilet flushing use is feasible for the project by comparing the Number of Daily Toilet Users (Step 1) to the minimum required number of toilet users (Step 4).

Minimum required Toilet Users (Step 4)	Projected number of toilet users (Step 1)
656	4

Other Non-Potable Use Feasibility

Are there other non-potable uses for stormwater runoff on the site (e.g. industrial use)? See Chapter 2 of the Guidance for further information. If yes, describe below. If no, write N/A.

NA

Step 1: Identify the projected average daily non-potable demand, in gallons per day, during the wet season and accounting for any periodic shut downs or other lapses in occupancy or operation.

Average Daily Demand: 0.00

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for the identified non-potable use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: 3.563 acres

Step 3: Enter the Design Storm depth for the project site (see Exhibit A) into the left column of Table 2-4 in Chapter 2 to determine the minimum demand for non-potable uses per tributary impervious acre.

Enter the factor from Table 2-4: 1310

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum number of gallons per day of non-potable use that would be required.

Minimum required use: 4668 gpd

Step 5: Determine if harvesting stormwater runoff for other non-potable use is feasible for the project by comparing the projected average daily use (Step 1) to the minimum required non-potable use (Step 4).

Minimum required non-potable use (Step 4)	**Projected average daily use (Step 1)**
4668 gpd	0 gpd

If Irrigation, Toilet and Other Use feasibility anticipated demands are less than the applicable minimum values, Harvest and Use BMPs are not required and you should proceed to utilize LID Bioretention and Biotreatment per Section 3.4.2 of the WQMP Guidance Document.

D.3 Bioretention and Biotreatment Assessment

Other LID Bioretention and Biotreatment BMPs as described in Chapter 2.4.7 of the WQMP Guidance Document are feasible on nearly all development sites with sufficient advance planning.

Select one of the following:

☒ LID Bioretention/Biotreatment BMPs will be used for some or all DMAs of the project as noted below in Section D.4 (note the requirements of Section 3.4.2 in the WQMP Guidance Document).

☐ A site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5. If you plan to submit an analysis demonstrating the technical infeasibility of LID BMPs, request a pre-submittal meeting with the Copermittee to discuss this option. Proceed to Section E to document your alternative compliance measures.

D.4 Feasibility Assessment Summaries

From the Infiltration, Harvest and Use, Bioretention and Biotreatment Sections above, complete Table D.2 below to summarize which LID BMPs are technically feasible, and which are not, based upon the established hierarchy.

Table D.2 LID Prioritization Summary Matrix

DMA Name/ID	LID BMP Hierarchy				No LID (Alternative Compliance)
	1. Infiltration	2. Harvest and use	3. Bioretention	4. Biotreatment	
DMA4	☐	☐	☒	☐	☐
DMA5	☐	☐	☒	☐	☐

For those DMAs where LID BMPs are not feasible, provide a brief narrative below summarizing why they are not feasible, include your technical infeasibility criteria in Appendix 5, and proceed to Section E below to document Alternative Compliance measures for those DMAs. Recall that each proposed DMA must pass through the LID BMP hierarchy before alternative compliance measures may be considered.

NA

D.5 LID BMP Sizing

Each LID BMP must be designed to ensure that the Design Capture Volume will be addressed by the selected BMPs. First**,** calculate the Design Capture Volume for each LID BMP using the V_{BMP} worksheet in Appendix F of the LID BMP Design Handbook. Second**,** design the LID BMP to meet the required V_{BMP} using a method approved by the Co-permittee. Utilize the worksheets found in the LID BMP Design Handbook or consult with your Co-permittee to assist you in correctly sizing your LID BMPs. Complete Table D.3 below to document the Design Capture Volume and the Proposed Volume for each LID BMP. Provide the completed design procedure sheets for each LID BMP in Appendix 6. You may add additional rows to the table below as needed.

Table D.3 DCV Calculations for LID BMPs

DMA Type/ID	**DMA Area (square feet)**	**Post-Project Surface Type**	**Effective Impervious Fraction, I_f**	**DMA Runoff Factor**	**DMA Areas x Runoff Factor**	***Enter BMP Name / Identifier Here***		
	[A]		[B]	[C]	[A] x [C]			
4a	*43861.29*	*Concrete or Asphalt*	*1*	*0.89*	*39124.3*	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
4b	*49332.71*	*Roofs*	*1*	*0.89*	*44004.8*			
4c	*11478.65*	*Ornamental Landscaping*	*0.1*	*0.11*	*1267.9*			
	104672.65				84397	0.90	6329.8	6619.4

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Enter BMP Name / Identifier Here*		
	[A]		[B]	[C]	[A] x [C]			
5a	*29644.6*	*Concrete or Asphalt*	*1*	*0.89*	*26443*	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
5b	*23779.93*	*Roofs*	*1*	*0.89*	*21211.7*			
5c	*4306.8*	*Ornamental Landscaping*	*0.1*	*0.11*	*475.7*			
	57731.33				48130.4	0.90	3609.8	3746.2

[B], [C] is obtained as described in Section 2.3.1 of the WQMP Guidance Document
[E] is obtained from Exhibit A in the WQMP Guidance Document
[G] is obtained from a design procedure sheet, such as in LID BMP Design Handbook and placed in Appendix 6

Section E: Alternative Compliance (LID Waiver Program)

LID BMPs are expected to be feasible on virtually all projects. Where LID BMPs have been demonstrated to be infeasible as documented in Section D, other Treatment Control BMPs must be used (subject to LID waiver approval by the Copermittee). Check one of the following Boxes:

☒ LID Principles and LID BMPs have been incorporated into the site design to fully address all Drainage Management Areas. No alternative compliance measures are required for this project and thus this Section is not required to be completed.

- *Or* -

☐ The following Drainage Management Areas are unable to be addressed using LID BMPs. A site-specific analysis demonstrating technical infeasibility of LID BMPs has been approved by the Co-Permittee and included in Appendix 5. Additionally, no downstream regional and/or sub-regional LID BMPs exist or are available for use by the project. The following alternative compliance measures on the following pages are being implemented to ensure that any pollutant loads expected to be discharged by not incorporating LID BMPs, are fully mitigated.

Section F: Hydromodification

F.1 Hydrologic Conditions of Concern (HCOC) Analysis

Once you have determined that the LID design is adequate to address water quality requirements, you will need to assess if the proposed LID Design may still create a HCOC. Review Chapters 2 and 3 (including Figure 3-7) of the WQMP Guidance Document to determine if your project must mitigate for Hydromodification impacts. If your project meets one of the following criteria which will be indicated by the check boxes below, you do not need to address Hydromodification at this time. However, if the project does not qualify for Exemptions 1, 2 or 3, then additional measures must be added to the design to comply with HCOC criteria. This is discussed in further detail below in Section F.2.

HCOC EXEMPTION 1: The Priority Development Project disturbs less than one acre. The Copermittee has the discretion to require a Project-Specific WQMP to address HCOCs on projects less than one acre on a case by case basis. The disturbed area calculation should include all disturbances associated with larger common plans of development.

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

If Yes, HCOC criteria do not apply.

HCOC EXEMPTION 2: The volume and time of concentration[1] of storm water runoff for the post-development condition is not significantly different from the pre-development condition for a 2-year return frequency storm (a difference of 5% or less is considered insignificant) using one of the following methods to calculate:

- Riverside County Hydrology Manual
- Technical Release 55 (TR-55): Urban Hydrology for Small Watersheds (NRCS 1986), or derivatives thereof, such as the Santa Barbara Urban Hydrograph Method
- Other methods acceptable to the Co-Permittee

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

If Yes, report results in Table F.1 below and provide your substantiated hydrologic analysis in Appendix 7.

Table F.1 Hydrologic Conditions of Concern Summary

	2 year – 24 hour		
	Pre-condition	**Post-condition**	**% Difference**
Time of Concentration	INSERT VALUE	INSERT VALUE	INSERT VALUE
Volume (Cubic Feet)	INSERT VALUE	INSERT VALUE	INSERT VALUE

[1] Time of concentration is defined as the time after the beginning of the rainfall when all portions of the drainage basin are contributing to flow at the outlet.

HCOC EXEMPTION 3: All downstream conveyance channels to an adequate sump (for example, Prado Dam, Lake Elsinore, Canyon Lake, Santa Ana River, or other lake, reservoir or naturally erosion resistant feature) that will receive runoff from the project are engineered and regularly maintained to ensure design flow capacity; no sensitive stream habitat areas will be adversely affected; or are not identified on the Co-Permittees Hydromodification Susceptibility Maps.

Does the project qualify for this HCOC Exemption? ☒ Y ☐ N

If Yes, HCOC criteria do not apply and note below which adequate sump applies to this HCOC qualifier:

Prado Dam

F.2 HCOC Mitigation

If none of the above HCOC Exemption Criteria are applicable, HCOC criteria is considered mitigated if they meet one of the following conditions:

a. Additional LID BMPS are implemented onsite or offsite to mitigate potential erosion or habitat impacts as a result of HCOCs. This can be conducted by an evaluation of site-specific conditions utilizing accepted professional methodologies published by entities such as the California Stormwater Quality Association (CASQA), the Southern California Coastal Water Research Project (SCCRWP), or other Co-Permittee approved methodologies for site-specific HCOC analysis.

b. The project is developed consistent with an approved Watershed Action Plan that addresses HCOC in Receiving Waters.

c. Mimicking the pre-development hydrograph with the post-development hydrograph, for a 2-year return frequency storm. Generally, the hydrologic conditions of concern are not significant, if the post-development hydrograph is no more than 10% greater than pre-development hydrograph. In cases where excess volume cannot be infiltrated or captured and reused, discharge from the site must be limited to a flow rate no greater than 110% of the pre-development 2-year peak flow.

Be sure to include all pertinent documentation used in your analysis of the items a, b or c in Appendix 7.

Section G: Source Control BMPs

Source control BMPs include permanent, structural features that may be required in your project plans — such as roofs over and berms around trash and recycling areas — and Operational BMPs, such as regular sweeping and "housekeeping", that must be implemented by the site's occupant or user. The MEP standard typically requires both types of BMPs. In general, Operational BMPs cannot be substituted for a feasible and effective permanent BMP. Using the Pollutant Sources/Source Control Checklist in Appendix 8, review the following procedure to specify Source Control BMPs for your site:

1. ***Identify Pollutant Sources*:** Review Column 1 in the Pollutant Sources/Source Control Checklist. Check off the potential sources of Pollutants that apply to your site.

2. ***Note Locations on Project-Specific WQMP Exhibit*:** Note the corresponding requirements listed in Column 2 of the Pollutant Sources/Source Control Checklist. Show the location of each Pollutant source and each permanent Source Control BMP in your Project-Specific WQMP Exhibit located in Appendix 1.

3. ***Prepare a Table and Narrative*:** Check off the corresponding requirements listed in Column 3 in the Pollutant Sources/Source Control Checklist. In the left column of Table G.1 below, list each potential source of runoff Pollutants on your site (from those that you checked in the Pollutant Sources/Source Control Checklist). In the middle column, list the corresponding permanent, Structural Source Control BMPs (from Columns 2 and 3 of the Pollutant Sources/Source Control Checklist) used to prevent Pollutants from entering runoff. **Add additional narrative** in this column that explains any special features, materials or methods of construction that will be used to implement these permanent, Structural Source Control BMPs.

4. ***Identify Operational Source Control BMPs:*** To complete your table, refer once again to the Pollutant Sources/Source Control Checklist. List in the right column of your table the Operational BMPs that should be implemented as long as the anticipated activities continue at the site. Copermittee stormwater ordinances require that applicable Source Control BMPs be implemented; the same BMPs may also be required as a condition of a use permit or other revocable Discretionary Approval for use of the site.

Table G.1 Permanent and Operational Source Control Measures

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
Landscape/Outdoor Pesticide Use	Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. Consider using pest-resistant plants, especially adjacent to hardscape. Select plants appropriate to sit, soils, sloped, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	Maintain landscaping using minimum or no pesticides. Provide IPM information to new owners, lessees, and operators.

Plazas, Sidewalks, and Parking Lots	-	Sweep Plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.

Section H: Construction Plan Checklist

Populate Table H.1 below to assist the plan checker in an expeditious review of your project. The first two columns will contain information that was prepared in previous steps, while the last column will be populated with the corresponding plan sheets. This table is to be completed with the submittal of your final Project-Specific WQMP.

Table H.1 Construction Plan Cross-reference

BMP No. or ID	BMP Identifier and Description	Corresponding Plan Sheet(s)	BMP Location (Lat/Long)
BR4	Bio-Retention	Preliminary Grading Plan	33°56'50.55"N, 117°36'08.21"W
BR5	Bio-Retention	Preliminary Grading Plan	33°56'52.25"N, 117°36'06.65"W

Note that the updated table — or Construction Plan WQMP Checklist — is **only a reference tool** to facilitate an easy comparison of the construction plans to your Project-Specific WQMP. Co-Permittee staff can advise you regarding the process required to propose changes to the approved Project-Specific WQMP.

Section I: Operation, Maintenance and Funding

The Co-permittee will periodically verify that Stormwater BMPs on your site are maintained and continue to operate as designed. To make this possible, your Co-permittee will require that you include in Appendix 9 of this Project-Specific WQMP:

1. A means to finance and implement facility maintenance in perpetuity, including replacement cost.
2. Acceptance of responsibility for maintenance from the time the BMPs are constructed until responsibility for operation and maintenance is legally transferred. A warranty covering a period following construction may also be required.
3. An outline of general maintenance requirements for the Stormwater BMPs you have selected.
4. Figures delineating and designating pervious and impervious areas, location, and type of Stormwater BMP, and tables of pervious and impervious areas served by each facility. Geo-locating the BMPs using a coordinate system of latitude and longitude is recommended to help facilitate a future statewide database system.
5. A separate list and location of self-retaining areas or areas addressed by LID Principles that do not require specialized O&M or inspections but will require typical landscape maintenance as noted in Chapter 5, pages 85-86, in the WQMP Guidance. Include a brief description of typical landscape maintenance for these areas.

Your local Co-Permittee will also require that you prepare and submit a detailed Stormwater BMP Operation and Maintenance Plan that sets forth a maintenance schedule for each of the Stormwater BMPs built on your site. An agreement assigning responsibility for maintenance and providing for inspections and certification may also be required.

Details of these requirements and instructions for preparing a Stormwater BMP Operation and Maintenance Plan are in Chapter 5 of the WQMP Guidance Document.

Maintenance Mechanism: Owner Maintained

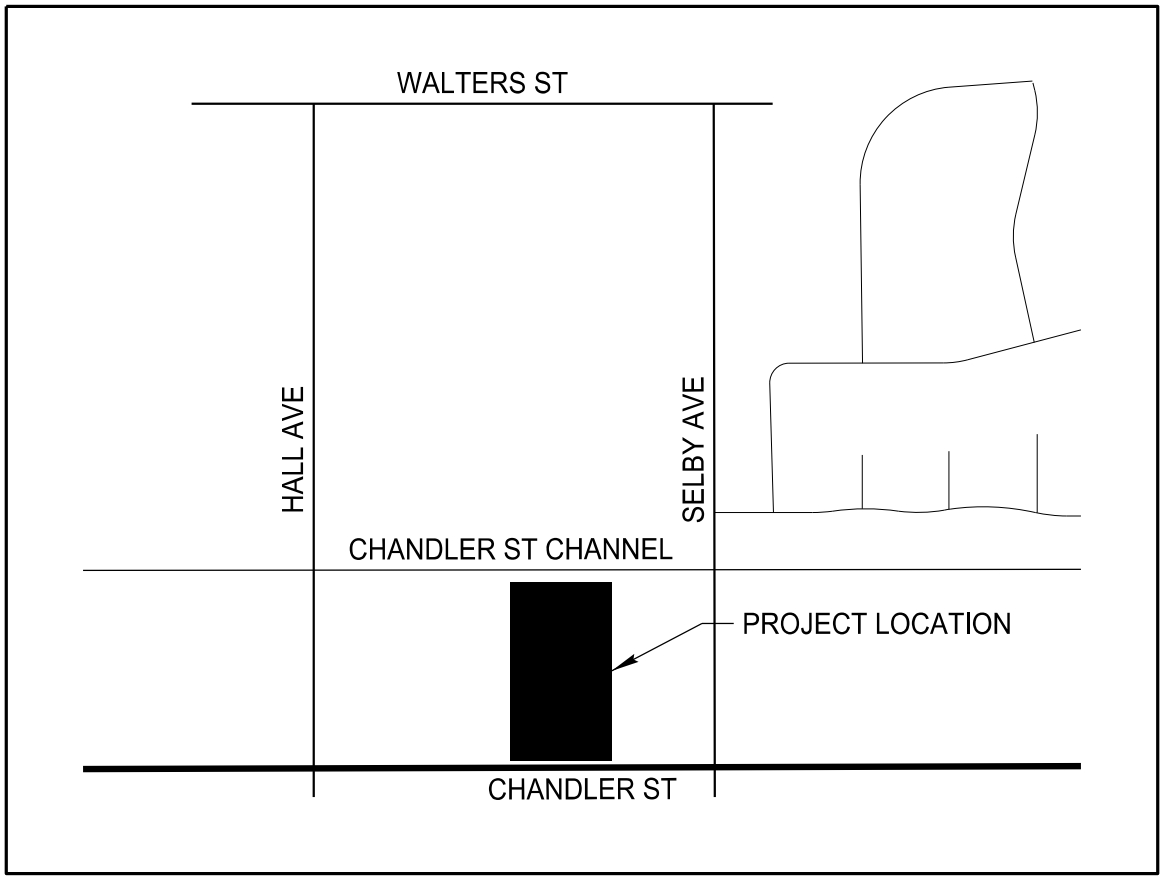
Will the proposed BMPs be maintained by a Home Owners' Association (HOA) or Property Owners Association (POA)?

☐ Y ☒ N

Include your Operation and Maintenance Plan and Maintenance Mechanism in Appendix 9. Additionally, include all pertinent forms of educational materials for those personnel that will be maintaining the proposed BMPs within this Project-Specific WQMP in Appendix 10.

Appendix 1: Maps and Site Plans

Location Map, WQMP Site Plan and Receiving Waters Map



VICINITY MAP

NOT TO SCALE

IN THE CITY OF EASTVALE

PRELIMINARY WQMP SITE PLAN

GOSSETT DEVELOPMENT

CHANDLER STREET CHANNEL

OVERFLOW INLET

SUMP AND PUMP WITH OUTLET TO CHANNEL

SD

OVERFLOW INLET

DMA 5

DMA 4

DMA 3

DMA 2

DMA 1

SHED

GM

IRV

SMH

WV

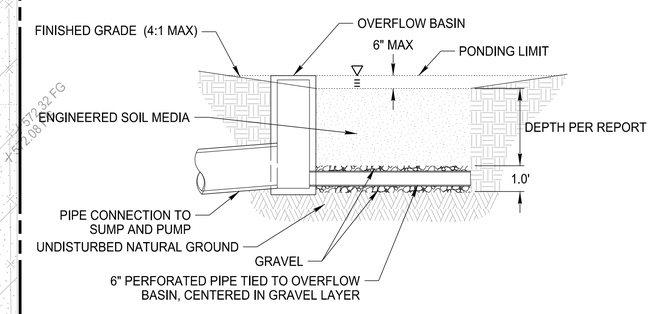
CHANDLER STREET

64'

55'

43'

64'



BIO-RETENTION BASIN DETAIL

NTS

LEGEND

- INDICATES CONCRETE OR ASPHALT
- INDICATES BUILDING ROOF
- INDICATES LANDSCAPE
- INDICATES BIO-RETENTION BASIN
- INDICATES DMA BOUNDARY
- INDICATES FLOW DIRECTION
- INDICATES DRAIN INLET

OWNER/APPLICANT/DEVELOPER

GOSSETT DEVELOPMENT, INC.
207 MONARCH BAY DRIVE
DANA POINT, CA 92629
CONTACT: GARRETT GOSSETT
(949)735-6041

ENGINEER/CONTACT PERSON

THIS PLAN WAS PREPARED UNDER THE DIRECTION OF MARTEN L. ANDERSON, A REGISTERED CIVIL ENGINEER IN THE STATE OF CALIFORNIA.

OCTOBER 23, 2019

MARTEN L. ANDERSON — DATE
RCE 51313, EXPIRES 6-30-20
MTH2 ENGINEERING, INC.
639 LAKEWOOD DRIVE
RIVERSIDE, CA 92506
(951) 850-2190

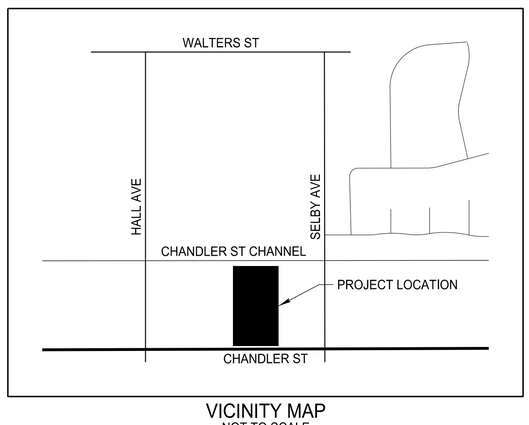
REGISTERED PROFESSIONAL ENGINEER — MARTEN L. ANDERSON — No. 51313 — Exp. 6-30-20 — CIVIL — STATE OF CALIFORNIA

SITE ADDRESS

14555, 14577, AND 14587 CHANDLER STREET
EASTVALE, CA 92880

ASSESSOR'S PARCEL NUMBERS

140-120-002, -003, AND -004



VICINITY MAP
NOT TO SCALE

DMA 1			
1a	Concrete or Asphalt	32.61	SF
1b	Roofs	0.00	SF
1c	Landscape	1183.18	SF
		1215.79	SF Total
DMA 2			
2a	Concrete or Asphalt	2583.99	SF
2b	Roofs	5372.17	SF
2c	Landscape	4070.64	SF
		12026.81	SF Total
DMA 3			
3a	Concrete or Asphalt	520.67	SF
3b	Roofs	0.00	SF
3c	Landscape	812.42	SF
		1333.09	SF Total
DMA 4			
4a	Concrete or Asphalt	43861.29	SF
4b	Roofs	49332.71	SF
4c	Landscape	11478.65	SF
		104672.64	SF Total
DMA 5			
5a	Concrete or Asphalt	29644.60	SF
5b	Roofs	23779.93	SF
5c	Landscape	4306.80	SF
		57731.33	SF Total

SCALE: 1" = 20'

20 0 20 40

MTH2 engineering, inc
639 Lakewood Drive
Riverside, CA 92506
(951) 850-2190
www.mth2engineering.com
civil • water resources • storm water
urban design and planning

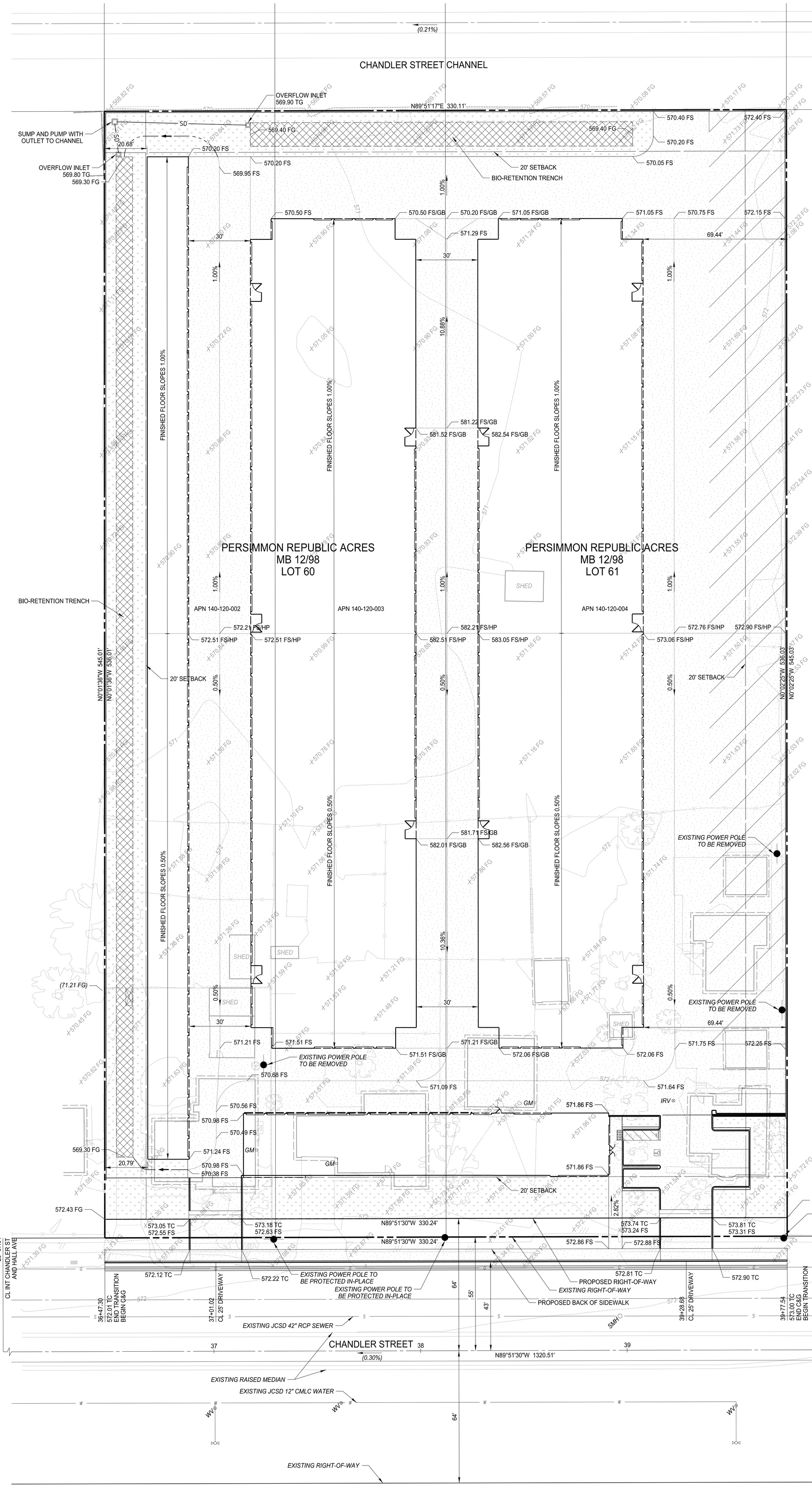
Appendix 2: Construction Plans

Preliminary Grading Plan

IN THE CITY OF EASTVALE

PRELIMINARY GRADING PLAN

GOSSETT DEVELOPMENT



ABBREVIATIONS

ASSESSOR'S PARCEL NUMBER	APN
FINISHED FLOOR ELEVATION	FFE
FINISHED GRADE	FG
FLOW LINE	FL
FINISHED SURFACE	FS
GRADE BREAK	GB
HEIGHT	HT
PAD ELEVATION	PE
TOP OF CURB	TC
TYPICAL	TYP

LEGEND

EXISTING PROPERTY BOUNDARY	
EXISTING LOT LINE	
EXISTING INDEX CONTOUR	800
EXISTING INTERMEDIATE CONTOUR	799
EXISTING STRUCTURE	
EXISTING CONCRETE	
EXISTING CURB	
EXISTING ELECTRIC	E
EXISTING SEWER	S
EXISTING STORM DRAIN	SD
EXISTING WATER	W
EXISTING FIRE HYDRANT	
EXISTING SEWER MANHOLE	SMH
EXISTING WATER VALVE	WV
EXISTING LIGHT POLE	
EXISTING POWER POLE	
PROPOSED CURB	
PROPOSED GUTTER	
PROPOSED BUILDING	
PROPOSED CAR PORT	
PROPOSED FENCE	
PROPOSED WALL	
PROPOSED STORM DRAIN	SD
GRADIENT AND DIRECTION	2.00%
EXISTING ELEVATION	27.50
PROPOSED ELEVATION	27.50
PROPOSED BIO-RETENTION TRENCH	
PROPOSED PC CONCRETE PAVEMENT	
PROPOSED LANDSCAPE AREA	

OWNER/APPLICANT/DEVELOPER

GOSSETT DEVELOPMENT, INC.
207 MONARCH BAY DRIVE
DANA POINT, CA 92629
CONTACT: GARRETT GOSSETT
(949)735-6041

ENGINEER/CONTACT PERSON

THIS PLAN WAS PREPARED UNDER THE DIRECTION OF MARTEN L. ANDERSON, A REGISTERED CIVIL ENGINEER IN THE STATE OF CALIFORNIA.

OCTOBER 23, 2019
DATE

MARTEN L. ANDERSON
RCE 51313, EXPIRES 6-30-20
MTH2 ENGINEERING, INC.
639 LAKEWOOD DRIVE
RIVERSIDE, CA 92506
(951) 850-2190

REGISTERED PROFESSIONAL ENGINEER
MARTEN L. ANDERSON
No. 51313
Exp. 6-30-20
CIVIL
STATE OF CALIFORNIA

SITE ADDRESS

14555, 14577, AND 14587 CHANDLER STREET
EASTVALE, CA 92880

ASSESSOR'S PARCEL NUMBERS

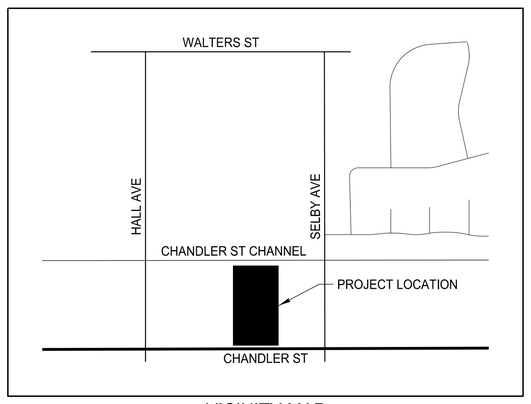
140-120-002, -003, AND -004

FEMA FLOOD ZONE

ZONE X - AREA OF MINIMAL FLOOD HAZARD
FLOOD MAP NO. 06065C0678G (NOT PRINTED)
DATED 8/28/2008

AREA SUMMARY

LOT 60 - APN 140-120-002:	45,002.2 SF (1.033 AC)
LOT 60 - APN 140-120-003:	44,981.0 SF (1.033 AC)
LOT 61 - APN 140-120-004:	89,968.7 SF (2.065 AC)
GROSS AREA:	179,951.9 SF (4.131 AC)
CHANDLER ST RIGHT-OF-WAY DEDICATION:	2972.2 SF (0.068 AC)
NET AREA:	176,979.7 SF (4.063 AC)



VICINITY MAP
NOT TO SCALE

SCALE: 1" = 20'
20 0 20 40

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Appendix 3: Soils Information

Geotechnical Study and Other Infiltration Testing Data

SOIL EXPLORATION COMPANY, INC.

Soil Engineering, Environmental Engineering, Materials Testing, Geology

September 26, 2019

Project No. 19138-01

TO: Gossett Development
207 Monarch Bay
Dana Point, CA 92626

ATTENTION: Garrett Gossett

SUBJECT: Preliminary Soil Investigation, Liquefaction Evaluation and Infiltration Tests Report, Proposed Two-Story Storage Facility, 14555, 14577 and 14587 Chandler Street (APN 144-120-002, -003 and -004), City of Eastvale, California

Introduction

In accordance with your authorization, Soil Exploration Co., Inc. has performed a preliminary soil investigation, liquefaction evaluation and infiltration tests for the subject site (see Figure 1, Site Location Map). The accompanying report presents a summary of our findings, conclusions, recommendations and limitations of our work for construction of the proposed two-story storage facility.

Scope of Work

- Review soils, seismic, geologic, groundwater data and maps in our files.
- Perform exploration of the site by means of three 8" diameter borings, 21.5 to 50 feet deep, at readily accessible locations.
- Field Engineer (California Registered RCE) for logging of the excavations, sampling of select soils, observation of excavation resistance, record SPT blow counts and water seepage (if any).
- Perform basic laboratory testing on select soil samples, expected to include moisture, density, expansion index, sieve analysis and corrosion potential (pH, chlorides, resistivity and water soluble sulfates).
- Perform digitized search of known faults within a 50-mile radius of the site.
- Determine California Building Code (CBC) 2016 seismic parameters for the site.
- Consult with project architect/civil design engineer.
- Perform four shallow infiltration tests at locations suggested by you.
- Prepare a report of our findings, conclusions and recommendations for site preparation, including overexcavation/removal depth, allowable bearing value, foundation/slab-on-grade depth/thickness recommendations, excavation characteristics, lateral earth pressures for retaining walls design, pavement thickness estimates for parking/driveways, liquefaction evaluation, general earthwork and grading specifications, California Building Code (2016) seismic design coefficients, Cai/OSHA soil classification and infiltration rate in inches/hour.

Existing Site Condition

The rectangular shaped, relatively flat site is located on the north side of Chandler Street, east of Hall Avenue, in the City of Eastvale, Riverside County, California. Chandler Street is a paved road with AC curbs. A chain link fence borders the site on the north side, a chain link fence and iron fence on the east side and a block wall on the west side. Existing houses, garages and sheds are located on the southerly portion of the site. An existing house is located on adjacent property to the west. Vegetation consists of dense weeds.

7535 Jurupa Ave., Unit C • Riverside, CA 92504 • Tel: (951) 688-7200 • Fax: (951) 688-7100
soilexploration@yahoo.com • www.soilexp.com

The approximate locations of the above and other features are shown on Exploratory Boring and Infiltration Test Location Map, Plate 1. The base map is plan prepared by MTH2 Engineering, Inc. of Riverside, California.

Proposed Development

We understand that a storage facility and associated parking and driveways are proposed at the site. The two new structures will be two-story masonry wall construction with floor slabs supported on prepared subgrade. No grading plans are available for review at this time. However based on the relatively flat topography of the site, modest cut or fill grading is anticipated and no cut or fill slopes are proposed.

Field Work

Three exploratory borings were drilled at the site on September 17, 2019, utilizing a B-53 mobile drill rig equipped with 8-inch diameter hollow stem auger. Refer to Plate 1 for boring locations. Standard Penetration Test (SPT) blow counts were recorded at regular intervals and utilized in determining the compactness/consistency of the earth materials.

In general, these borings revealed that the site is underlain by alluvial soils consisting of interbedded silty sand, sand with silt, silt/silt with sand, silty clay, silty clayey sand and sand (USCS "SM", "SP-SM", "ML", "CL-ML", "SC-SM" and "SP"). In general, the soils are dry to moist, medium dense to very dense and very stiff. More detailed descriptions of earth materials are presented in Geotechnical Boring Logs in Appendix B of this report.

Based on the USGS Geologic Map of the Corona North Quadrangle, the site area is underlain with very old channel deposits (see Figure 2).

Laboratory Testing

Laboratory tests were performed for selected soil samples. The tests consisted primarily of natural moisture contents, dry densities, sieve analysis and corrosion potential (pH, chlorides, resistivity and water soluble sulfates). Laboratory test results are presented in Appendix C and with Geotechnical Boring Logs in Appendix B.

Groundwater

Groundwater was not encountered in our exploratory borings to maximum explored depth of 50 feet below ground surface at the time this work was performed. Please note that a groundwater study is not within the scope of this work. However referenced Carson and Matti map indicates groundwater depth in the vicinity of the site to be 40± feet below ground surface.

Liquefaction Evaluation

Soil liquefaction is a process by which loose, saturated, fine granular (poorly graded) deposits, such as fine sands, lose a significant portion of their shear strength due to pore water pressure buildup resulting from cyclic loading, such as that caused by an earthquake. In general, liquefaction potential is higher when the groundwater table is less than 30 feet below ground surface. Soil liquefaction can lead to foundation bearing failures and excessive settlements.

Based on Riverside County GIS map, the site is located in an area of high liquefaction potential (see Figure 3).

Conclusions

- All debris, vegetation, weeds, existing old foundations, buried abandoned structures, buried utility/irrigation lines, undocumented fills, deleterious materials, etc. would require clearance from the proposed building/grading areas.

- The onsite soils, exclusive of oversize materials (larger than 6 inches, if any), debris and deleterious materials, etc., can be used as compacted fill.

- Overexcavation and recompaction of surficial soils should be anticipated to provide adequate and uniform support for the proposed structures.

- Subsequent to site preparation, use of shallow spread footing foundation appears feasible for the proposed construction.

- Near surface earth materials encountered during our subsurface exploration can be excavated with normal grading equipment in good working condition.

- Based on observation and classification, the expansion potential of the near-surface sandy soils at the site is expected to be very low (EI<20).

- The site is located approximately 3.84 miles from the Chino fault. The site is located in a region of generally high seismicity, as is all of Southern California. During its design life, the site is expected to experience moderate to strong ground motions from earthquakes on regional and/or nearby causative faults.

- There is a 2 percent probability in 50 years (2475 year return period) that peak ground acceleration at the site will exceed 0.553g (see Appendix D).

- No groundwater, seepage, wet or loose soil conditions were encountered in our exploratory boring locations drilled to a maximum depth of 50 feet. Based on Riverside County GIS map, the liquefaction potential at the site is high.

- The flooding potential of the site should be verified by the design civil engineer and considered in planning, design and construction.

Recommendations

Site Preparation and Grading

Site Clearance

All grading should be performed in accordance with the City of Eastvale Grading Ordinance and our General Earthwork and Grading Specifications presented in Appendix E, except as modified within the text of this report.

The grading/building area should be cleared of all debris, abandoned utility lines, underground structures, weeds, vegetable matter, undocumented fills, deleterious materials, etc. Cavities created during site clearance should be backfilled in a controlled manner.

Overexcavation/Grading

Subsequent to site clearance and debris removal, building areas extending at least 5 feet beyond the building lines in plan (including canopies, exterior walls, etc.) where practical should be overexcavated to remove near surface loose soils. Based on our exploration, we anticipate removals to extend to at least 4 feet below existing ground surface. Any loose, porous soils, etc. should be completely removed and recompacted if encountered in bottom of the grading areas. After the required removals, the bottom of the overexcavation should be scarified to a depth of at least 12 inches, watered to near optimum moisture and recompacted by utilizing heavy rubber tired equipment to at least 90 percent of the maximum dry density as determined by ASTM D1557-12, prior to placement of engineered fills.

New Pavement Areas

New pavement, ramps and driveway areas should be scarified to a depth of at least 12 inches, watered as necessary, and compacted to at least 95 percent relative compaction. The areas of pylon/sign foundations should be cleared form all vegetation and roots prior to construction. If loose soils are encountered in bottom of footing excavations, these soils should be removed and replaced with lean concrete or the footings deepened as necessary.

Compacted Fills/Imported Soils

Any soil to be placed as fill, whether presently onsite or import, should be approved by the soil engineer or his representative prior to their placement. All onsite soils to be used as fill should be cleansed of any roots or other deleterious materials. Cobbles larger than 6 inches in diameter should not be placed in the vicinity of foundations and utility lines. All fills should be placed in 6 to 8 inch loose lifts, watered or aerated to near optimum moisture content, mixed and compacted to at least 90 percent relative compaction. This is relative to the maximum dry density determined by ASTM D1557-12 Test Method.

Any imported soils should be sandy (preferably (USCS "SM" or "SW" and very low in expansion potential, EI<20) and approved by the soil engineer. The soil engineer or his representative should observe the placement of fill and take sufficient tests to verify the moisture content and the uniformity and degree of compaction obtained.

Foundation Design/Allowable Bearing Value

Based on the above site preparation recommendations, very low expansion potential of soils and anticipated moderate loads, an allowable bearing pressure of 2000 psf is recommended for the design of footings. This bearing pressure has been established based on the assumption that the footings will be embedded at least 18-inches below lowest adjacent firm grade and into the compacted fill mat, and measure at least 18-inches in width. This bearing value may be increased by 400 psf for each additional foot of width and/or depth to a maximum of 3000 psf. A further one-third increase in bearing value may be used when considering short term wind or seismic loads.

Continuous footings should be reinforced with at least two No. 5 bars at the top and two at the bottom. Please note foundation design is under the purview of structural design engineer and structural considerations may have other more stringent requirements, which would govern.

Concrete Slabs-On-Grade

Concrete floor slabs supported on prepared subgrade for office areas should be at least 4 inches thick. Slabs to receive flooring should be underlain by at least 10-mil thick Visqueen moisture barrier overlain by 2-inch layer of clean, rolled sand and underlain by additional 2 inches of rolled sand. Appropriate recommendations should be made by the project architect if crack sensitive floor covering is placed directly on the concrete slab.

All floor slabs should be reinforced with at least No. 3 rebar at 18-inches on center each way. Care should be taken by the contractor to insure that reinforcement is placed at slab mid-height. The use of concrete spacers to raise reinforcement of slabs is highly recommended. However, floor slab thickness and reinforcement should be evaluated by the structural engineer and designed in compliance with applicable codes for the proposed loading. Where slabs will support special loads, such as vibrating equipment, the use of forklifts or storage, etc., thicker slabs (6 inches or more) may be required and the structural engineer should consider these conditions. A subgrade modulus (k) value of 150 pci/inch may be considered in design.

All concrete flatwork, including slabs subgrade, should be verified to contain 1.2 times the soil optimum moisture content to a depth of 12 inches prior to placement of slab building materials. Moisture content should be tested in the field by the soil engineer.

Special Considerations

Excess soils generated from foundation excavations should not be placed on slabs subgrade without proper moisture and compaction. Slab subgrade should be verified to contain 1.2 times the soil optimum moisture content to a depth of 12 inches prior to placement of slab building materials. The addition of fiber mesh in the concrete and careful control of water/cement ratios may lessen the potential for slab cracking. In hot or windy weather, the contractor must take appropriate curing precautions after the placement of concrete. The use of mechanically compacted low slump concrete (not exceeding 4 inches at the time of placement) is recommended.

Concrete Joints

The joints spacing for concrete slabs should be determined by the project architect. Joints should be laid out top form approximately square panels (equal transverse and longitudinal joint spacing). Rectangular panels, with the long dimension no more than one-and-one-half times the short, may be used when square panels are not feasible. The depth of longitudinal and transverse joints should be one-fourth the depth of the slab thickness.

Joint layout should be adjusted so that the joints will line up with the corners of structures, small foundations and other built-in structures. Acute angles or small pieces of slab curves as a result of joints layout should not be permitted.

Concrete Curing

Fresh concrete should be cured by protecting it against loss of moisture, rapid temperature change and mechanical injury for at least 3 days after placement. Moist curing, waterproof paper, white polyethylene sheeting, white liquid membrane compound, or a combination thereof may be used. After finishing operations have been completed, the entire surface of the newly place concrete should be covered by whatever curing medium is applicable to local conditions and approved by the engineer. The edges of concrete slabs exposed by the removal of forms should be protected immediately to provide these surfaces with continuous curing treatment equal to the method selected for curing the slab surfaces. The contractor should have at hand, and ready to install before actual placement begins, the equipment needed for adequate curing of the concrete.

Lateral Earth Pressures/Retaining Walls

The following lateral equivalent fluid earth pressures and soil parameters in conjunction with the allowable bearing value of 2000 psf may be used for design of retaining walls with free draining level compacted backfills. Wall backfills should be compacted to at least 90 percent relative compaction. We recommend that drainage for retaining walls should be provided in accordance with Plate 2 of this report.

Active Earth Pressure (P_a)	35 pcf (EFP), drained, unbraced yielding walls
At Rest Pressure (P_o)	60 pcf (EFP), drained, braced non-yielding (part of building walls)
Allowable Lateral Bearing Value	300 psf (EFP), drained, maximum of 3000 psf (fill or firm native soil)
Horizontal Coefficient of Friction (μ)	0.35
Unit Soil Weight (γ_t)	120 pcf

Soil resistance developed against lateral structural movement can be obtained from the passive pressure and friction coefficient indicated above. For the calculation of passive resistance to lateral loads, the upper 12 inches of material in areas not protected by concrete flatwork or pavement should not be considered. These values may be increased by one-third when considering loads of short duration, including wind or seismic loads. The total resistance may be taken as the sum of the friction and passive resistance provided that the passive portion does not exceed two-thirds of the total resistance.

Expansion Index and Corrosion/Soluble Sulfates

Based on observation and soil classification, the expansion potential of the near surface sandy soils is anticipated to be very low (EI<20). Since soils will be mixed during grading, expansion index at select locations should be verified subsequent to completion of grading.

Results of tests performed by Cal Land Engineering, Inc. of Brea, California on a select soil sample indicate negligible soluble sulfate exposure (less than 0.1 percent water soluble sulfates by weight), pH of 9.27, chlorides of 230 ppm and resistivity of 1,200 ohm-cm (see Appendix C). Based on resistivity test results, soil is highly corrosive and ferrous metals/pipes/foundation slab reinforcement should be properly protected. Concrete, mix, placement and curing for concrete should comply with ACI guidelines. Tentatively we recommend Type II cement and concrete slump not exceeding 4 inches at the time of placement. If critical, these should be further verified by your structural or a corrosion engineer.

Seismic Consideration

The site is located approximately 3.84 miles from the Chino fault. Moderate to strong ground shaking can be expected at the site and there is a 2 percent probability in 50 years (2475 year return period) that the peak ground acceleration at the site will exceed 0.553g. The site soil profile is Class D. The structural engineer should consider City/County local codes, California Building Code (CBC) 2016 seismic data presented in this report (Appendix D), the latest requirements of the Structural Engineers Association of Southern California and any other pertinent data in selecting design parameters.

Groundwater

No groundwater and/or seepage were encountered during our subsurface work. The potential for rain or irrigation water perched on soil or locally seeping through from adjacent areas cannot be precluded. Our experience indicates that surface or near-surface groundwater conditions can develop in areas where groundwater conditions did not exist prior to site development, especially in areas where a substantial increase in surface water infiltration results from landscape irrigation. In addition, changes in local or regional water and management patterns, or both, can significantly raise the water table or create zones of perched water. We therefore recommend that landscape irrigation be kept to the minimum necessary to maintain plant vigor and any leaking pipes/sprinklers, etc. should be promptly repaired. The depth to the groundwater may fluctuate with seasonal changes and from one year to the next. We have no way of predicting future groundwater levels or perched water due to increase in surface water infiltration from rainfall or from landscape irrigation. Subdrains, horizontal drains, toe drains, French drains, heel drains or other devices may be recommended in future for graded areas that exhibit nuisance water seepage or perched water conditions.

Tentative Pavement Design

On the basis of laboratory classification and testing, we are of the opinion that the tentative new pavement design may be based on an R-value on the order of 40 (or better) corresponding to near surface soils. Considering this and based on typical traffic indices, the recommended pavement sections are outlined as follows:

AREA	TRAFFIC INDEX	PAVEMENT THICKNESS (AC over AB)
Parking	4	3" AC/4" AB
Driveways	5.5 to 6	3" AC/6" AB or 4" AC/4" AB

The upper at least 12 inches of the subgrade soils below new pavements should be compacted to at least 90 percent relative compaction. Imported Class 2 base should conform to Caltrans Standard Specifications and should be compacted to at least 95 percent of the maximum dry density. Maximum dry densities should be determined by the Standard Test Method designated ASTM D1557-12.

Erosion Control/Drainage/Planter Areas

The near surface sandy soils are subject to erosion. Positive drainage should be provided around the perimeter of all structures and all foundations toward streets or approved drainage devices. In addition, finish subgrade adjacent to exterior footings should be sloped down and away to facilitate surface drainage. Roof drainage should be collected and directed away from foundations via non-erosive devices. Water, either natural or by irrigation, should not be permitted to pond or saturate the foundation soils.

The developer should be made aware of the potential problems, which may develop when drainage is altered. Ponded water, leaking irrigation systems, over-watering or other conditions which could lead to ground saturation should be avoided. Area drainage collection should be directed toward the existing street or approved drainage devices.

Cal/OSHA Classification/Trench Excavations/Backfills

In general Cal/OSHA classification of onsite soils appears to be Type B.

Temporary trench excavations deeper than 5 feet should be shored or sloped at 1:1 or flatter in compliance with Cal/OSHA requirements:

a.) The shoring should be designed by a qualified engineer experienced in the shoring design.

b.) The tops of any temporary unshored excavations should be barricaded to prevent vehicle and storage loads within a 1:1 line projected upward from the bottom of the excavation or a minimum of 5 feet, whichever is greater. If the temporary construction embankments, including shored excavations, are to be maintained during the rainy season, berms are suggested along the tops of the excavations where necessary to prevent runoff from entering the excavation and eroding the slope faces.

c.) The soils exposed in the excavations should be inspected during excavation by the soils engineer so that modifications can be made if variations in the soil conditions occur.

d.) All unshored excavations should be stabilized within 30 days of initial excavation.

Backfills in the utility trenches should be compacted to at least 90 percent relative compaction. Onsite earth materials will be suitable for backfills. Clean sandy materials with sand equivalent value of at least 30 must be utilized for the pipe bedding and shading zone. Placement of the trench backfill in lifts and compaction by mechanical effort should be anticipated.

Foundation Plans Review/Additional Observations and Testing/Quality Control

Soil Exploration Company, Inc. should review the foundation plans and observe and/or test during the following stages of construction:

- During site clearance and removal of any obstructions.
- During all overexcavations, in-place processing of soils and all fill placement and compaction.
- During preparation, moisture conditioning, and compaction of subgrades/base for slabs-on-grade and pavement.
- Following footing excavations and prior to placement of footings materials.
- During all trench backfills and compaction.
- When any unusual conditions are encountered.

Final Report

A final grading control report, including geotechnical data gathered, should be prepared when rough grading is completed. The report should include all laboratory test results, a map showing all removal depths, location and depth/elevation of field density tests, test methods and final foundation and pavement design recommendations.

Limitation of Investigation

Our investigation was performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable Geotechnical Engineers practicing in this or similar locations. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report.

The field and laboratory test data are believed representative of the project site; however, soil conditions can vary significantly. As in most projects, conditions revealed during grading may be at variance with preliminary findings. If this condition occurs, the possible variations must be evaluated by the Project Geotechnical Engineer and adjusted as required or alternate design recommended.

This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractor carry out such recommendations in the field.

This firm does not practice or consult in the field of safety engineering. We do not direct the contractor's operations, and we cannot be responsible for other than our own personnel on the site; therefore, the safety of others is the responsibility of the contractor. The contractor should notify the owner if he considers any of the recommended actions presented herein to be unsafe.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge.

This report was prepared for the client based on client's needs, directions and requirements at the time. This report is not authorized for use by and is not to be relied upon by any party except the client with whom Soil Exploration Co., Inc. contracted for the work. Use of, or reliance on, this report by any other party is at that party's risk. Unauthorized use of or reliance on this report constitutes an agreement to defend and indemnify Soil Exploration Co., Inc. from and against any liability which may arise as a result of such use or reliance, regardless of any fault, negligence, or strict liability of Soil Exploration Co., Inc.

Closure

If you should have any questions regarding this report, please do not hesitate to call our office. We appreciate this opportunity to be of service.

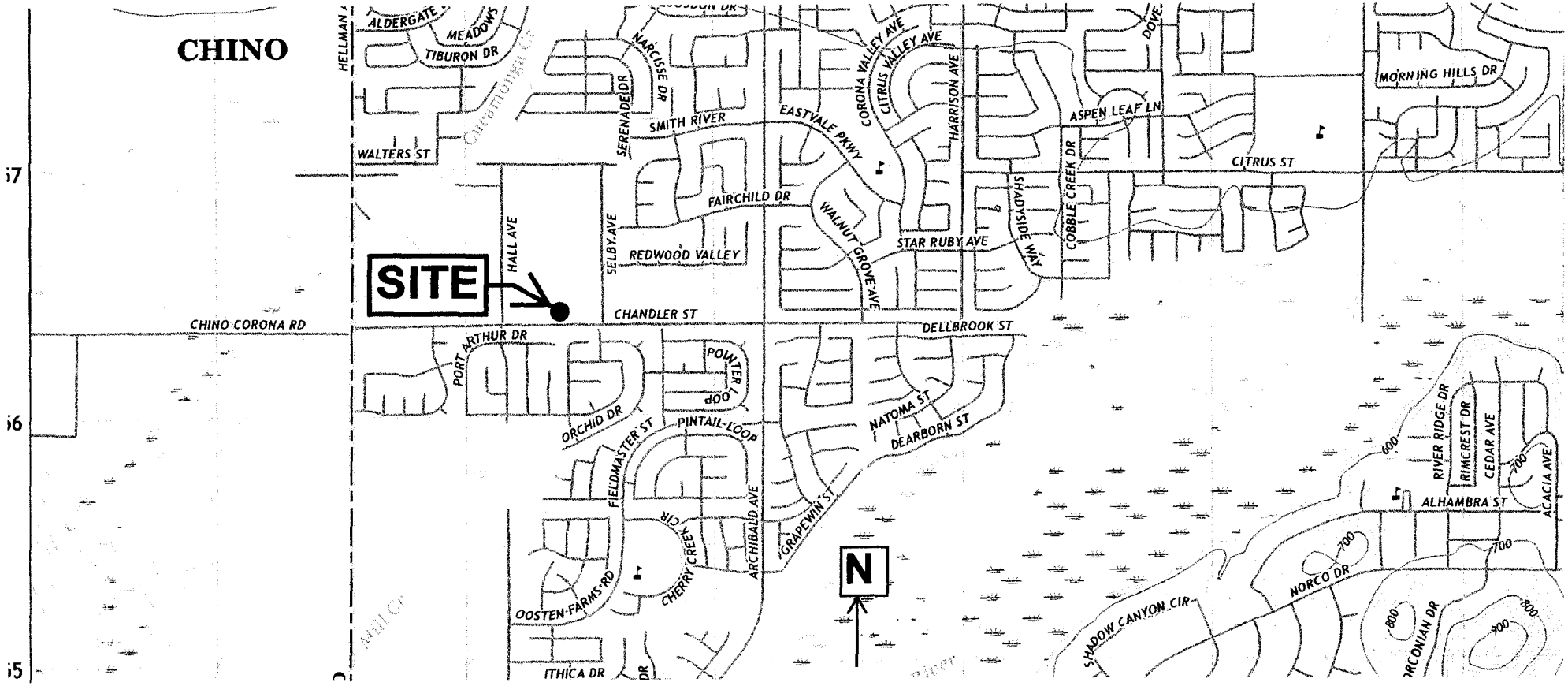
Very truly yours,
Soil Exploration Co., Inc.

Gene K. Luu, PE 53417
Project Engineer

Distribution: [1] Addressee

Attachments:

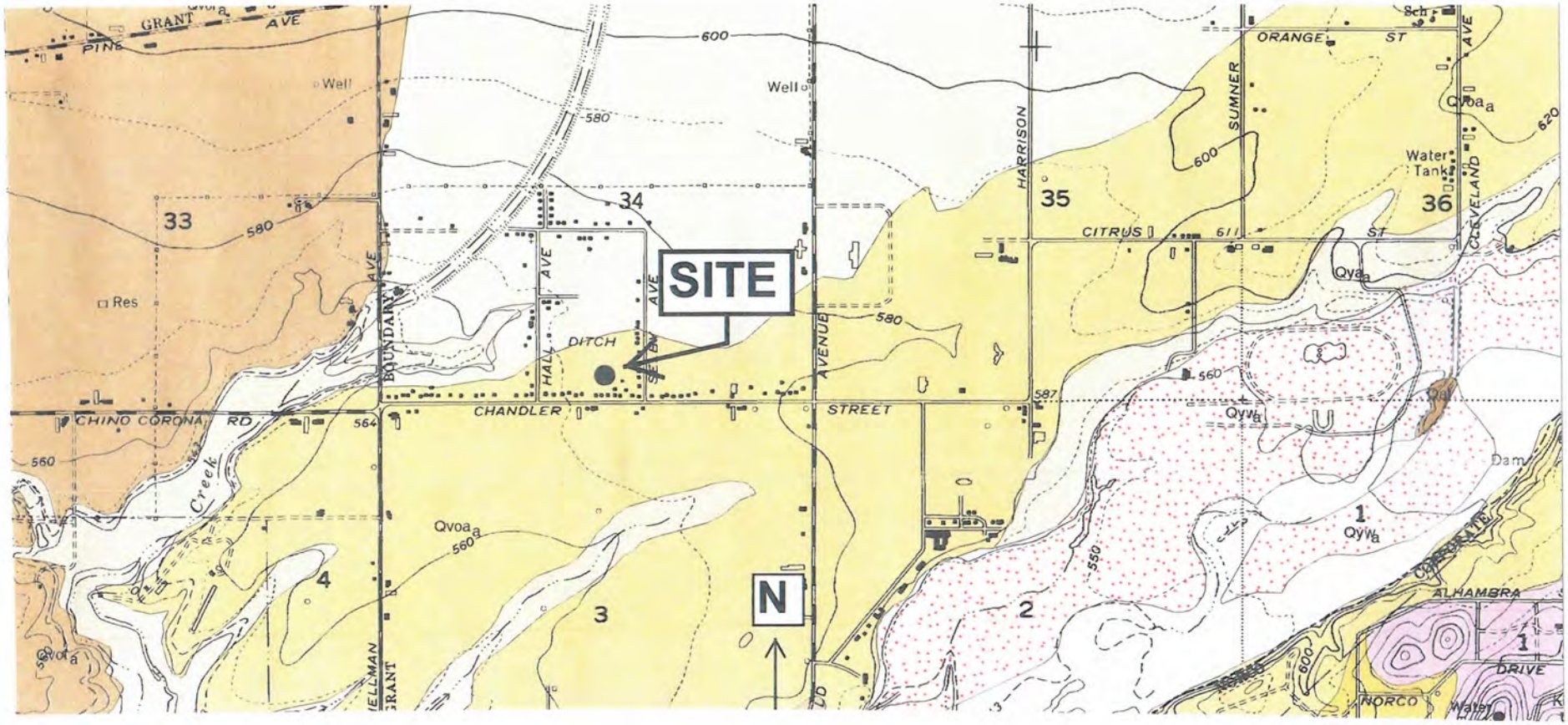
Figure 1	Site Location Map
Figure 2	USGS Geologic Map
Figure 3	Riverside County GIS Map
Figure 3	U.S. Geological Survey Faults Map
Plate 1	Exploratory Boring and Infiltration Test Location Map
Plate 2	Retaining Wall Backfill and Subdrain Detail
Appendix A	References
Appendix B	Geotechnical Boring Logs
Appendix C	Laboratory Test Results
Appendix D	USGS National Seismic Hazard Maps-Source Parameters and CBC (2016) Seismic Parameters
Appendix E	General Earthwork and Grading Specifications
Appendix F	Liquefaction Analysis Summary
Appendix G	Infiltration Test Procedure and Results



USGS/U.S. Topo/Corona North Quadrangle, California, 2018.

1 0 1/2 1 MILE

Figure 1



Base Map: USGS Geologic Map of the Corona North 7.5' Quadrangle, Riverside and San Bernardino Counties, California.

LEGEND:

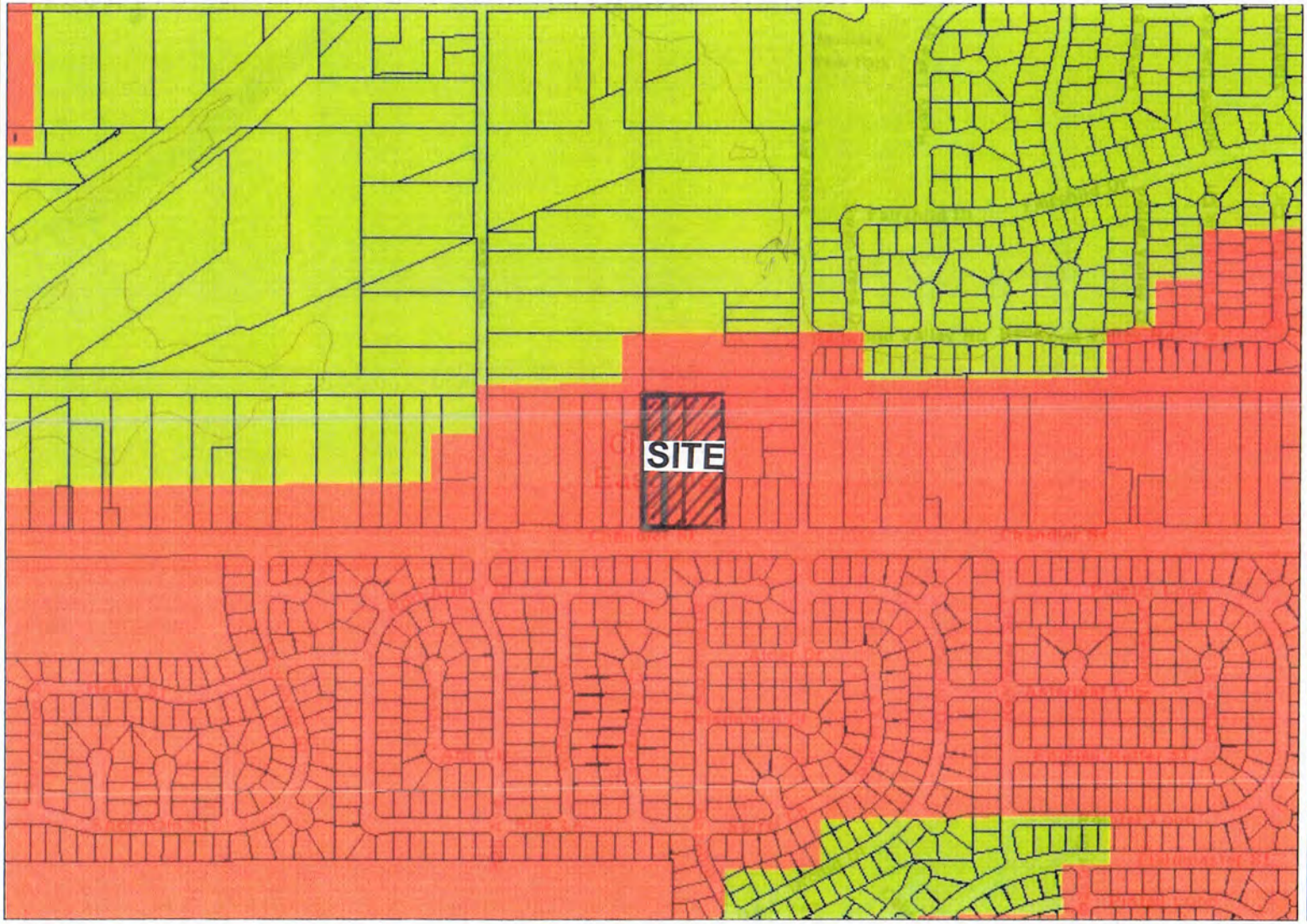
Qvoa: Very old alluvial channel deposits (early Pleistocene) – Gravel, sand, and silt; reddish brown, well-indurated, surfaces well-dissected.

a: Arenaceous (very coarse sand through very fine sand).

14555, 14577 and 14587 Chandler Street
City of Eastvale, California

Soil Exploration Co., Inc.
Project No.: 19138-01
Date: September 26, 2019
Figure: 2

Map My County Map



Legend

- Parcels
- Contours 20 ft interval (with 10
  - 20' CONTOUR
  - 100' INDEX CONTOUR
- Faults
  - OTHER AUTHORITY
  - ALQUIST-PRIOLO
  - RIVERSIDE COUNTY
- Fault Zones
  - OTHER FAULT ZONE
  - COUNTY FAULT ZONE
  - ELSINORE FAULT ZONE
  - SAN ANDREAS FAULT ZONE
  - SAN JACINTO FAULT ZONE
- Flood
- Liquefaction
  - Other Susceptibility
  - High
  - Low
  - Moderate
  - Very High
  - Very low
- Blueline Streams
- City Areas
- World Street Map

RCIT

0 752 1,505 Feet

IMPORTANT Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. The County of Riverside makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user.

REPORT PRINTED ON... 9/10/2019 4:18:16 PM

Notes

APN 144-120-002, 003, 004

Figure 3

U.S. Geological Survey 2014 Faults

9/7/2019, 9:56:54 AM

1:577,791

0 4 8 16 mi

0 5 10 20 km

NSHM 2014 Fault Sources

- Thrust
- Normal
- Unassigned
- Strike Slip

N

USGS, National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Figure 4

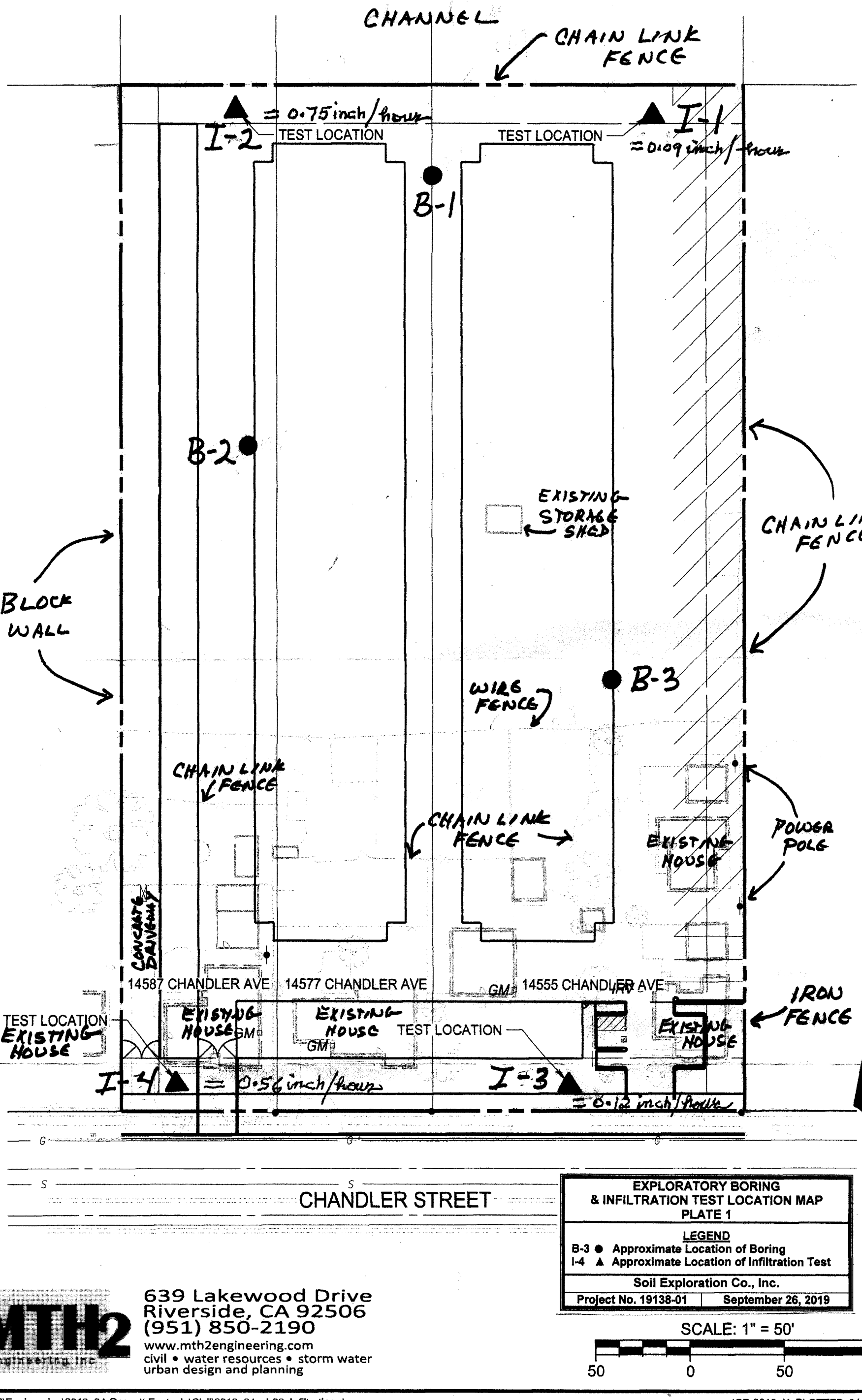
USGS

National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp. | USGS |

IN THE CITY OF EASTVALE

TEST LOCATIONS

GOSSETT DEVELOPMENT



EXPLORATORY BORING & INFILTRATION TEST LOCATION MAP PLATE 1	
LEGEND	
B-3 ● Approximate Location of Boring	
I-4 ▲ Approximate Location of Infiltration Test	
Soil Exploration Co., Inc.	
Project No. 19138-01	September 26, 2019

SCALE: 1" = 50'

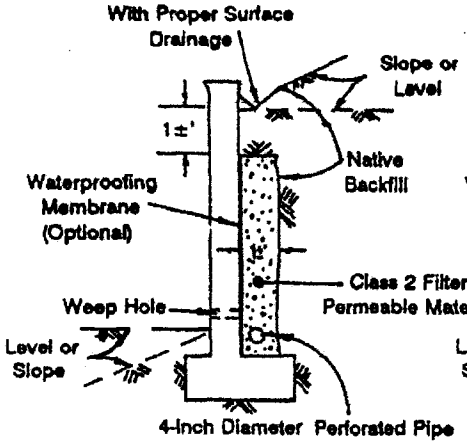
50 0 50 100

MTH2 engineering inc.

639 Lakewood Drive
Riverside, CA 92506
(951) 850-2190
www.mth2engineering.com
civil • water resources • storm water
urban design and planning

SUBDRAIN OPTIONS FOR NATIVE MATERIAL BACKFILL

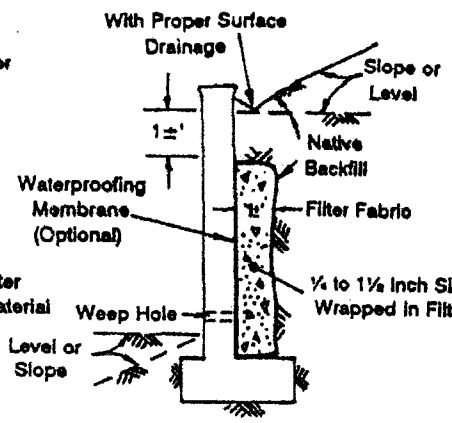
OPTION N2: Pipe Surrounded with Class 2 Material



Class 2 Filter Permeable Material Grading Per Caltrans Specifications

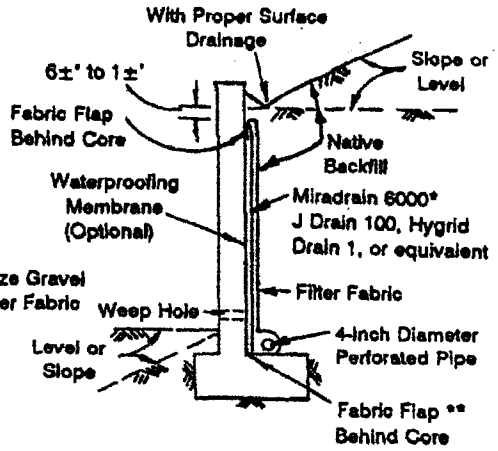
Sieve Size	Percent Passing
1"	100
3/4"	90-100
3/8"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

OPTION N1: Gravel Wrapped in Filter Fabric



Proper Outlet Should be Provided for Gravel Subdrain (See Notes)

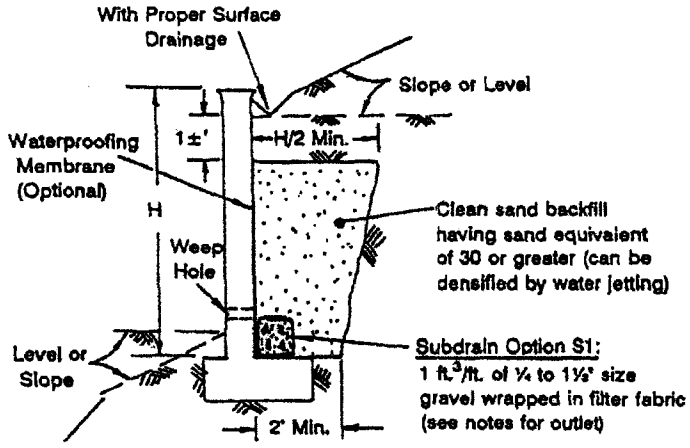
OPTION N3: Geotextile Drain

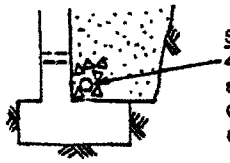


*Miradrain 6000 or J Drain 100 for non-waterproofed walls; Miradrain 6200 or J Drain 200 for completed waterproofed walls

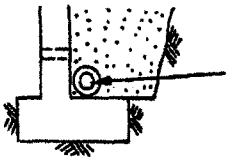
**Peel back the bottom fabric flap, place pipe next to core, wrap fabric around pipe and tuck behind core.

SUBDRAIN OPTIONS FOR CLEAN SAND BACKFILL





Subdrain Option S2:
4" diameter perforated pipe surrounded with 1 ft³/ft. of Class 2 filter material per Caltrans specifications as above



Subdrain Option S3:
4" diameter perforated pipe wrapped in filter fabric

Notes:

- Pipe type should be ASTM D1527 Acrylonitrile Butediene Styrene (ABS) SDR35 or ASTM D1785 Polyvinyl Chloride plastic (PVC), Schedule 40, Armco A2000 PVC, or approved equivalent. Pipe should be installed with perforations down.
- Filter fabric should be Mirafi 140N, 140NS, Supac 4NP, Amoco 4545, Trevira 1114, or approved equivalent.
- All drains should have a gradient of 1 percent minimum.
- Outlet portion for gravel subdrain should have a 4"-diameter pipe with the perforated portion inserted into the gravel approximately 2' minimum and the nonperforated portion extending approximately 1' outside the gravel. Proper sealing should be provided at the pipe insertion enabling water to run from the gravel portion into rather than outside the pipe.
- Waterproofing membrane may be required for a specific retaining wall such as a stucco or basement wall.
- Weephole should be 2" minimum diameter and provided at 25' minimum in length of wall. If exposure is permitted, weephole should be located at 3±" above finished grade. If exposure is not permitted such as for a wall adjacent to a sidewalk/curb, a pipe under the sidewalk to discharge through the curb face or equivalent should be provided, or for a basement-type wall, a proper subdrain outlet system should be provided. Open vertical masonry joints (i.e., omit mortar from joints of first course above finished grade) at 32" maximum intervals may be substituted for weepholes. Screening such as with a filter fabric should be provided for weepholes/open joints to prevent earth materials from entering the holes/joints.

RETAINING WALL BACKFILL AND SUBDRAIN DETAIL

Soil Exploration Co. Inc.

Plate: 2

APPENDIX A

REFERENCES

- CDMG, Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada, Dated February 1998.
- USGS Geologic Map of the Corona North 7.5' Quadrangle, Riverside and San Bernardino Counties, California.
- Riverside County GIS Map.
- U.S. Geological Survey Faults 2014.
- Department of the Interior, U.S. Geological Survey, Contour Map Showing Minimum Depth to Ground Water, Upper Santa Ana River Valley, California 1973-1979 (Sheet 2 of 2), By Scott E. Carson and Jonathan C. Matti, Dated 1985.
- Riverside County Stormwater Quality Best Management Practice, Design Handbook for Low Impact Development, Dated June 2014.

APPENDIX B

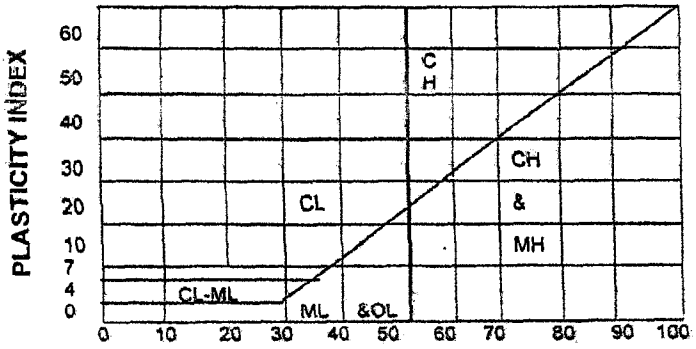
MAJOR DIVISIONS		SYMBOLS		TYPICAL NAMES
COARSE-GRAINED SOILS (More than ½ of soil < No. 200 sieve)	GRAVELS (More than ½ of coarse fraction > No. 4 sieve size)	GW		Well-graded gravels or gravel-sand mixtures, little or no fines
		GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
		GM		Silty gravels, gravel-sand-silt mixtures
		GC		Clayey gravels, gravel-sand-clay mixtures
	SANDS (More than ½ of coarse fraction < No. 4 sieve size)	SW		Well-graded sands or gravely sands, little or no fines
		SP		Poorly graded sands or gravelly sands, little or no fines
		SM		Silty sands, sand-salt mixtures
		SC		Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (More than ½ of soil < No. 200 sieve)	SILTS & CLAYS LL < 50	ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
		CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
		OL		Organic silts and organic silty clays of low plasticity.
	SILTS & CLAYS LL > 50	MH		Inorganic silts, caceous or diatonaceous fine sandy or silty soils, elastic silts
		CH		Inorganic clays of medium to high plasticity, organic silty clays, organic silts
		OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
	HIGHLY ORGANIC SOILS	Pt		Peat and other highly organic soils

CLASSIFICATION CHART

(UNIFIED SOIL CLASSIFICATION SYSTEM)

CLASSIFICATION	RANGE OF GRAIN SIZES	
	U.S. Standard Sieve Size	Grain Size in Millimeters
BOULDER	ABOVE 12"	ABOVE 305
COBBLES	3" to 12"	305 to 76.2
GRAVEL	3" to No. 4	762 to 4.76
COARSE	3" TO ¾"	76.2 to 19.1
FINE	¾" to No. 4	19.1 to 4.76
SAND	No. 4 to 200	4.76 to 0.074
COARSE	No. 4 to 10	4.76 to 2.00
MEDIUM	No. 10 to 40	2.00 to 0.420
FINE	No. 40 to 200	0.420 to 0.074
SILT & CLAY	BELOW No. 200	BELOW 0.074

GRAIN SIZE CHART



PLASTICITY CHART

Ring Sample	Bag Sample	NR No Recovery
SPT Sample	= Seepage	

Classification in accordance with ASTM D2487
Description and visual observation in accordance with ASTM D2488
All Sieve Sizes shown are US Standard
SPT Refusal is defined as one of the following:
10 blows for no apparent displacement
50 blows for less than 6 inches advancement
100 blows for 6 to 18 inches advancement

GEOTECHNICAL BORING LOGS

Drill Hole No. B-1

Date: September 17, 2019 **Project No.** 19138-01
Drilling Company: Larry Harklerode **Type of Rig:** B-53
Hole Diameter: 8" **Drive Weight:** 140 lbs. **Drop:** 30" **Elevation:** Existing Ground

DEPTH (feet)	TYPE OF TEST	SAMPLE TEST	BLOWS PER 6 INCH	DRY DENSITY (%)	MOISTURE (%)	SOIL CLASSIFICATION USCS	GEOTECHNICAL DESCRIPTION LOGGED BY: GL SAMPLED BY: GL
1						SM	**SILTY SAND:** Light brown, fine to medium grained, dry, dense
2							
3		X	17/19/20	-	7.3		Dry, dense % Passing No. 200 Sieve = 44
4							
5							
6		X	10/12/20	-	13.3		Slightly moist, dense
7							
8							
9							
10							
11		X	14/14/14	-	4.3	SP-SM	**SAND WITH SILT::** Yellowish/light brown, fine to medium grained, dry, medium dense % Passing No. 200 Sieve = 7
12							
13							
14							
15							
16		X	10/13/20	-	29.7	ML	**SILT WITH SAND:** Light grayish olive, slightly moist, dense % Passing No. 200 Sieve = 77
17							
18							
19							
20							
21		X	5/7/11	-	-	CL-ML	**SILTY CLAY:** Pale brown, moist, very stiff
22							
23							
24							
25							

GEOTECHNICAL BORING LOGS

Drill Hole No. B-1

Date: September 17, 2019 **Project No.** 19138-01
Drilling Company: Larry Harklerode **Type of Rig:** B-53
Hole Diameter: 8" **Drive Weight:** 140 lbs. **Drop:** 30" **Elevation:** Existing Ground

DEPTH (feet)	TYPE OF TEST	SAMPLE TEST	BLOWS PER 6 INCH	DRY DENSITY (%)	MOISTURE (%)	SOIL CLASSIFICATION USCS	GEOTECHNICAL DESCRIPTION LOGGED BY: GL SAMPLED BY: GL
26		X	8/10/15	-	19.3	SC-SM	**SILTY CLAYEY SAND:** Pale olive, moist, very stiff % Passing No. 200 Sieve = 46
27							
28							
29							
30							
31		X	10/9/10	-	-	CL-ML	**SILTY CLAY:** Pale brown, moist, very stiff
32							
33							
34							
35							
36		X	12/13/13	-	-		Moist, very stiff
37							
38							
39							
40							
41		X	9/13/16	-	40.7	ML	**SILT:** Light brown/gray/olive, slightly moist, medium dense % Passing No. 200 Sieve = 90
42							
43							
44							
45							
46		X	12/13/15	-	-	CL-ML	**SILTY CLAY:** Pale brown, moist, very stiff
47							
48							
49							TOTAL DEPTH = 50 FEET NO GROUNDWATER NO CAVING BORING BACKFILLED
50		X	10/13/18	-	-		

Soil Exploration Co., Inc.

GEOTECHNICAL BORING LOGS

Drill Hole No. B-2

Date: September 17, 2019
Drilling Company: Larry Harklerode
Hole Diameter: 8" **Drive Weight:** 140 lbs. **Drop:** 30"

Project No. 19138-01
Type of Rig: B-53
Elevation: Existing Ground

DEPTH (feet)	TYPE OF TEST	SAMPLE TEST	BLOWS PER 6 INCH	DRY DENSITY (%)	MOISTURE (%)	SOIL CLASSIFICATION USCS	GEOTECHNICAL DESCRIPTION LOGGED BY: GL SAMPLED BY: GL
1						SM	**SILTY SAND:** Light brown, fine to medium grained, slightly moist, medium dense
2							
3			9/16/20	113.0	10.9		Slightly moist, dense
4							
5							
6			18/25/45	98.0	5.2		Very dense
7						SP	**SAND:** Yellowish/light brown, fine to coarse grained, dry, very dense
8							
9							
10							
11		X	16/23/25	-	-		Dry, very dense
12							
13							
14							
15							
16		X	23/35/40	-	-		Dry, very dense
17							
18							
19							
20							
21		X	16/14/13	-	-	SM	**SILTY SAND:** Light brown, fine to medium grained, slightly moist, medium dense
22							
23							TOTAL DEPTH = 21.5 FEET NO GROUNDWATER NO CAVING BORING BACKFILLED
24							
25							

Soil Exploration Co., Inc.

GEOTECHNICAL BORING LOGS

Drill Hole No. B-3

Date: September 17, 2019 **Project No.** 19138-01
Drilling Company: Larry Harklerode **Type of Rig:** B-53
Hole Diameter: 8" **Drive Weight:** 140 lbs. **Drop:** 30" **Elevation:** Existing Ground

DEPTH (feet)	TYPE OF TEST	SAMPLE TEST	BLOWS PER 6 INCH	DRY DENSITY (%)	MOISTURE (%)	SOIL CLASSIFICATION USCS	GEOTECHNICAL DESCRIPTION LOGGED BY: GL SAMPLED BY: GL
1						SM	**SILTY SAND:** Light brown, fine to medium grained, slightly moist, medium dense
2							
3		X	9/11/13	-	9.7		Slightly moist, medium dense
4							
5							
6		X	7/9/12	-	12.7		Slightly moist, medium dense
7							
8							
9							
10							
11		X	8/13/24	-	-	SP	**SAND:** Yellowish/light brown, fine to medium grained, dry, dense
12							
13							
14							
15							
16		X	17/30/30	-	-		Pale brown, dry, very dense
17							
18							
19							
20							
21		X	25/30/36	-	-		Dry, very dense
22							
23							TOTAL DEPTH = 21.5 FEET NO GROUNDWATER NO CAVING BORING BACKFILLED
24							
25							

Soil Exploration Co., Inc.

APPENDIX C

14555, 14577 and 14587 Chandler Street
City of Eastvale, California

LABORATORY TEST RESULTS

SIEVE SIZE	B-1 @ 2' % PASSING	B-1 @ 10' % PASSING	B-1 @ 15' % PASSING	B-1 @ 25' % PASSING	B-1 @ 40' % PASSING
3/8"	100	100	100	100	-
No. 4	99	99	98	99	100
No. 8	94	96	94	95	99
No. 16	86	89	91	87	96
No. 30	76	66	87	79	94
No. 50	66	31	85	69	93
No. 100	57	13	82	58	91
No. 200	44	7	77	46	90
SIEVE ANALYSIS TEST DATA					

Cal Land Engineering, Inc.
dba Quartech Consultants
Geotechnical, Environmental & Civil Engineering

September 26, 2019

Soil Exploration Company Inc.
7535 Jurupa Avenue, Unit C
Riverside, California 92504

Attn: Mr. Gene Luu

RE: LABORATORY TEST RESULTS/REPORT
Client: MTH2 Engineering Inc.
Project: Sulfate
Project No.: 19138-01
QCI Job No.: 19-183-009g

Gentlemen:

We have completed the testing program conducted on sample for above project. The tests were performed in accordance with testing procedures as follows:

TEST	METHOD
Corrosion Potential	CT- 417, CT- 422, CT- 532 (643)

Enclosed is Summary of Laboratory Test Results.

We appreciate the opportunity to provide testing services to Soil Exploration Company Inc. Should you have any questions, please call the undersigned.

Sincerely yours,
Cal Land Engineering, Inc. (CLE)
dba Quartech Consultants (QCI)

Giovani Valdivia
Project Engineer

Enclosure

Cal Land Engineering, Inc.
dba Quartech Consultants
Geotechnical, Environmental, and Civil Engineering

Soil Exploration Company Inc.
7535 Jurupa Avenue, Suite C
Riverside, California 92504

QCI Project No.: 19-183-009g
Date: September 26, 2019
Summarized by: GV

Client: MTH2 Engineering Inc.
Project: Sulfate
Project No.: 19138-01

Corrosivity Test Results

Sample ID	Sample Depth (ft)	pH CT-532 (643)	Chloride CT-422 (ppm)	Sulfate CT-417 % By Weight	Resistivity CT-532 (643) (ohm-cm)
B-1	0-3	9.27	230	0.003	1,200

APPENDIX D

U.S. Geological Survey - Earthquake Hazards Program

2008 National Seismic Hazard Maps - Source Parameters

New Search

Distance in Miles	Name	State	Pref Slip Rate (mm/yr)	Dip (degrees)	Dip Dir	Slip Sense	Rupture Top (km)	Rupture Bottom (km)	Length (km)
3.84	Chino, alt 1	CA	1	50	SW	strike slip	0	9	24
3.86	Chino, alt 2	CA	1	65	SW	strike slip	0	14	29
6.92	Elsinore;W+GI+T+J+CM	CA	n/a	84	NE	strike slip	0	16	241
6.92	Elsinore;W+GI+T+J	CA	n/a	84	NE	strike slip	0	16	199
6.92	Elsinore;W	CA	2.5	75	NE	strike slip	0	14	46
6.92	Elsinore;W+GI+T	CA	n/a	84	NE	strike slip	0	14	124
6.92	Elsinore;W+GI	CA	n/a	81	NE	strike slip	0	14	83
8.17	Elsinore;GI+T+J	CA	n/a	86	NE	strike slip	0	17	153
8.17	Elsinore;GI	CA	5	90	V	strike slip	0	13	37
8.17	Elsinore;GI+T+J+CM	CA	n/a	86	NE	strike slip	0	16	195
8.17	Elsinore;GI+T	CA	5	90	V	strike slip	0	14	78
12.06	San Jose	CA	0.5	74	NW	strike slip	0	15	20
14.17	Cucamonga	CA	5	45	N	thrust	0	8	28
14.52	Sierra Madre Connected	CA	2	51		reverse	0	14	76
14.52	Sierra Madre	CA	2	53	N	reverse	0	14	57
15.68	Puente Hills (Coyote Hills)	CA	0.7	26	N	thrust	2.8	15	17
19.07	San Jacinto;SBV+SJV+A	CA	n/a	90	V	strike slip	0	16	134
19.07	San Jacinto;SBV+SJV+A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	241
19.07	San Jacinto;SBV+SJV+A+CC+B	CA	n/a	90	V	strike	0.1	15	215

						slip			
19.07	San Jacinto;SBV	CA	6	90	V	strike slip	0	16	45
19.07	San Jacinto;SBV+SJV+A+CC	CA	n/a	90	V	strike slip	0	16	181
19.07	San Jacinto;SBV+SJV+A+C	CA	n/a	90	V	strike slip	0	17	181
19.07	San Jacinto;SBV+SJV	CA	n/a	90	V	strike slip	0	16	88
21.45	San Jacinto;SJV+A+CC	CA	n/a	90	V	strike slip	0	16	136
21.45	San Jacinto;SJV	CA	18	90	V	strike slip	0	16	43
21.45	San Jacinto;SJV+A	CA	n/a	90	V	strike slip	0	17	89
21.45	San Jacinto;SJV+A+C	CA	n/a	90	V	strike slip	0	17	136
21.45	San Jacinto;SJV+A+CC+B	CA	n/a	90	V	strike slip	0.1	15	170
21.45	San Jacinto;SJV+A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	196
21.82	San Joaquin Hills	CA	0.5	23	SW	thrust	2	13	27
22.79	Elsinore;T+J+CM	CA	n/a	85	NE	strike slip	0	16	169
22.79	Elsinore;T+J	CA	n/a	86	NE	strike slip	0	17	127
22.79	Elsinore;T	CA	5	90	V	strike slip	0	14	52
23.16	S. San Andreas;BB+NM+SM+NSB+SSB+BG	CA	n/a	84		strike slip	0	14	321
23.16	S. San Andreas;NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	13	213
23.16	S. San Andreas;NSB+SSB+BG+CO	CA	n/a	79		strike slip	0.2	12	206
23.16	S. San Andreas;NM+SM+NSB	CA	n/a	90	V	strike slip	0	13	170
23.16	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	86		strike slip	0	14	442
23.16	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0.1	13	421
23.16	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	86		strike slip	0.1	13	479

23.16	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	548
23.16	S. San Andreas;BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	220
23.16	S. San Andreas;SM+NSB	CA	n/a	90	V	strike slip	0	13	133
23.16	S. San Andreas;SM+NSB+SSB+BG+CO	CA	n/a	83		strike slip	0.1	13	303
23.16	S. San Andreas;CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	279
23.16	S. San Andreas;BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	263
23.16	S. San Andreas;CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	322
23.16	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB	CA	n/a	90	V	strike slip	0	14	384
23.16	S. San Andreas;CH+CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0	14	341
23.16	S. San Andreas;CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	449
23.16	S. San Andreas;CC+BB+NM+SM+NSB+SSB+BG	CA	n/a	85		strike slip	0	14	380
23.16	S. San Andreas;NM+SM+NSB+SSB+BG+CO	CA	n/a	84		strike slip	0.1	13	340
23.16	S. San Andreas;NM+SM+NSB+SSB+BG	CA	n/a	83		strike slip	0	14	271
23.16	S. San Andreas;BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	85		strike slip	0.1	13	390
23.16	S. San Andreas;CH+CC+BB+NM+SM+NSB+SSB+BG+CO	CA	n/a	86		strike slip	0.1	13	512
23.16	S. San Andreas;NSB	CA	22	90	V	strike slip	0	13	35
23.16	S. San Andreas;PK+CH+CC+BB+NM+SM+NSB	CA	n/a	90	V	strike slip	0.1	13	377
23.16	S. San Andreas;SM+NSB+SSB	CA	n/a	90	V	strike slip	0	13	176
23.16	S. San Andreas;SM+NSB+SSB+BG	CA	n/a	81		strike slip	0	13	234
23.16	S. San Andreas;NSB+SSB+BG	CA	n/a	75		strike slip	0	14	136
23.16	S. San Andreas;NSB+SSB	CA	n/a	90	V	strike slip	0	13	79
23.98	Puente Hills (Santa Fe Springs)	CA	0.7	29	N	thrust	2.8	15	11

24.61	Clamshell-Sawpit	CA	0.5	50	NW	reverse	0	14	16
25.62	S. San Andreas;NM+SM	CA	n/a	90	V	strike slip	0	14	134
25.62	S. San Andreas;CH+CC+BB+NM+SM	CA	n/a	90	V	strike slip	0	14	306
25.62	S. San Andreas;SM	CA	29	90	V	strike slip	0	13	98
25.62	S. San Andreas;CC+BB+NM+SM	CA	n/a	90	V	strike slip	0	14	243
25.62	S. San Andreas;BB+NM+SM	CA	n/a	90	V	strike slip	0	14	184
25.62	S. San Andreas;PK+CH+CC+BB+NM+SM	CA	n/a	90	V	strike slip	0.1	13	342
25.85	S. San Andreas;SSB+BG	CA	n/a	71		strike slip	0	13	101
25.85	S. San Andreas;SSB+BG+CO	CA	n/a	77		strike slip	0.2	12	170
25.85	S. San Andreas;SSB	CA	16	90	V	strike slip	0	13	43
26.21	Cleghorn	CA	3	90	V	strike slip	0	16	25
26.83	Raymond	CA	1.5	79	N	strike slip	0	16	22
28.57	San Jacinto;A+CC+B	CA	n/a	90	V	strike slip	0.1	15	152
28.57	San Jacinto;A+CC	CA	n/a	90	V	strike slip	0	16	118
28.57	San Jacinto;A+C	CA	n/a	90	V	strike slip	0	17	118
28.57	San Jacinto;A	CA	9	90	V	strike slip	0	17	71
28.57	San Jacinto;A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	178
29.28	Newport Inglewood Connected alt 2	CA	1.3	90	V	strike slip	0	11	208
29.36	Newport-Inglewood, alt 1	CA	1	88		strike slip	0	15	65
29.36	Newport Inglewood Connected alt 1	CA	1.3	89		strike slip	0	11	208
29.83	Elysian Park (Upper)	CA	1.3	50	NE	reverse	3	15	20
30.19	Puente Hills (LA)	CA	0.7	27	N	thrust	2.1	15	22

30.46	Newport-Inglewood (Offshore)	CA	1.5	90	V	strike slip	0	10	66
31.82	North Frontal (West)	CA	1	49	S	reverse	0	16	50
34.16	Verdugo	CA	0.5	55	NE	reverse	0	15	29
38.01	Hollywood	CA	1	70	N	strike slip	0	17	17
40.00	Palos Verdes Connected	CA	3	90	V	strike slip	0	10	285
40.00	Palos Verdes	CA	3	90	V	strike slip	0	14	99
40.76	Santa Monica Connected alt 2	CA	2.4	44		strike slip	0.8	11	93
45.88	Sierra Madre (San Fernando)	CA	2	45	N	thrust	0	13	18
45.93	S. San Andreas;BG+CQ	CA	n/a	72		strike slip	0.3	12	125
45.93	S. San Andreas;BG	CA	n/a	58		strike slip	0	13	56
46.56	San Gabriel	CA	1	61	N	strike slip	0	15	71
47.29	Santa Monica Connected alt 1	CA	2.6	51		strike slip	0	16	79
47.29	Santa Monica, alt 1	CA	1	75	N	strike slip	0	18	14
49.46	Coronado Bank	CA	3	90	V	strike slip	0	9	186

2016 CBC – SEISMIC PARAMETERS		
Site Coordinates	**Latitude**	**Longitude**
	33.9471	**-117.6018**
Mapped Spectral Response Acceleration	**S_S = 1.508**	**S_1 = 0.600**
Site Coefficients (Class "D")	**F_a = 1.00**	**F_v = 1.50**
Maximum Considered Earthquake (MCE) Spectral Response Acceleration	**S_{MS} = 1.508**	**S_{M1} = 0.900**
Design Spectral Response Acceleration Parameters	**S_{DS} = 1.005**	**S_{D1} = 0.600**
Seismic Design Category	**D**	
Peak Ground Acceleration (PGA)	**0.553g**	

References:

- Earthquake.usgs.gov/research/hazmaps/design
- 2016 California Building Code, California Code of Regulations, Title 24, Part 2, Volume 2 of 2, Section 1613, Earthquake Loads

APPENDIX E

GENERAL EARTHWORK AND GRADING SPECIFICATIONS

1.0 GENERAL INTENT

These specifications present general procedures and requirements for grading and earthwork as shown on the approved grading plans, including preparation of areas to be filled, placement of fill, installations of subdrains, and excavations. The recommendations contained in the geotechnical report are a part of the earthwork and grading specifications and shall supersede the provisions contained hereinafter in the case of conflict. Evaluations performed by the consultant during the course of grading may result in new recommendations which could supersede these specifications or the recommendations of the geotechnical report.

2.0 EARTHWORK OBSERVATIONS AND TESTING

Prior to the commencement of grading, a qualified geotechnical consultant (soils engineer and engineering geologist, and their representatives) shall be employed for the purpose of observing earthwork procedures and testing the fills for conformance with the recommendations of the geotechnical report and these specifications. It will be necessary that the consultant provide adequate testing and observations so that he may determine that the work was accomplished as specified. It shall be the responsibility of the contractor to assist the consultant and keep him apprised of work schedules and changes so that he may schedule his personnel accordingly.

It shall be the sole responsibility of the contractor to provide adequate equipment and methods to accomplish the work in accordance with applicable grading codes or agency ordinances, these specifications and approved grading plans. If, in the opinion of the consultant, unsatisfactory conditions, such as questionable soil, poor moisture conditions, inadequate compaction, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the consultant will be empowered to reject the work and recommend that construction be stopped until the unsatisfactory conditions are rectified.

Maximum dry density tests used to determine the degree of compaction will be performed in accordance with the American Society of Testing and Materials, test method ASTM D1557-12.

3.0 PREPARATION OF AREAS TO BE FILLED

3.1 Clearing and Grubbing

All brush, vegetation, and debris shall be removed or piled and otherwise disposed of.

3.2 Processing

The existing ground which is determined to be satisfactory for support of fill shall be scarified to a minimum depth of 6 inches. Existing ground which is not satisfactory shall be overexcavated as specified in the following section. Scarification shall continue until the soils are broken down and free of large clay lumps or clods and until the working surface is reasonably uniform and free of uneven features which would inhibit uniform compaction.

3.3 Overexcavation

Soft, dry, spongy, highly fractured or otherwise unsuitable ground, extending to such depth that surface processing cannot adequately improve the condition, shall be overexcavated down to firm ground, approved by the consultant.

3.4 Moisture Conditioning

Overexcavated and processed soils shall be watered, dried-back, blended, and/or mixed, as required to attain a uniform moisture content near optimum.

3.5 Recompaction

Overexcavation and processed soils which have been properly mixed and moisture-conditioned shall be recompacted to a minimum relative compaction of 90 percent.

3.6 *Benching*

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal : vertical), the ground shall be stepped or benched. The lowest bench shall be a minimum of 15 feet wide, shall be at least 2 feet deep, shall expose firm materials, and shall be approved by the consultant. Other benches shall be excavated in firm materials for a minimum width of 4 feet. Ground sloping flatter than 5:1 (horizontal : vertical) shall be benched or otherwise overexcavated when considered necessary by the consultant.

3.7 *Approval*

All areas to receive fill, including processed areas, removal areas and toe-of-fill benches shall be approved by the consultant prior to fill placement.

4.0 FILL MATERIAL

4.1 *General*

Material to be placed as fill shall be free of organic matter and other deleterious substances, and shall be approved by the consultant. Soils of poor gradation, expansion, or strength characteristics shall be placed in areas designated by consultant or shall be mixed with other soils to serve as satisfactory fill material.

4.2 *Oversize*

Oversize materials defined as rock, or other irreducible material with maximum dimension greater than 12 inches, shall not be buried or placed in fills, unless the location, materials, and disposal methods are specifically approved by the consultant. Oversize disposal operations shall be such that nesting of oversize material does not occur, and such that the oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 feet vertically of finish grade or within the range of future utilities or underground construction, unless specifically approved by the consultant.

4.3 *Import*

If importing of fill material is required for grading, the import material shall meet the requirements of Section 4.1.

5.0 FILL PLACEMENT and COMPACTION

5.1 *Fill Lifts*

Approved fill material shall be placed in areas prepared to receive fill in near-horizontal layers not exceeding 6 inches in compacted thickness. The consultant may approve thicker lifts if testing indicates the grading procedures are such that adequate compaction is being achieved with lifts of greater thickness. Each layer shall be spread evenly and shall be thoroughly mixed during spreading to attain uniformity of material and moisture in each layer.

5.2 *Fill Moisture*

Fill layers at a moisture content less than optimum shall be watered and mixed, and wet fill layers shall be aerated by scarification or shall be blended with drier material. Moisture conditioning and mixing of fill layers shall continue until the fill material is at a uniform moisture content at or near optimum.

5.3 *Compaction of Fill*

After each layer has been evenly spread, moisture-conditioned, and mixed, it shall be uniformly compacted to not less than 90 percent of maximum dry density. Compaction equipment shall be adequately sized and shall be either specifically designed for soil compaction or of proven reliability, to efficiently achieve the specified degree of compaction.

5.4 Fill Slopes

Compacting of slopes shall be accomplished, in addition to normal compacting procedures, by backrolling of slopes with sheepsfoot rollers at frequent increments of 2 to 3 feet in fill elevation gain, or by other methods producing satisfactory results. At the completion of grading, the relative compaction of the slope out to the slope face shall be at least 90 percent.

5.5 Compaction Testing

Field-tests to check the fill moisture and degree of compaction will be performed by the consultant. The location and frequency of tests shall be at the consultant's discretion. In general, the tests will be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of embankment.

6.0 SUBDRAIN INSTALLATION

Subdrain systems, if required, shall be installed in approved ground to conform to the approximate alignment and details shown on the plans or herein. The subdrain location or materials shall not be changed or modified without the approval of the consultant. The consultant, however, may recommend and upon approval, direct changes in subdrain line, grade or material. All subdrains should be surveyed for line and grade after installation and sufficient time shall be allowed for the surveys, prior to commencement of filling over the subdrain.

7.0 EXCAVATION

Excavations and cut slopes will be examined during grading. If directed by the consultant, further excavation or overexcavation and refilling of cut areas shall be performed, and/or remedial grading of cut slopes shall be performed. Where fill-over-cut slopes are to be graded, unless otherwise approved, the cut portion of the slope shall be made and approved by the consultant prior to placement of materials for construction of the fill portion of the slope.

8.0 TRENCH BACKFILLS

Trench excavations for utility pipes shall be backfilled under engineering supervision.

After the utility pipe has been laid, the space under and around the pipe shall be backfilled with clean sand or approved granular soil to a depth of at least one foot over the top of the pipe. The sand backfill shall be uniformly jetted into place before the controlled backfill is placed over the sand.

The onsite materials, or other soils approved by the soil engineer, shall be watered and mixed as necessary prior to placement in lifts over the sand backfill.

The controlled backfill shall be compacted to at least 90 percent of the maximum dry density as determined by the ASTM D1557-12 test method.

Field density tests and inspection of the backfill procedures shall be made by the soil engineer during backfilling to see that proper moisture content and uniform compaction is being maintained. The contractor shall provide test holes and exploratory pits as required by the soil engineer to enable sampling and testing.

APPENDIX F

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LIQUEFACTION ANALYSIS SUMMARY

****

Font: Courier New, Regular, Size 8 is recommended for this report.
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Input File Name: UNTITLED
Title: PROJECT NAME: MTH2 Engineering Inc.
Subtitle: Proj No. 19138-01

Surface Elev.=Existing Ground
Hole No.=B-1
Depth of Hole= 50.00 ft
Water Table during Earthquake= 40.00 ft
Water Table during In-Situ Testing= 55.00 ft
Max. Acceleration= 0.55 g
Earthquake Magnitude= 6.70

Input Data:
Surface Elev.=Existing Ground
Hole No.=B-1
Depth of Hole=50.00 ft
Water Table during Earthquake= 40.00 ft
Water Table during In-Situ Testing= 55.00 ft
Max. Acceleration=0.55 g
Earthquake Magnitude=6.70

1. SPT or BPT Calculation.
2. Settlement Analysis Method: Ishihara / Yoshimine
3. Fines Correction for Liquefaction: Idriss/Seed
4. Fine Correction for Settlement: During Liquefaction*
5. Settlement Calculation in: All zones*
6. Hammer Energy Ratio, Ce = 0.89
7. Borehole Diameter, Cb= 1
8. Sampling Method, Cs= 1
9. User request factor of safety (apply to CSR) , User= 1
   Plot one CSR curve (fs1=1)
10. Use Curve Smoothing: Yes*
* Recommended Options

In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.00	39.00	120.00	44.00
5.00	32.00	120.00	44.00
10.00	28.00	120.00	27.00
15.00	33.00	120.00	77.00
20.00	18.00	120.00	NoLiq
25.00	25.00	120.00	46.00
30.00	19.00	120.00	NoLiq
35.00	26.00	120.00	NoLiq
40.00	29.00	120.00	90.00
45.00	28.00	120.00	NoLiq
50.00	31.00	120.00	NoLiq

Output Results:

Settlement of Saturated Sands=0.35 in.
Settlement of Unsaturated Sands=0.21 in.
Total Settlement of Saturated and Unsaturated Sands=0.56 in.
Differential Settlement=0.279 to 0.368 in.

Depth ft	CRRm	CSRfs	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	2.67	0.36	5.00	0.35	0.21	0.56
5.00	2.67	0.36	5.00	0.35	0.21	0.55
10.00	2.67	0.35	5.00	0.35	0.19	0.54
15.00	2.67	0.35	5.00	0.35	0.17	0.52
20.00	0.31	0.34	5.00	0.35	0.11	0.46
25.00	2.00	0.34	5.00	0.35	0.11	0.46
30.00	0.28	0.33	5.00	0.35	0.00	0.35
35.00	2.00	0.32	5.00	0.35	0.00	0.35
40.00	2.00	0.30	5.00	0.35	0.00	0.35
45.00	0.31	0.31	1.00*	0.00	0.00	0.00
50.00	2.00	0.31	5.00	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units: Depth = ft, Stress or Pressure = atm (tsf), Unit Weight = pcf, Settlement = in.

---

1 atm (atmosphere) = 1 tsf (ton/ft2)
CRRm Cyclic resistance ratio from soils
CSRsf Cyclic stress ratio induced by a given earthquake (with user

request factor of safety)

F.S.	Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated and Unsaturated Sands
NoLiq	No-Liquefy Soils

APPENDIX G

Infiltration Test (Percolation Test Procedure)

The tests were performed in accordance with referenced Riverside County Stormwater Quality Best Management Practice Design Handbook for Low Impact Development, dated June 2014.

Four 8-inch diameter, 4-feet deep test holes (I-1, I-2, I-3 and I-4) were drilled at suggested locations. The soil at the test locations was visually classified as silty sand (USCS "SM"). To mitigate any possible caving or sloughing of the test holes, a 6-inch diameter perforated pipe was placed in the hole. The bottom of the hole was covered with 2 inches of gravel.

The testing was conducted after presoaking. Two consecutive measurements showed that 6 inches of water seeped away in more than 25 minutes. The test was therefore run an additional 6 hours with measurements taken at 30 minute intervals. Water level was adjusted to 20 inches above the bottom of the test hole after each measurement. The drop that occurred during the final reading was used for design rate purposes.

Infiltration Test/Tabulated Test Results

Test No.	Depth of Test (feet)	Earth Material	Infiltration Rate (in/hr)
I-1	4	Silty Sand ("SM")	0.09
I-2	4	Silty Sand ("SM")	0.75
I-3	4	Silty Sand ("SM")	0.12
I-4	4	Silty Sand ("SM")	0.56

We recommend that a suitable factor of safety should be applied to the rate in design of the system.

INFILTRATION TEST DATA
(Boring Percolation Test Procedure)

Project: MTH2 Engineering INC Project No.: 1913P01 Date: 9/21/19
Test Hole No.: I-1 Tested By: ED Date: 9/21/19
Depth of Test Hole, DT: 4' USCS Soil Classification: SM
Diameter: 8" Presoak: yes

SANDY SOIL CRITERIA TEST

Trial No.	Time	Time Interval (min)	Initial Water Level (inches)	Final Water Level (inches)	Change in Water Level (inches)	Greater Than or Equal to 6" (Y/N)
1	10:15:06 10:40:06	25	28	28.875	0.875	N
2	10:42:25 11:07:25	"	"	"	"	"

Use Normal Sandy (Circle One) Soil Criteria

Trial No.	Start Time	Stop Time	Δt Time Interval (min.)	Do Initial Depth to Water(in.)	Df Final Depth to Water(in.)	ΔD Change in Water Level (in.)	Infiltration Rate (in./hr.)
1	11:07:55	11:37:55	30	28	28.5	0.5	
2	11:38:40	12:08:40	"	"	"	"	
3	12:09:01	12:39:01	"	"	"	"	
4	12:43:06	1:13:06	"	"	"	"	
5	1:14:17	1:44:17	"	"	"	"	
6	1:45:28	2:15:28	"	"	"	"	
7	2:19:39	2:49:39	"	"	"	"	
8	2:50:50	3:20:50	"	"	"	"	
9	3:22:02	3:52:02	"	"	"	"	
10	3:56:14	4:26:14	"	"	"	"	
11	4:27:26	4:57:26	"	"	"	"	
12	4:58:38	5:28:38	"	"	"	"	0.09

COMMENTS:

Infiltration Rate = $\frac{4 \times 60 \times 0.5}{30(4+(20+(20-0.5)))} = 0.09$ in/hr

INFILTRATION TEST DATA
(Boring Percolation Test Procedure)

Project: MTK2 Engineering INC Project No.: 1938-01 Date: 9/21/19
Test Hole No.: IT-2 Tested By: TD Date: 9/21/19
Depth of Test Hole, D_T: 4' USCS Soil Classification: SM
Diameter: 8" Presoak: yes

SANDY SOIL CRITERIA TEST

Trial No.	Time	Time Interval (min)	Initial Water Level (inches)	Final Water Level (inches)	Change in Water Level (inches)	Greater Than or Equal to 6" (Y/N)
1	10:17:18 10:42:18	25	28	32	4	N
2	10:46:00 11:11:00	11	11	31.875	3.875	Y

Use Normal Sandy (Circle One) Soil Criteria

Trial No.	Start Time	Stop Time	Δt Time Interval (min.)	Do Initial Depth to Water(in.)	D_f Final Depth to Water(in.)	ΔD Change in Water Level (in.)	Infiltration Rate (in./hr.)
1	11:13:19	11:43:19	30	28	31.875	3.875	
2	11:45:10	12:15:10	11	11	11	11	
3	12:16:50	12:46:50	11	11	11	11	
4	12:50:01	1:20:01	11	11	11	11	
5	1:22:12	1:52:12	11	11	11	11	
6	1:55:23	2:25:23	11	11	11	11	
7	2:27:34	2:57:34	11	11	11	11	
8	2:59:45	3:29:45	11	11	11	11	
9	3:30:56	4:00:56	11	11	11	11	
10	4:04:08	4:34:08	11	11	11	11	
11	4:35:20	5:05:20	11	11	11	11	
12	5:06:32	5:36:32	11	11	11	11	0.75

COMMENTS:
Infiltration Rate = $\frac{4 \times 60 \times 3.875}{30(4+(20+(20-3.875)))} = 0.75$ in/hr

INFILTRATION TEST DATA
(Boring Percolation Test Procedure)

Project: MTH2 Engineering INC. Project No.: 19138-01 Date: 9/21/19
Test Hole No.: I-3 Tested By: DP Date: 11
Depth of Test Hole, D_T: 4' USCS Soil Classification: SM
Diameter: 8" Presoak: Yes

SANDY SOIL CRITERIA TEST

Trial No.	Time	Time Interval (min)	Initial Water Level (inches)	Final Water Level (inches)	Change in Water Level (inches)	Greater Than or Equal to 6" (Y/N)
1	11:38:41 12:03:41	25	28	28.625	0.625	N
2	12:10:34 12:35:34	11	11	11	11	Y

Use Normal Sandy (Circle One) Soil Criteria

Trial No.	Start Time	Stop Time	Δt Time Interval (min.)	Do Initial Depth to Water(in.)	D_f Final Depth to Water(in.)	ΔD Change in Water Level (in.)	Infiltration Rate (in./hr.)
1	12:36:25	1:06:25	30	28	28.625	0.625	
2	1:07:36	1:37:36	11	11	11	11	
3	1:40:00	2:10:00	11	11	11	11	
4	2:11:01	2:41:01	11	11	11	11	
5	2:44:12	3:14:12	11	11	11	11	
6	3:15:23	3:45:23	11	11	11	11	
7	3:46:34	4:16:34	11	11	11	11	
8	4:18:45	4:48:45	11	11	11	11	
9	4:50:56	5:20:56	11	11	11	11	
10	5:21:08	5:51:08	11	11	11	11	
11	5:52:20	6:22:20	11	11	11	11	
12	6:23:32	6:53:32	11	11	11	11	0.12

COMMENTS:
Infiltration Rate = $\frac{4 \times 60 \times 0.625}{30(4+(20+(20-0.625)))} = 0.12$ in/hr

Appendix 4: Historical Site Conditions

Phase I Environmental Site Assessment or Other Information on Past Site Use

NOT APPLICABLE

Appendix 5: LID Infeasibility

LID Technical Infeasibility Analysis

NOT APPLICABLE

Appendix 6: BMP Design Details

BMP Sizing, Design Details and other Supporting Documentation

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name: MTH2 Engineering, Inc — Date: 10/14/2019

Designed by: MTH2 Engineering, Inc — Case No:

Company Project Number/Name:

BMP Identification

BMP NAME / ID: DMA 4

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E

D_{85} = 0.90 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
5A	*29644.6*	*Concrete or Asphalt*	*1*	*0.89*	*26443*			
5B	*23779.93*	*Roofs*	*1*	*0.89*	*21211.7*			
5C	*4306.8*	*Ornamental Landscaping*	*0.1*	*0.11*	*475.7*			
	57731.33		*Total*		48130.4	0.90	*3609.8*	*3746.2*

Notes:

Bioretention Facility - Design Procedure	BMP ID: DMA 4	Legend:	Required Entries / Calculated Cells

Company Name: MTH2 Engineering, Inc — Date: 10/14/2019

Designed by: MTH2 Engineering, Inc — County/City Case No.:

Design Volume

Enter the area tributary to this feature — A_T = 1.325329 acres

Enter V_{BMP} determined from Section 2.1 of this Handbook — V_{BMP} = 3,610 ft^3

Type of Bioretention Facility Design

(●) Side slopes required (parallel to parking spaces or adjacent to walkways)

( ) No side slopes required (perpendicular to parking space or Planter Boxes)

Bioretention Facility Surface Area

Depth of Soil Filter Media Layer — d_S = 3.0 ft

Top Width of Bioretention Facility, excluding curb — w_T = 11.5 ft

Total Effective Depth, d_E

$d_E = (0.3) \times d_S + (0.4) \times 1 - (0.7/w_T) + 0.5$ — d_E = 1.74 ft

Minimum Surface Area, A_m

$$A_M\,(ft^2) = \frac{V_{BMP}\,(ft^3)}{d_E\,(ft)}$$

A_M = 2,076 ft^2

Proposed Surface Area — A= 2,153 ft^2

Bioretention Facility Properties

Side Slopes in Bioretention Facility — z = 4 :1

Diameter of Underdrain — 6 inches

Longitudinal Slope of Site (3% maximum) — 0.5 %

6" Check Dam Spacing — 0 feet

Describe Vegetation: Shrubs

Notes:

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name: MTH2 Engineering, Inc — Date: 10/14/2019

Designed by: MTH2 Engineering, Inc — Case No:

Company Project Number/Name:

BMP Identification

BMP NAME / ID: DMA 3

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E

D_{85} = 0.90 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
4A	*43861.29*	*Concrete or Asphalt*	*1*	*0.89*	*39124.3*			
4B	*49332.71*	*Roofs*	*1*	*0.89*	*44004.8*			
4C	*11478.65*	*Ornamental Landscaping*	*0.1*	*0.11*	*1267.9*			
	104672.65	*Total*			*84397*	*0.90*	*6329.8*	*6619.4*

Notes:

Bioretention Facility - Design Procedure	BMP ID: DMA 3	Legend:	Required Entries / Calculated Cells

Company Name: MTH2 Engineering, Inc — Date: 10/14/2019

Designed by: MTH2 Engineering, Inc — County/City Case No.:

Design Volume

Enter the area tributary to this feature — A_T = 2.4029534 acres

Enter V_{BMP} determined from Section 2.1 of this Handbook — V_{BMP} = 6,330 ft^3

Type of Bioretention Facility Design

(●) Side slopes required (parallel to parking spaces or adjacent to walkways)

( ) No side slopes required (perpendicular to parking space or Planter Boxes)

Bioretention Facility Surface Area

Depth of Soil Filter Media Layer — d_S = 3.0 ft

Top Width of Bioretention Facility, excluding curb — w_T = 8.0 ft

Total Effective Depth, d_E

$d_E = (0.3) \times d_S + (0.4) \times 1 - (0.7/w_T) + 0.5$ — d_E = 1.71 ft

Minimum Surface Area, A_m

$$A_M\,(ft^2) = \frac{V_{BMP}\,(ft^3)}{d_E\,(ft)}$$

A_M = 3,697 ft^2

Proposed Surface Area — A= 3,871 ft^2

Bioretention Facility Properties

Side Slopes in Bioretention Facility — z = 4 :1

Diameter of Underdrain — 6 inches

Longitudinal Slope of Site (3% maximum) — 0.5 %

6" Check Dam Spacing — 0 feet

Describe Vegetation: Shrubs

Notes:

Appendix 7: Hydromodification

Supporting Detail Relating to Hydrologic Conditions of Concern

NOT APPLICABLE

Appendix 8: Source Control

Pollutant Sources/Source Control Checklist

STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

How to use this worksheet (also see instructions in Section G of the WQMP Template):

1. Review Column 1 and identify which of these potential sources of stormwater pollutants apply to your site. Check each box that applies.
2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your WQMP Exhibit.
3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs in your WQMP. Use the format shown in Table G.1on page 23 of this WQMP Template. Describe your specific BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting BMPs or substituting alternative BMPs for those shown here.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ A. **On-site storm drain inlets**	❑ **Locations of inlets.**	❑ **Mark all inlets with the words "Only Rain Down the Storm Drain" or similar. Catch Basin Markers may be available from the Riverside County Flood Control and Water Conservation District, call 951.955.1200 to verify.**	❑ **Maintain and periodically repaint or replace inlet markings.** ❑ **Provide stormwater pollution prevention information to new site owners, lessees, or operators.** ❑ **See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com** ❑ **Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."**
❑ B. **Interior floor drains and elevator shaft sump pumps**		❑ **State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.**	❑ **Inspect and maintain drains to prevent blockages and overflow.**
❑ C. **Interior parking garages**		❑ **State that parking garage floor drains will be plumbed to the sanitary sewer.**	❑ **Inspect and maintain drains to prevent blockages and overflow.**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☐ D1. **Need for future indoor & structural pest control**		☐ **Note building design features that discourage entry of pests.**	☐ **Provide Integrated Pest Management information to owners, lessees, and operators.**
☑ D2. **Landscape/ Outdoor Pesticide Use**	☐ **Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained.** ☑ **Show self-retaining landscape areas, if any.** ☐ **Show stormwater treatment and hydrograph modification management BMPs. (See instructions in Chapter 3, Step 5 and guidance in Chapter 5.)**	**State that final landscape plans will accomplish all of the following.** ☐ **Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.** ☐ **Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.** **Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.** ☑ **Consider using pest-resistant plants, especially adjacent to hardscape.** **To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.**	☑ **Maintain landscaping using minimum or no pesticides.** ☑ **See applicable operational BMPs in "What you should know for…..Landscape and Gardening"** at http://rcflood.org/stormwater/**Error! Hyperlink reference not valid.** ☑ **Provide IPM information to new owners, lessees and operators.**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ E. **Pools, spas, ponds, decorative fountains, and other water features.**	❑ **Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet. (Exception: Public pools must be plumbed according to County Department of Environmental Health Guidelines.)**	**If the Co-Permittee requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.**	❑ **See applicable operational BMPs in** "Guidelines for Maintaining Your Swimming Pool, Jacuzzi and Garden Fountain" at http://rcflood.org/stormwater/
❑ F. **Food service**	❑ **For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment.** ❑ **On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.**	❑ **Describe the location and features of the designated cleaning area.** ❑ **Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated.**	❑ **See the brochure, "**The Food Service Industry Best Management Practices for: Restaurants, Grocery Stores, Delicatessens and Bakeries" at http://rcflood.org/stormwater/ **Provide this brochure to new site owners, lessees, and operators.**
❑ G. **Refuse areas**	❑ **Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas.** ❑ **If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area.** ❑ **Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.**	❑ **State how site refuse will be handled and provide supporting detail to what is shown on plans.** ❑ **State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.**	❑ **State how the following will be implemented:** **Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ H. **Industrial processes.**	❑ **Show process area.**	❑ **If industrial processes are to be located on site, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain system."**	❑ **See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com** See the brochure "Industrial & Commercial Facilities Best Management Practices for: Industrial, Commercial Facilities" at http://rcflood.org/stormwater/

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ I. **Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.)**	❑ **Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or run-off from area.** ❑ **Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults.** ❑ **Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.**	**Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains.** **Where appropriate, reference documentation of compliance with the requirements of Hazardous Materials Programs for:** ▪ **Hazardous Waste Generation** ▪ **Hazardous Materials Release Response and Inventory** ▪ **California Accidental Release (CalARP)** ▪ **Aboveground Storage Tank** ▪ **Uniform Fire Code Article 80 Section 103(b) & (c) 1991** ▪ **Underground Storage Tank** **www.cchealth.org/groups/hazmat/**	❑ **See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials " in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ J. **Vehicle and Equipment Cleaning**	❑ **Show on drawings as appropriate:** **(1) Commercial/industrial facilities having vehicle/equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses.** **(2) Multi-dwelling complexes shall have a paved, bermed, and covered car wash area (unless car washing is prohibited on-site and hoses are provided with an automatic shut-off to discourage such use).** **(3) Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer.** **(4) Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.**	❑ **If a car wash area is not provided, describe any measures taken to discourage on-site car washing and explain how these will be enforced.**	**Describe operational measures to implement the following (if applicable):** ❑ **Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system.** Refer to "Outdoor Cleaning Activities and Professional Mobile Service Providers" for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/ ❑**Car dealerships and similar may rinse cars with water only.**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ K. **Vehicle/Equipment Repair and Maintenance**	❑ **Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater.** ❑ **Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas.** ❑ **Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.**	❑ **State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area.** ❑ **State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.** ❑ **State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.**	**In the Stormwater Control Plan, note that all of the following restrictions apply to use the site:** ❑ **No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains.** ❑ **No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately.** ❑ **No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.** Refer to "Automotive Maintenance & Car Care Best Management Practices for Auto Body Shops, Auto Repair Shops, Car Dealerships, Gas Stations and Fleet Service Operations". Brochure can be found at http://rcflood.org/stormwater/ Refer to Outdoor Cleaning Activities and Professional Mobile Service Providers for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ L. **Fuel Dispensing Areas**	❑ **Fueling areas[6] shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable.** ❑ **Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area[1].] The canopy [or cover] shall not drain onto the fueling area.**		❑ **The property owner shall dry sweep the fueling area routinely.** ❑ **See the Fact Sheet SD-30 , "Fueling Areas" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

[6] **The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ M. **Loading Docks**	❑ **Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas shall be drained to the sanitary sewer, or diverted and collected for ultimate discharge to the sanitary sewer.** ❑ **Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation.** ❑ **Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.**		❑ **Move loaded and unloaded items indoors as soon as possible.** ❑ **See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ N. **Fire Sprinkler Test Water**		❑ **Provide a means to drain fire sprinkler test water to the sanitary sewer.**	❑ **See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**
O. **Miscellaneous Drain or Wash Water or Other Sources** ❑ **Boiler drain lines** ❑ **Condensate drain lines** ❑ **Rooftop equipment** ❑ **Drainage sumps** ❑ **Roofing, gutters, and trim.** ❑ **Other sources**		❑ **Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system.** ❑ **Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system.** ❑ **Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment.** ❑ **Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water.** ❑ **Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.** **Include controls for other sources as specified by local reviewer.**	

STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☑ P. **Plazas, sidewalks, and parking lots.**			☑ **Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.**

Appendix 9: O&M

Operation and Maintenance Plan and Documentation of Finance, Maintenance and Recording Mechanisms

This Operations and Maintenance Plan (OMP) describes the designated responsible party for implementation of this plan and the project's Water Quality Management Plan (WQMP), including: operation and maintenance of all the structural Best Management Practices (BMPs), conducting training and educational programs, detailed inspection and maintenance requirements for all BMPs, manufacturer's maintenance requirements, permits, and any other necessary activities.

1. Project Information:
   APN: 144-120-002, -003, -004
   Address: 14555 Chandler Street
   Site Size: 4.13 acres

2. The Responsible Party for implementation of this OMP and the WQMP is:
   Name: Gossett Development
   Contact Person: Garrett Gossett
   Address: 207 Monarch Bay, Dana Point, CA, 92629
   Phone: (949) 735-6041
   24-Hour Emergency Number: (949) 735-6041
   Email: garrettgossett@gmail.com

3. Record Keeping:

   The Responsible Party shall retain OMP records for at least 5 years.

   All training and educational activities, and BMP operation and maintenance shall be documented to verify compliance with this OMP Plan. A sample Training Log, and Inspection and Maintenance Log, are included in Appendix D of the WQMP document.

   The WQMP Verification Form (Appendix D) shall be completed accurately and retained as part of this document.

4. Vector Control

   Standing water, which exists for longer than 72 hours may contribute to mosquito breeding areas. BMPs shall be inspected for standing water on a regular basis. Standing water may indicate that the BMPs are not functioning properly and proper action to remedy the situation shall be taken in a timely manner. Elimination of standing water and managing garbage, lawn clippings, and pet droppings, can help decrease the presence of mosquitoes and flies in the area. The County Vector Control District may be contacted for more information and support.

5. Inspections

   The local jurisdiction may conduct a site inspection to evaluate compliance with the project specific WQMP. This document, including the appendix logs and the applicable WQMP should be shown to the inspector, as proof of maintenance.

BMP	Inspection/Maintenance Required	BMP Start Date	Minimum Frequency of Activities	Responsible Party
Education for Property Owners, Tenants and Occupants	Educational materials are provided in Appendix 10 of the WQMP. Provide literature and instructions pertaining to environmental awareness to all employees, tenants and occupants. Keep log of persons receiving educational materials.	Building occupancy and move-in of new tenants	Once yearly and for new employees, tenants and occupants	Owner
Employee Training	Educate all employees on environmental awareness. Instruct on proper use of chemicals and clean-up procedures. Keep logs of employees and training dates.	At permit issuance	Once yearly prior to storm season	Owner
Activity Restrictions	Any activity that may affect surrounding areas or downstream receiving waters such as car washing or leaving trash bin lids open is prohibited. Keep areas free of debris.	Upon Project Completion	Trash areas shall be checked before and after a storm event	Owner
Irrigation	Inspect for siltation or debris washing out of planters. Sweep silt to planters and check amount of irrigation used and for properly functioning irrigation. Check irrigation system for leaks and over spray, provide maintenance as required.	After installation	Monthly	Owner
Landscape	Check for landscape to be in healthy condition. Replace dead or barren areas with plants consistent with the approved landscape plans.	After installation	Monthly	Owner
Common Area Landscape Management	Hire contractor familiar with Riverside County guidelines for use of fertilizers and pesticides. Maintain all landscape equipment in proper working order.	Building occupancy	Monthly	Owner
Common Area Litter Control	Inspect trash enclosure area and bins for spill contamination and debris. Inspect site for debris. Keep areas free of debris.	At permit issuance	Monthly	Owner
Parking Lot Sweeping	Sweep by hand or machine sweeper, parking and drive areas. No hosing down of area with water is allowed. Properly dispose of debris offsite. Keep a log of sweeping activities.	Upon project completion	Bi-monthly from October 15th thru April 15th and before a strom event	Owner

BMP	Inspection/Maintenance Required	BMP Start Date	Minimum Frequency of Activities	Responsible Party
Storm Drain System and Drain Inlets	Inspect drain inlets and clean out debris and obstructions from inside inlet. Ensure inlet grate is properly installed. Inspect outlet at infiltration basin and remove debris and obstructions. Keep a log of inspection activities.	After installation	Bi-monthly from October 15th thru April 15th and before a strom event	Owner
Bio-Retention Trench Inspection	Maintain adjacent landcape and remove landscape debris from the infiltration trench area. Remove trash and debris from infiltration trench area.	After installation	Monthly and before a storm event	Owner
Bio-Retention Trench Maintenance	Check for surface water ponding and inspect observation well for ponding. If trench becomes clogged remove gravel, overflow piping, rock, and filter fabric materials, excavate an additional 2-4 inches of soil and replace filter fabric, rock, overflow piping and gravel. May be required every 5 to 10 years.	After installation	3 days after storm event	Owner
Bio-Retention Basin Inspection	Maintain adjacent landcape and remove landscape debris from the infiltration basin area. Remove trash and debris from infiltration basin area.	After installation	Monthly and before a storm event	Owner
Bio-Retention Basin Maintenance	Check for water ponding. If basin does not drain, excavate an additional 2-4 inches of soil. May be required every 5 to 10 years.	After installation	3 days after storm event	Owner

Appendix 10: Educational Materials

BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information

Landscaping and garden maintenance activities can be major contributors to water pollution. Soils, yard wastes, over-watering and garden chemicals become part of the urban runoff mix that winds its way through streets, gutters and storm drains before entering lakes, rivers, streams, etc. Urban runoff pollution contaminates water and harms aquatic life!

In Riverside County, report illegal discharges into the storm drain, call
1-800-506-2555
"Only Rain Down the Storm Drain"

Important Links:

Riverside County Household Hazardous Waste Collection Information
1-800-304-2226 or www.rivcowm.org

Riverside County Backyard Composting Program
1-800-366-SAVE

Integrated Pest Management (IPM) Solutions
www.ipm.ucdavis.edu

California Master Gardener Programs
www.mastergardeners.org
www.camastergardeners.ucdavis.edu

California Native Plant Society
www.cnps.org

The Riverside County "Only Rain Down the Storm Drain" Pollution Prevention Program gratefully acknowledges Orange County's Storm Water Program for their contribution to this brochure.

...Only Rain Down ...the Storm Drain

What you should know for... Landscape and Gardening

Best Management tips for:

- Professionals
- Novices
- Landscapers
- Gardeners
- Cultivators

Tips for Landscape & Gardening

This brochure will help you to get the most of your lawn and gardening efforts and keep our waterways clean. Clean waterways provide recreation, establish thriving fish habitats, secure safe sanctuaries for wildlife, and add beauty to our communities. NEVER allow gardening products or waste water to enter the street, gutter or storm drain.

General Landscaping Tips

- Protect stockpiles and materials from wind and rain by storing them under tarps or secured plastic sheeting.
- Prevent erosion of slopes by planting fast-growing, dense ground covering plants. These will shield and bind the soil.

- Plant native vegetation to reduce the amount of water, fertilizers and pesticides applied to the landscape.
- Never apply pesticides or fertilizers when rain is predicted within the next 48 hours.

Garden & Lawn Maintenance

- Do not overwater. Use irrigation practices such as drip irrigation, soaker hoses or micro-spray systems. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead, dispose of green waste by composting, hauling it to a permitted landfill, or recycling it through your city's program.

- Consider recycling your green waste and adding "nature's own fertilizer" to your lawn or garden.
- Read labels and use only as directed. Do not over-apply pesticides or fertilizers. Apply to spots as needed, rather than blanketing an entire area.
- Store pesticides, fertilizers and other chemicals in a dry covered area to prevent exposure that may result in the deterioration of containers and packaging.
- Rinse empty pesticide containers and re-use rinse water as you would use the product. Do not dump rinse water down storm drains or sewers. Dispose of empty containers in the trash.
- When available, use non-toxic alternatives to traditional pesticides, and use pesticides specifically designed to control the pest you are targeting.
- Try natural long-term common sense solutions first. Integrated Pest Management (IPM) can provide landscaping guidance and solutions, such as:
  - **Physical Controls** - Try hand picking, barriers, traps or caulking holes to control weeds and pests.
  - **Biological Controls** - Use predatory insects to control harmful pests.
  - **Chemical Controls** - Check out www.ipm.ucdavis.edu before using chemicals. Remember, all chemicals should be used cautiously and in moderation.
- If fertilizer is spilled, sweep up the spill before irrigating. If the spill is liquid, apply an absorbent material such as cat litter, and then sweep it up and dispose of it in the trash.
- Take unwanted pesticides to a Household Waste Collection Center to be recycled.
- *Dumping toxics into the street, gutter or storm drain is illegal!*

www.bewaterwise.com Great water conservation tips and drought tolerant garden designs.

www.ourwaterourworld.com Learn how to safely manage home and garden pests.

Additional information can also be found on the back of this brochure.

Stormwater Pollution

What you should know for...

Industrial & Commercial Facilities

Best Management Practices (BMPS) for:

- Industrial Facilities
- Commercial Facilities

Riverside County Stormwater Program Members

City of Banning
(951) 922-3105

City of Beaumont
(951) 769-8520

City of Calimesa
(909) 795-9801

City of Canyon Lake
(951) 244-2955

City of Cathedral City
(760) 770-0340

City of Coachella
(760) 398-3502

City of Corona
(951) 736-2447

City of Desert Hot Springs
(760) 329-6411

City of Eastvale
(951) 361-0900

City of Hemet
(951) 765-2300

City of Indian Wells
(760) 346-2489

City of Indio
(760) 391-4000

City of Jurupa Valley
(951) 332-6464

City of Lake Elsinore
(951) 674-3124

City of La Quinta
(760) 777-7000

City of Menifee
(951) 672-6777

City of Moreno Valley
(951) 413-3000

City of Murrieta
(951) 304-2489

City of Norco
(951) 270-5607

City of Palm Desert
(760) 346-0611

City of Palm Springs
(760) 323-8299

City of Perris
(951) 943-6100

City of Rancho Mirage
(760) 324-4511

City of Riverside
(951) 826-5311

City of San Jacinto
(951) 487-7330

City of Temecula
(951) 694-6444

City of Wildomar
(951) 677-7751

Coachella Valley Water District
(760) 398-2651

County of Riverside
(951) 955-1000

Riverside County Flood Control District
(951) 955-1200

YOU can prevent Stormwater Pollution following these practices...

Industrial and Commercial Facilities

The Riverside County Stormwater Program has identified a number of Best Management Practices (BMPs) for Industrial and Commercial Facilities. These BMPs control and reduce stormwater pollutants from reaching our storm drain system and ultimately our local water bodies. City and County ordinances require businesses to use these BMPs to protect our water quality. Local cities and the County are required to verify implementation of these BMPs by performing regular facility inspections.

Prohibited Discharges

Discontinue all non-stormwater discharges to the storm drain system. It is *prohibited* to discharge any chemicals, paints, debris, wastes or wastewater into the gutter, street or storm drain.

Outdoor Storage BMPs

- Install covers and secondary containment areas for all hazardous materials and wastes stored outdoors in accordance with County and/or City standards.
- Keep all temporary waste containers covered, at all times when not in use.
- Sweep outdoor areas instead of using a hose or pressure washer.
- Move all process operations including vehicle/equipment maintenance inside of the building or under a covered and contained area.
- Wash equipment and vehicles in a contained and covered wash bay which is closed-loop or connected to a clarifier sized to local standards and discharged to a sanitary sewer or take them to a commercial car wash.

Spills and Clean Up BMPs

- Keep the work site clean and orderly. Remove debris in a timely fashion. Sweep up the area.
- Clean up spills immediately when they occur, using dry clean up methods such as absorbent materials or sweep followed by proper disposal of materials.
- Always have a spill kit available near chemical loading dock doors and vehicle maintenance and fueling areas.
- Follow your Business Emergency Plan, as filed with the local Fire Department.
- Report all prohibited discharges and non-implementation of BMPs to your local Stormwater Coordinator as listed on the back of this pamphlet.
- Report hazardous materials spills to 951-358-5055 or call after hours to 951-782-2973 or, if an emergency, call the Fire Department's Haz Mat Team at 911.

Plastic Manufacturing Facilities BMPs

AB 258 requires plastic product manufacturers to use BMPs, such as safe storage and clean-up procedures to prevent plastic pellets (nurdles) from entering the waterway. The plastic pellets are released into the environment during transporting, packaging and processing and migrate to waterways through the storm drain system. AB 258 will help protect fish and wildlife from the hazards of plastic pollution.

Training BMPs

As prescribed by your City and County Stormwater Ordinance(s), train employees in spill procedures and prohibit non-stormwater discharges to the storm drain system. Applicable BMP examples can be found at www.cabmphandbooks.com.

Permitting

Stormwater discharges associated with specific categories for industrial facilities are regulated by the State Water Resources Control Board through an Industrial Stormwater General Permit. A copy of this General Permit and application forms are available at: www.waterboards.ca.gov, select stormwater then the industrial quick link.

To report illegal dumping or for more information on stormwater pollution prevention call: 1-800-506-2555 or e-mail us at: fcnpdes@rcflood.org.

Why is stormwater runoff a problem?

Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

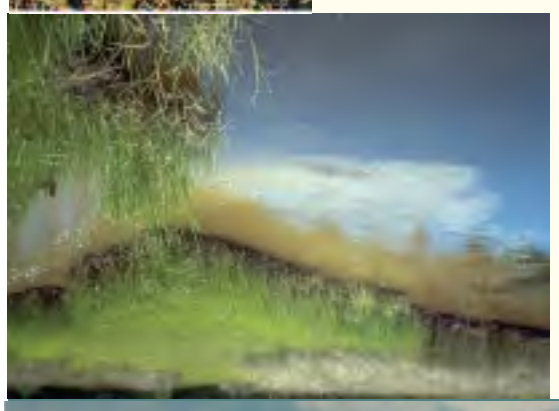
What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

The effects of pollution

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

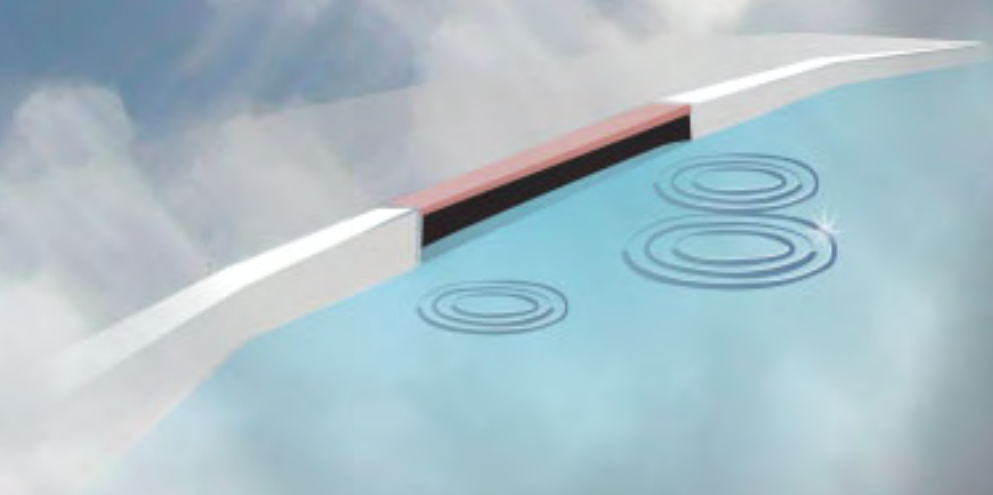
- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.



- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.

- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.
- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.

After the Storm



For more information contact:

or visit
www.epa.gov/npdes/stormwater
www.epa.gov/nps

EPA 833-B-03-002

January 2003

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A Citizen's Guide to Understanding Stormwater

Stormwater Pollution Solutions

Residential

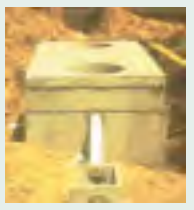
Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

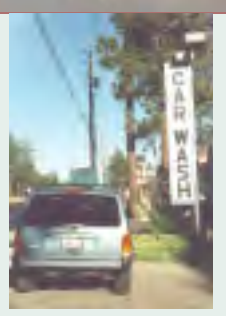
Septic systems



Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

Auto care



Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Pet waste

Pet waste can be a major source of bacteria and excess nutrients in local waters.

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.

Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.

Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

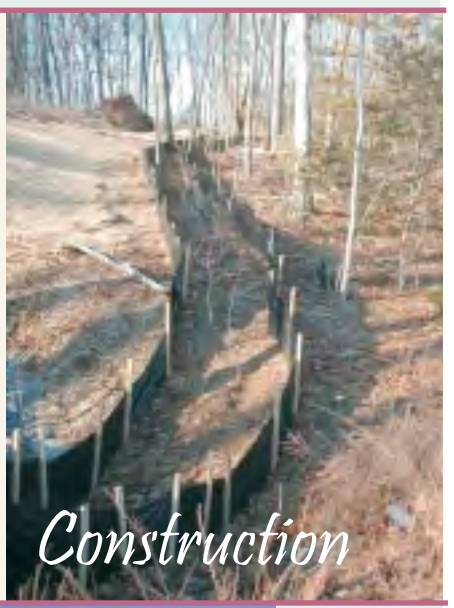
Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.

Commercial

Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

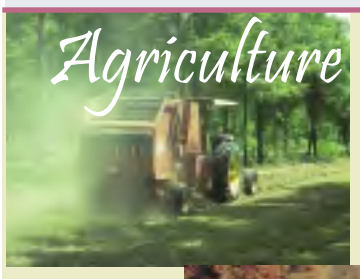
- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.



Construction

Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

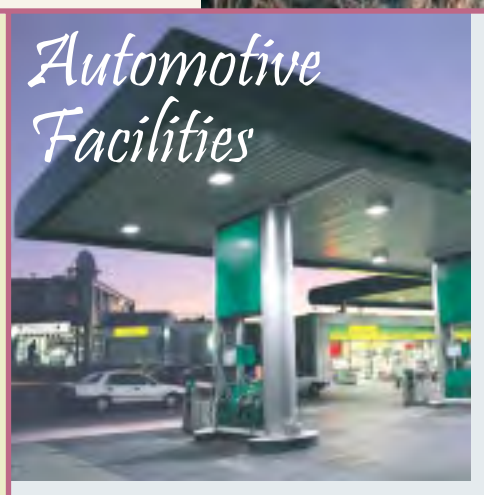
- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.



Agriculture

Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.

- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.



Automotive Facilities

Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.

Forestry

Improperly managed logging operations can result in erosion and sedimentation.

- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of cleared areas.

3.5 Bioretention Facility

Type of BMP	LID – Bioretention
Treatment Mechanisms	Infiltration, Evapotranspiration, Evaporation, Biofiltration
Maximum Drainage Area	This BMP is intended to be integrated into a project's landscaped area in a distributed manner. Typically, contributing drainage areas to Bioretention Facilities range from less than 1 acre to a maximum of around 10 acres.
Other Names	Rain Garden, Bioretention Cell, Bioretention Basin, Biofiltration Basin, Landscaped Filter Basin, Porous Landscape Detention

Description

Bioretention Facilities are shallow, vegetated basins underlain by an engineered soil media. Healthy plant and biological activity in the root zone maintain and renew the macro-pore space in the soil and maximize plant uptake of pollutants and runoff. This keeps the Best Management Practice (BMP) from becoming clogged and allows more of the soil column to function as both a sponge (retaining water) and a highly effective and self-maintaining biofilter. In most cases, the bottom of a Bioretention Facility is unlined, which also provides an opportunity for infiltration to the extent the underlying onsite soil can accommodate. When the infiltration rate of the underlying soil is exceeded, fully biotreated flows are discharged via underdrains. Bioretention Facilities therefore will inherently achieve the maximum feasible level of infiltration and evapotranspiration and achieve the minimum feasible (but highly biotreated) discharge to the storm drain system.

Siting Considerations

These facilities work best when they are designed in a relatively level area. Unlike other BMPs, Bioretention Facilities can be used in smaller landscaped spaces on the site, such as:

- ✓ Parking islands
- ✓ Medians
- ✓ Site entrances

Landscaped areas on the site (such as may otherwise be required through minimum landscaping ordinances), can often be designed as Bioretention Facilities. This can be accomplished by:

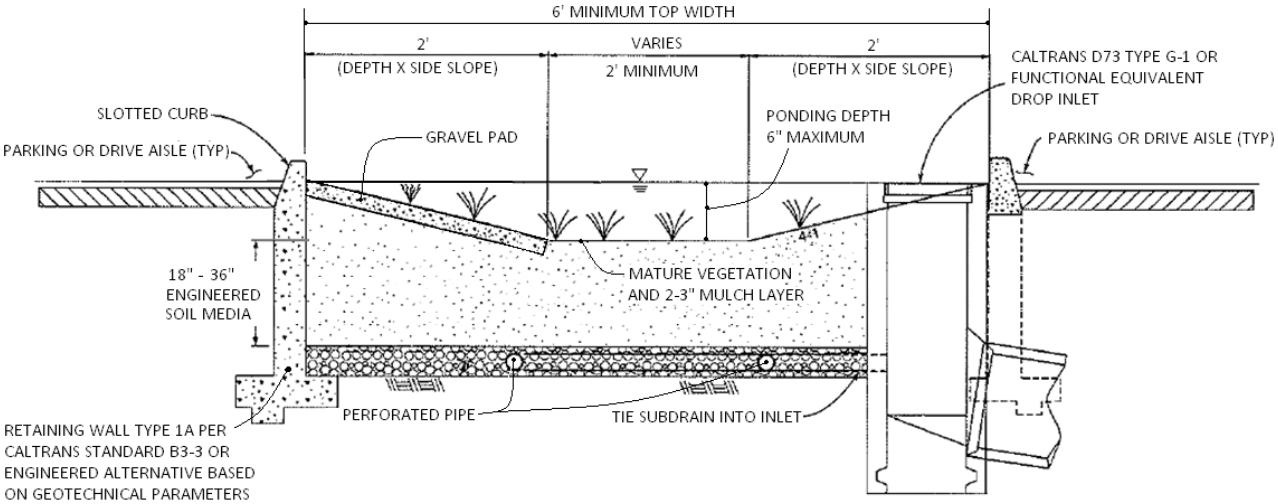
- *Depressing* landscaped areas below adjacent impervious surfaces, rather than elevating those areas
- Grading the site to direct runoff from those impervious surfaces *into* the Bioretention Facility, rather than away from the landscaping
- Sizing and designing the depressed landscaped area as a Bioretention Facility as described in this Fact Sheet

Bioretention Facilities should however not be used downstream of areas where large amounts of sediment can clog the system. Placing a Bioretention Facility at the toe of a steep slope should also be avoided due to the potential for clogging the engineered soil media with erosion from the slope, as well as the potential for damaging the vegetation.

Design and Sizing Criteria

The recommended cross section necessary for a Bioretention Facility includes:

- Vegetated area
- 18' minimum depth of engineered soil media
- 12' minimum gravel layer depth with 6' perforated pipes (added flow control features such as orifice plates may be required to mitigate for HCOC conditions)



While the 18-inch minimum engineered soil media depth can be used in some cases, it is recommended to use 24 inches or a preferred 36 inches to provide an adequate root zone for the chosen plant palate. Such a design also provides for improved removal effectiveness for nutrients. The recommended ponding depth inside of a Bioretention Facility is 6 inches; measured from the flat bottom surface to the top of the water surface as shown in Figure 1.

Because this BMP is filled with an engineered soil media, pore space in the soil and gravel layer is assumed to provide storage volume. However, several considerations must be noted:

- Surcharge storage above the soil surface (6 inches) is important to assure that design flows do not bypass the BMP when runoff exceeds the soil's absorption rate.
- In cases where the Bioretention Facility contains engineered soil media deeper than 36 inches, the pore space within the engineered soil media can only be counted to the 36-inch depth.
- A maximum of 30 percent pore space can be used for the soil media whereas a maximum of 40 percent pore space can be use for the gravel layer.

Figure 1: Standard Layout for a Bioretention Facility

Engineered Soil Media Requirements

The engineered soil media shall be comprised of 85 percent mineral component and 15 percent organic component, by volume, drum mixed prior to placement. The mineral component shall be a Class A sandy loam topsoil that meets the range specified in Table 1 below. The organic component shall be nitrogen stabilized compost[1], such that nitrogen does not leach from the media.

Table 1: Mineral Component Range Requirements

Percent Range	Component
70-80	Sand
15-20	Silt
5-10	Clay

The trip ticket, or certificate of compliance, shall be made available to the inspector to prove the engineered mix meets this specification.

Vegetation Requirements

Vegetative cover is important to minimize erosion and ensure that treatment occurs in the Bioretention Facility. The area should be designed for at least 70 percent mature coverage throughout the Bioretention Facility. To prevent the BMP from being used as walkways, Bioretention Facilities shall be planted with a combination of small trees, densely planted shrubs, and natural grasses. Grasses shall be native or ornamental; preferably ones that do not need to be mowed. The application of fertilizers and pesticides should be minimal. To maintain oxygen levels for the vegetation and promote biodegradation, it is important that vegetation not be completely submerged for any extended period of time. Therefore, a maximum of 6 inches of ponded water shall be used in the design to ensure that plants within the Bioretention Facility remain healthy.

A 2 to 3-inch layer of standard shredded aged hardwood mulch shall be placed as the top layer inside the Bioretention Facility. The 6-inch ponding depth shown in Figure 1 above shall be measured from the top surface of the 2 to 3-inch mulch layer.

Curb Cuts

To allow water to flow into the Bioretention Facility, 1-foot-wide (minimum) curb cuts should be placed approximately every 10 feet around the perimeter of the Bioretention Facility. Figure 2 shows a curb cut in a Bioretention Facility. Curb cut flow lines must be at or above the V_{BMP} water surface level.

[1] For more information on compost, visit the US Composting Council website at: http://compostingcouncil.org/

Figure 2: Curb Cut located in a Bioretention Facility

To reduce erosion, a gravel pad shall be placed at each inlet point to the Bioretention Facility. The gravel should be 1- to 1.5-inch diameter in size. The gravel should overlap the curb cut opening a minimum of 6 inches. The gravel pad inside the Bioretention Facility should be flush with the finished surface at the curb cut and extend to the bottom of the slope.

In addition, place an apron of stone or concrete, a foot square or larger, inside each inlet to prevent vegetation from growing up and blocking the inlet. See Figure 3.

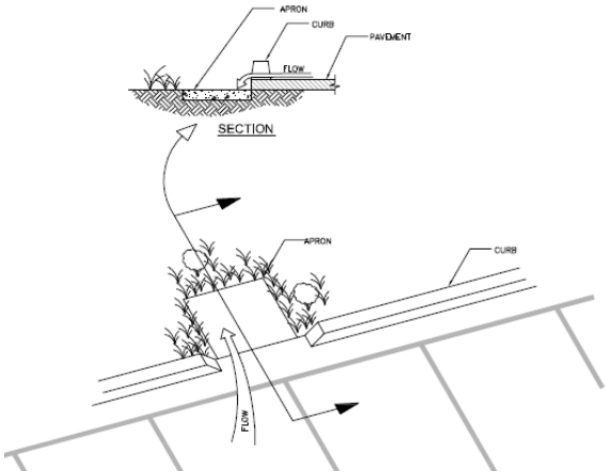


Figure 3: Apron located in a Bioretention Facility

Terracing the Landscaped Filter Basin

It is recommended that Bioretention Facilities be level. In the event the facility site slopes and lacks proper design, water would fill the lowest point of the BMP and then discharge from the basin without being treated. To ensure that the water will be held within the Bioretention Facility on sloped sites, the BMP must be terraced with nonporous check dams to provide the required storage and treatment capacity.

The terraced version of this BMP shall be used on non-flat sites with no more than a 3 percent slope. The surcharge depth cannot exceed 0.5 feet, and side slopes shall not exceed 4:1. Table 2 below shows the spacing of the check dams, and slopes shall be rounded up (i.e., 2.5 percent slope shall use 10' spacing for check dams).

Table 2: Check Dam Spacing

6" Check Dam Spacing	
Slope	**Spacing**
1%	*25'*
2%	*15'*
3%	*10'*

Roof Runoff

Roof downspouts may be directed towards Bioretention Facilities. However, the downspouts must discharge onto a concrete splash block to protect the Bioretention Facility from erosion.

Retaining Walls

It is recommended that Retaining Wall Type 1A, per Caltrans Standard B3-3 or equivalent, be constructed around the entire perimeter of the Bioretention Facility. This practice will protect the sides of the Bioretention Facility from collapsing during construction and maintenance or from high service loads adjacent to the BMP. Where such service loads would not exist adjacent to the BMP, an engineered alternative may be used if signed by a licensed civil engineer.

Side Slope Requirements

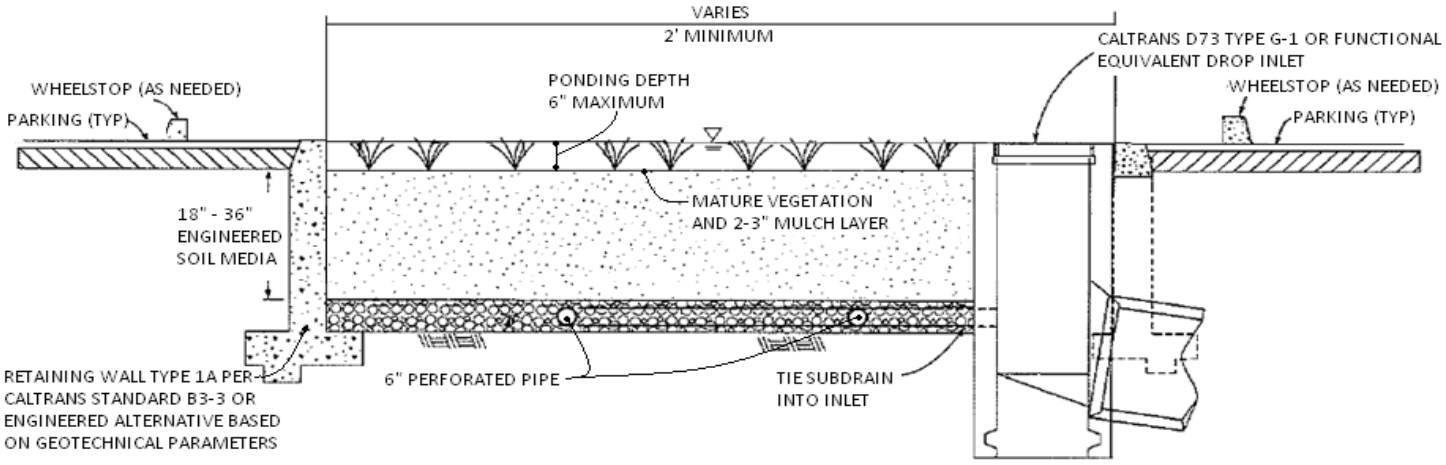
Bioretention Facilities Requiring Side Slopes

The design should assure that the Bioretention Facility does not present a tripping hazard. Bioretention Facilities proposed near pedestrian areas, such as areas parallel to parking spaces or along a walkway, must have a gentle slope to the bottom of the facility. Side slopes inside of a Bioretention Facility shall be 4:1. A typical cross section for the Bioretention Facility is shown in Figure 1.

Bioretention Facilities Not Requiring Side Slopes

Where cars park perpendicular to the Bioretention Facility, side slopes are not required. A 6-inch maximum drop may be used, and the Bioretention Facility must be planted with trees and shrubs to prevent pedestrian access. In this case, a curb is not placed around the Bioretention Facility,

but wheel stops shall be used to prevent vehicles from entering the Bioretention Facility, as shown in Figure 4.



Planter Boxes

Bioretention Facilities can also be placed above ground as planter boxes. Planter boxes must have a minimum width of 2 feet, a maximum surcharge depth of 6 inches, and no side slopes are necessary. Planter boxes must be constructed so as to ensure that the top surface of the engineered soil media will remain level. This option may be constructed of concrete, brick, stone or other stable materials that will not warp or bend. Chemically treated wood or galvanized steel, which has the ability to contaminate stormwater, should not be used. Planter boxes must be lined with an impermeable liner on all sides, including the bottom. Due to the impermeable liner, the inside bottom of the planter box shall be designed and constructed with a cross fall, directing treated flows within the subdrain layer toward the point where subdrain exits the planter box, and subdrains shall be oriented with drain holes oriented down. These provisions will help avoid excessive stagnant water within the gravel underdrain layer. Similar to the in-ground Bioretention Facility versions, this BMP benefits from healthy plants and biological activity in the root zone. Planter boxes should be planted with appropriately selected vegetation.

Figure 5: Planter Box
Source: LA Team Effort

Overflow

An overflow route is needed in the Bioretention Facility design to bypass stored runoff from storm events larger than V_{BMP} or in the event of facility or subdrain clogging. Overflow systems must connect to an acceptable discharge point, such as a downstream conveyance system as shown in Figure 1 and Figure 4. The inlet to the overflow structure shall be elevated inside the Bioretention Facility to be flush with the ponding surface for the design capture volume (V_{BMP}) as shown in Figure 4. This will allow the design capture volume to be fully treated by the Bioretention Facility, and for larger events to safely be conveyed to downstream systems. The overflow inlet shall **not** be located in the entrance of a Bioretention Facility, as shown in Figure 6.

Underdrain Gravel and Pipes

An underdrain gravel layer and pipes shall be provided in accordance with Appendix B – Underdrains.

Figure 6: Incorrect Placement of an Overflow Inlet.

Inspection and Maintenance Schedule

The Bioretention Facility area shall be inspected for erosion, dead vegetation, soggy soils, or standing water. The use of fertilizers and pesticides on the plants inside the Bioretention Facility should be minimized.

Schedule	Activity
Ongoing	• Keep adjacent landscape areas maintained. Remove clippings from landscape maintenance activities. • Remove trash and debris • Replace damaged grass and/or plants • Replace surface mulch layer as needed to maintain a 2-3 inch soil cover.
After storm events	• Inspect areas for ponding
Annually	• Inspect/clean inlets and outlets

Bioretention Facility Design Procedure

1) Enter the area tributary, A_T, to the Bioretention Facility.

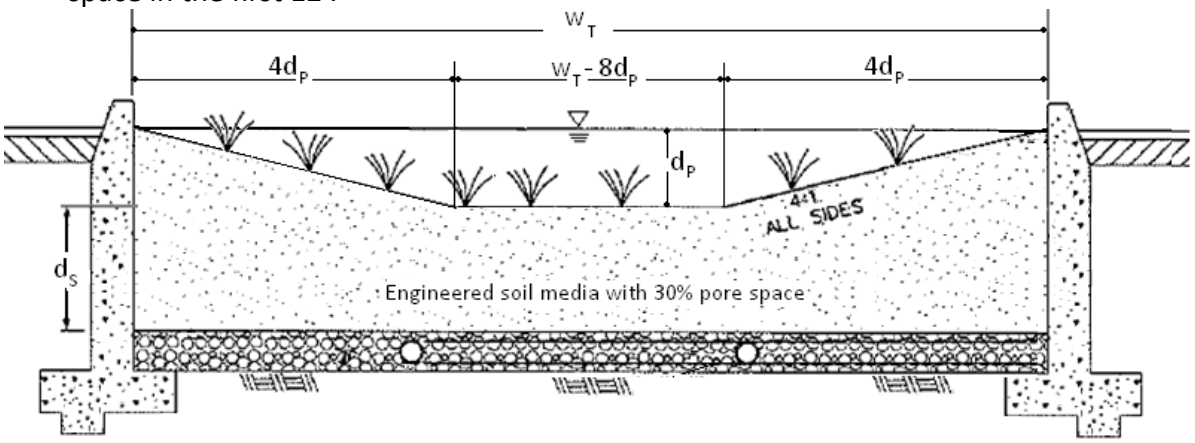
2) Enter the Design Volume, $V_{BMP,}$ determined from Section 2.1 of this Handbook.

3) Select the type of design used. There are two types of Bioretention Facility designs: the standard design used for most project sites that include side slopes, and the modified design used when the BMP is located perpendicular to the parking spaces or with planter boxes that do not use side slopes.

4) Enter the depth of the engineered soil media, d_S. The minimum depth for the engineered soil media can be 18' in limited cases, but it is recommended to use 24' or a preferred 36' to provide an adequate root zone for the chosen plant palette. Engineered soil media deeper than 36' will only get credit for the pore space in the first 36'.

5) Enter the top width of the Bioretention Facility.

6) Calculate the total effective depth, d_E, within the Bioretention Facility. The maximum allowable pore space of the soil media is 30% while the maximum allowable pore space for the gravel layer is 40%. Gravel layer deeper than 12' will only get credit for the pore space in the first 12'.



a. For the design with side slopes the following equation shall be used to determine the total effective depth. Where, d_P is the depth of ponding within the basin.

$$d_E(\text{ft}) = \frac{0.3 \times \left[\left(w_T(\text{ft}) \times d_S(\text{ft})\right) + 4\left(d_P(\text{ft})\right)^2\right] + 0.4 \times 1(\text{ft}) + d_P(\text{ft})\left[4d_P(\text{ft}) + \left(w_T(\text{ft}) - 8d_P(\text{ft})\right)\right]}{w_T(\text{ft})}$$

This above equation can be simplified if the maximum ponding depth of 0.5' is used. The equation below is used on the worksheet to find the minimum area required for the Bioretention Facility:

$$d_E(\text{ft}) = (0.3 \times d_S(\text{ft}) + 0.4 \text{ x } 1(\text{ft})) - \left(\frac{0.7\ (\text{ft}^2)}{w_T(\text{ft})}\right) + 0.5(\text{ft})$$

b. For the design without side slopes the following equation shall be used to determine the total effective depth:

$$d_E(\text{ft}) = d_P(\text{ft}) + [(0.3) \times d_S(\text{ft}) + (0.4) \times 1(\text{ft})]$$

The equation below, using the maximum ponding depth of 0.5', is used on the worksheet to find the minimum area required for the Bioretention Facility:

$$d_E(\text{ft}) = 0.5\ (\text{ft}) + [(0.3) \times d_S(\text{ft}) + (0.4) \times 1(\text{ft})]$$

7) Calculate the minimum surface area, A_M, required for the Bioretention Facility. This does not include the curb surrounding the Bioretention Facility or side slopes.

$$A_M(\text{ft}^2) = \frac{V_{BMP}(\text{ft}^3)}{d_E\ (\text{ft})}$$

8) Enter the proposed surface area. This area shall not be less than the minimum required surface area.

9) Verify that side slopes are no steeper than 4:1 in the standard design, and are not required in the modified design.

10) Provide the diameter, minimum 6 inches, of the perforated underdrain used in the Bioretention Facility. See Appendix B for specific information regarding perforated pipes.

11) Provide the slope of the site around the Bioretention Facility, if used. The maximum slope is 3 percent for a standard design.

12) Provide the check dam spacing, if the site around the Bioretention Facility is sloped.

13) Describe the vegetation used within the Bioretention Facility.

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Building & Grounds Maintenance SC-41

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

Sediment	✓
Nutrients	✓
Trash	✓
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓
Oxygen Demanding	✓

Description

Stormwater runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers and pesticides, suspended solids, heavy metals, and abnormal pH. Utilizing the following protocols will prevent or reduce the discharge of pollutants to stormwater from building and grounds maintenance activities by washing and cleaning up with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater collection system.

Approach

Pollution Prevention

- Switch to non-toxic chemicals for maintenance when possible.
- Choose cleaning agents that can be recycled.
- Encourage proper lawn management and landscaping, including use of native vegetation.
- Encourage use of Integrated Pest Management techniques for pest control.
- Encourage proper onsite recycling of yard trimmings.
- Recycle residual paints, solvents, lumber, and other material as much as possible.

CASQA
California Stormwater Quality Association

Suggested Protocols

Pressure Washing of Buildings, Rooftops, and Other Large Objects

- In situations where soaps or detergents are used and the surrounding area is paved, pressure washers must use a waste water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.
- If soaps or detergents are not used, and the surrounding area is paved, wash water runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in he catch basin to trap the particles in wash water runoff.
- If you are pressure washing on a grassed area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement. Ensure that this practice does not kill grass.

Landscaping Activities

- Do not apply any chemicals (insecticide, herbicide, or fertilizer) directly to surface waters, unless the application is approved and permitted by the state.
- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage, or by composting. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures on exposed soils.
- Check irrigation schedules so pesticides will not be washed away and to minimize non-stormwater discharge.

Building Repair, Remodeling, and Construction

- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Clean paint brushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.

- Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and solids must be collected and disposed of before removing the containment device(s) at the end of the work day.
- If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. In which case you should direct the water through hay bales and filter fabric or use other sediment filters or traps.
- Store toxic material under cover with secondary containment during precipitation events and when not in use. A cover would include tarps or other temporary cover material.

Mowing, Trimming, and Planting

- Dispose of leaves, sticks, or other collected vegetation as garbage, by composting or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures when soils are exposed.
- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Consider an alternative approach when bailing out muddy water; do not put it in the storm drain, pour over landscaped areas.
- Use hand or mechanical weeding where practical.

Fertilizer and Pesticide Management

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- Follow manufacturers' recommendations and label directions. Pesticides must never be applied if precipitation is occuring or predicted. Do not apply insecticides within 100 feet of surface waters such as lakes, ponds, wetlands, and streams.
- Use less toxic pesticides that will do the job, whenever possible. Avoid use of copper-based pesticides if possible.
- Do not use pesticides if rain is expected.
- Do not mix or prepare pesticides for application near storm drains.
- Use the minimum amount needed for the job.
- Calibrate fertilizer distributors to avoid excessive application.
- Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.

- Apply pesticides only when wind speeds are low.
- Work fertilizers into the soil rather than dumping or broadcasting them onto the surface.
- Irrigate slowly to prevent runoff and then only as much as is needed.
- Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Dispose of empty pesticide containers according to the instructions on the container label.
- Use up the pesticides. Rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.

Inspection

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.

Training

- Educate and train employees on use of pesticides and in pesticide application techniques to prevent pollution.
- Train employees and contractors in proper techniques for spill containment and cleanup.
- Be sure the frequency of training takes into account the complexity of the operations and the nature of the staff.

Spill Response and Prevention

- Refer to SC-11, Spill Prevention, Control & Cleanup
- Keep your Spill Prevention Control and countermeasure (SPCC) plan up-to-date, and implement accordingly.
- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Other Considerations

- Alternative pest/weed controls may not be available, suitable, or effective in many cases.

Requirements

Costs

- Overall costs should be low in comparison to other BMPs.

Maintenance

- Sweep paved areas regularly to collect loose particles, and wipe up spills with rags and other absorbent material immediately, do not hose down the area to a storm drain.

Supplemental Information

Further Detail of the BMP

Fire Sprinkler Line Flushing

Building fire sprinkler line flushing may be a source of non-stormwater runoff pollution. The water entering the system is usually potable water though in some areas it may be non-potable reclaimed wastewater. There are subsequent factors that may drastically reduce the quality of the water in such systems. Black iron pipe is usually used since it is cheaper than potable piping but it is subject to rusting and results in lower quality water. Initially the black iron pipe has an oil coating to protect it from rusting between manufacture and installation; this will contaminate the water from the first flush but not from subsequent flushes. Nitrates, poly-phosphates and other corrosion inhibitors, as well as fire suppressants and antifreeze may be added to the sprinkler water system. Water generally remains in the sprinkler system a long time, typically a year, between flushes and may accumulate iron, manganese, lead, copper, nickel and zinc. The water generally becomes anoxic and contains living and dead bacteria and breakdown products from chlorination. This may result in a significant BOD problem and the water often smells. Consequently dispose fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to storm drain or infiltration due to potential high levels of pollutants in fire sprinkler line water.

References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

King County - ftp://dnr.metrokc.gov/wlr/dss/spcm/Chapter%203.PDF

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http://www.ocwatersheds.com/StormWater/swp_introduction.asp

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San Diego Stormwater Co-permittees Jurisdictional Urban Runoff Management Program (URMP) -
http://www.projectcleanwater.org/pdf/Model%20Program%20Municipal%20Facilities.pdf

Parking/Storage Area Maintenance SC-43

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

Sediment	✓
Nutrients	✓
Trash	✓
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓
Oxygen Demanding	✓

Description

Parking lots and storage areas can contribute a number of substances, such as trash, suspended solids, hydrocarbons, oil and grease, and heavy metals that can enter receiving waters through stormwater runoff or non-stormwater discharges. The following protocols are intended to prevent or reduce the discharge of pollutants from parking/storage areas and include using good housekeeping practices, following appropriate cleaning BMPs, and training employees.

Approach

Pollution Prevention

- Encourage alternative designs and maintenance strategies for impervious parking lots. (See New Development and Redevelopment BMP Handbook).
- Keep accurate maintenance logs to evaluate BMP implementation.

Suggested Protocols

General

- Keep the parking and storage areas clean and orderly. Remove debris in a timely fashion.
- Allow sheet runoff to flow into biofilters (vegetated strip and swale) and/or infiltration devices.
- Utilize sand filters or oleophilic collectors for oily waste in low concentrations.

CASQA California Stormwater Quality Association

- Arrange rooftop drains to prevent drainage directly onto paved surfaces.
- Design lot to include semi-permeable hardscape.

Controlling Litter

- Post "No Littering" signs and enforce anti-litter laws.
- Provide an adequate number of litter receptacles.
- Clean out and cover litter receptacles frequently to prevent spillage.
- Provide trash receptacles in parking lots to discourage litter.
- Routinely sweep, shovel and dispose of litter in the trash.

Surface cleaning

- Use dry cleaning methods (e.g. sweeping or vacuuming) to prevent the discharge of pollutants into the stormwater conveyance system.
- Establish frequency of public parking lot sweeping based on usage and field observations of waste accumulation.
- Sweep all parking lots at least once before the onset of the wet season.
- If water is used follow the procedures below:
  - Block the storm drain or contain runoff.
  - Wash water should be collected and pumped to the sanitary sewer or discharged to a pervious surface, do not allow wash water to enter storm drains.
  - Dispose of parking lot sweeping debris and dirt at a landfill.
- When cleaning heavy oily deposits:
  - Use absorbent materials on oily spots prior to sweeping or washing.
  - Dispose of used absorbents appropriately.

Surface Repair

- Pre-heat, transfer or load hot bituminous material away from storm drain inlets.
- Apply concrete, asphalt, and seal coat during dry weather to prevent contamination form contacting stormwater runoff.
- Cover and seal nearby storm drain inlets (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc., where applicable. Leave covers in place until job is complete and until all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered manholes and drains for proper disposal.

- Use only as much water as necessary for dust control, to avoid runoff.
- Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.

Inspection

- Have designated personnel conduct inspections of the parking facilities and stormwater conveyance systems associated with them on a regular basis.
- Inspect cleaning equipment/sweepers for leaks on a regular basis.

Training

- Provide regular training to field employees and/or contractors regarding cleaning of paved areas and proper operation of equipment.
- Train employees and contractors in proper techniques for spill containment and cleanup.

Spill Response and Prevention

- Refer to SC-11, Spill Prevention, Control & Cleanup.
- Keep your Spill Prevention Control and countermeasure (SPCC) plan up-to-date, nad implement accordingly.
- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Other Considerations

- Limitations related to sweeping activities at large parking facilities may include high equipment costs, the need for sweeper operator training, and the inability of current sweeper technology to remove oil and grease.

Requirements

Costs

Cleaning/sweeping costs can be quite large, construction and maintenance of stormwater structural controls can be quite expensive as well.

Maintenance

- Sweep parking lot to minimize cleaning with water.
- Clean out oil/water/sand separators regularly, especially after heavy storms.
- Clean parking facilities on a regular basis to prevent accumulated wastes and pollutants from being discharged into conveyance systems during rainy conditions.

SC-43 Parking/Storage Area Maintenance

Supplemental Information

Further Detail of the BMP

Surface Repair

Apply concrete, asphalt, and seal coat during dry weather to prevent contamination form contacting stormwater runoff. Where applicable, cover and seal nearby storm drain inlets (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and until all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered manholes and drains for proper disposal. Use only as much water as necessary for dust control, to avoid runoff.

References and Resources

http://www.stormwatercenter.net/

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality control Board. July 1998 (Revised February 2002 by the California Coastal Commission).

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http://www.ocwatersheds.com/StormWater/swp_introduction.asp

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San Diego Stormwater Co-permittees Jurisdictional Urban Runoff Management Program (URMP)
http://www.projectcleanwater.org/pdf/Model%20Program%20Municipal%20Facilities.pdf

Plaza and Sidewalk Cleaning SC-71

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑
Oxygen Demanding	☑

Description

Pollutants on sidewalks and other pedestrian traffic areas and plazas are typically due to littering and vehicle use. This fact sheet describes good housekeeping practices that can be incorporated into the municipality's existing cleaning and maintenance program.

Approach

Pollution Prevention

- Use dry cleaning methods whenever practical for surface cleaning activities.
- Use the least toxic materials available (e.g. water based paints, gels or sprays for graffiti removal).

Suggested Protocols

Surface Cleaning

- Regularly broom (dry) sweep sidewalk, plaza and parking lot areas to minimize cleaning with water.
- Dry cleanup first (sweep, collect, and dispose of debris and trash) when cleaning sidewalks or plazas, then wash with or without soap.
- Block the storm drain or contain runoff when cleaning with water. Discharge wash water to landscaping or collect water and pump to a tank or discharge to sanitary sewer if allowed. (Permission may be required from local sanitation district.)

- Block the storm drain or contain runoff when washing parking areas, driveways or drive-throughs. Use absorbents to pick up oil; then dry sweep. Clean with or without soap. Collect water and pump to a tank or discharge to sanitary sewer if allowed. Street Repair and Maintenance.

Graffiti Removal

- Avoid graffiti abatement activities during rain events.
- Implement the procedures under Painting and Paint Removal in SC-70 Roads, Streets, and Highway Operation and Maintenance fact sheet when graffiti is removed by painting over.
- Direct runoff from sand blasting and high pressure washing (with no cleaning agents) into a dirt or landscaped area after treating with an appropriate filtering device.
- Plug nearby storm drain inlets and vacuum/pump wash water to the sanitary sewer if authorized to do so if a graffiti abatement method generates wash water containing a cleaning compound (such as high pressure washing with a cleaning compound). Ensure that a non-hazardous cleaning compound is used or dispose as hazardous waste, as appropriate.

Surface Removal and Repair

- Schedule surface removal activities for dry weather if possible.
- Avoid creating excess dust when breaking asphalt or concrete.
- Take measures to protect nearby storm drain inlets prior to breaking up asphalt or concrete (e.g. place hay bales or sand bags around inlets). Clean afterwards by sweeping up as much material as possible.
- Designate an area for clean up and proper disposal of excess materials.
- Remove and recycle as much of the broken pavement as possible to avoid contact with rainfall and stormwater runoff.
- When making saw cuts in pavement, use as little water as possible. Cover each storm drain inlet completely with filter fabric during the sawing operation and contain the slurry by placing straw bales, sandbags, or gravel dams around the inlets. After the liquid drains or evaporates, shovel or vacuum the slurry residue from the pavement or gutter and remove from site.
- Always dry sweep first to clean up tracked dirt. Use a street sweeper or vacuum truck. Do not dump vacuumed liquid in storm drains. Once dry sweeping is complete, the area may be hosed down if needed. Wash water should be directed to landscaping or collected and pumped to the sanitary sewer if allowed.

Concrete Installation and Repair

- Schedule asphalt and concrete activities for dry weather.

- Take measures to protect any nearby storm drain inlets and adjacent watercourses, prior to breaking up asphalt or concrete (e.g. place san bags around inlets or work areas).
- Limit the amount of fresh concrete or cement mortar mixed, mix only what is needed for the job.
- Store concrete materials under cover, away from drainage areas. Secure bags of cement after they are open. Be sure to keep wind-blown cement powder away from streets, gutters, storm drains, rainfall, and runoff.
- Return leftover materials to the transit mixer. Dispose of small amounts of hardened excess concrete, grout, and mortar in the trash.
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile, or dispose in the trash.
- Protect applications of fresh concrete from rainfall and runoff until the material has dried.
- Do not allow excess concrete to be dumped onsite, except in designated areas.
- Wash concrete trucks off site or in designated areas on site designed to preclude discharge of wash water to drainage system.

Controlling Litter

- Post "No Littering" signs and enforce anti-litter laws.
- Provide litter receptacles in busy, high pedestrian traffic areas of the community, at recreational facilities, and at community events.
- Cover litter receptacles and clean out frequently to prevent leaking/spillage or overflow.
- Clean parking lots on a regular basis with a street sweeper.

Training

- Provide regular training to field employees and/or contractors regarding surface cleaning and proper operation of equipment.
- Train employee and contractors in proper techniques for spill containment and cleanup.
- Use a training log or similar method to document training.

Spill Response and Prevention

- Refer to SC-11, Spill Prevention, Control & Cleanup.
- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Other Considerations

- Limitations related to sweeping activities at large parking facilities may include current sweeper technology to remove oil and grease.
- Surface cleaning activities that require discharges to the local sewering agency will require coordination with the agency.
- Arrangements for disposal of the swept material collected must be made, as well as accurate tracking of the areas swept and the frequency of sweeping.

Requirements

Costs

- The largest expenditures for sweeping and cleaning of sidewalks, plazas, and parking lots are in staffing and equipment. Sweeping of these areas should be incorporated into street sweeping programs to reduce costs.

Maintenance

Not applicable

Supplemental Information

Further Detail of the BMP

Community education, such as informing residents about their options for recycling and waste disposal, as well as the consequences of littering, can instill a sense of citizen responsibility and potentially reduce the amount of maintenance required by the municipality.

Additional BMPs that should be considered for parking lot areas include:

- Allow sheet runoff to flow into biofilters (vegetated strip and swale) and infiltration devices.
- Utilize sand filters or oleophilic collectors for oily waste in low concentrations.
- Arrange rooftop drains to prevent drainage directly onto paved surfaces.
- Design lot to include semi-permeable hardscape.
- Structural BMPs such as storm drain inlet filters can be very effective in reducing the amount of pollutants discharged from parking facilities during periods of rain.

References and Resources

Bay Area Stormwater Management Agencies Association (BASMAA). 1996. Pollution From Surface Cleaning Folder http://www.basmaa.org

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.

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Santa Clara Valley Urban Runoff Pollution Prevention Program. Maintenance Best Management Practices for the Construction Industry. Brochures: Landscaping, Gardening, and Pool; Roadwork and Paving; and Fresh Concrete and Mortar Application. June 2001.

San Diego Stormwater Co-permittees Jurisdictional Urban Runoff Management Plan. 2001. Municipal Activities Model Program Guidance. November.

Landscape Maintenance SC-73

Objectives

- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	
Bacteria	
Oil and Grease	
Organics	
Oxygen Demanding	☑

Description

Landscape maintenance activities include vegetation removal; herbicide and insecticide application; fertilizer application; watering; and other gardening and lawn care practices. Vegetation control typically involves a combination of chemical (herbicide) application and mechanical methods. All of these maintenance practices have the potential to contribute pollutants to the storm drain system. The major objectives of this BMP are to minimize the discharge of pesticides, herbicides and fertilizers to the storm drain system and receiving waters; prevent the disposal of landscape waste into the storm drain system by collecting and properly disposing of clippings and cuttings, and educating employees and the public.

Approach

Pollution Prevention

- Implement an integrated pest management (IPM) program. IPM is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools.
- Choose low water using flowers, trees, shrubs, and groundcover.
- Consider alternative landscaping techniques such as naturescaping and xeriscaping.
- Conduct appropriate maintenance (i.e. properly timed fertilizing, weeding, pest control, and pruning) to help preserve the landscapes water efficiency.

CASQA

- Consider grass cycling (grass cycling is the natural recycling of grass by leaving the clippings on the lawn when mowing. Grass clippings decompose quickly and release valuable nutrients back into the lawn).

Suggested Protocols

Mowing, Trimming, and Weeding

- Whenever possible use mechanical methods of vegetation removal (e.g mowing with tractor-type or push mowers, hand cutting with gas or electric powered weed trimmers) rather than applying herbicides. Use hand weeding where practical.
- Avoid loosening the soil when conducting mechanical or manual weed control, this could lead to erosion. Use mulch or other erosion control measures when soils are exposed.
- Performing mowing at optimal times. Mowing should not be performed if significant rain events are predicted.
- Mulching mowers may be recommended for certain flat areas. Other techniques may be employed to minimize mowing such as selective vegetative planting using low maintenance grasses and shrubs.
- Collect lawn and garden clippings, pruning waste, tree trimmings, and weeds. Chip if necessary, and compost or dispose of at a landfill (see waste management section of this fact sheet).
- Place temporarily stockpiled material away from watercourses, and berm or cover stockpiles to prevent material releases to storm drains.

Planting

- Determine existing native vegetation features (location, species, size, function, importance) and consider the feasibility of protecting them. Consider elements such as their effect on drainage and erosion, hardiness, maintenance requirements, and possible conflicts between preserving vegetation and the resulting maintenance needs.
- Retain and/or plant selected native vegetation whose features are determined to be beneficial, where feasible. Native vegetation usually requires less maintenance (e.g., irrigation, fertilizer) than planting new vegetation.
- Consider using low water use groundcovers when planting or replanting.

Waste Management

- Compost leaves, sticks, or other collected vegetation or dispose of at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Place temporarily stockpiled material away from watercourses and storm drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Reduce the use of high nitrogen fertilizers that produce excess growth requiring more frequent mowing or trimming.

- Avoid landscape wastes in and around storm drain inlets by either using bagging equipment or by manually picking up the material.

Irrigation

- Where practical, use automatic timers to minimize runoff.
- Use popup sprinkler heads in areas with a lot of activity or where there is a chance the pipes may be broken. Consider the use of mechanisms that reduce water flow to sprinkler heads if broken.
- Ensure that there is no runoff from the landscaped area(s) if re-claimed water is used for irrigation.
- If bailing of muddy water is required (e.g. when repairing a water line leak), do not put it in the storm drain; pour over landscaped areas.
- Irrigate slowly or pulse irrigate to prevent runoff and then only irrigate as much as is needed.
- Apply water at rates that do not exceed the infiltration rate of the soil.

Fertilizer and Pesticide Management

- Utilize a comprehensive management system that incorporates integrated pest management (IPM) techniques. There are many methods and types of IPM, including the following:
  - Mulching can be used to prevent weeds where turf is absent, fencing installed to keep rodents out, and netting used to keep birds and insects away from leaves and fruit.
  - Visible insects can be removed by hand (with gloves or tweezers) and placed in soapy water or vegetable oil. Alternatively, insects can be sprayed off the plant with water or in some cases vacuumed off of larger plants.
  - Store-bought traps, such as species-specific, pheromone-based traps or colored sticky cards, can be used.
  - Slugs can be trapped in small cups filled with beer that are set in the ground so the slugs can get in easily.
  - In cases where microscopic parasites, such as bacteria and fungi, are causing damage to plants, the affected plant material can be removed and disposed of (pruning equipment should be disinfected with bleach to prevent spreading the disease organism).
  - Small mammals and birds can be excluded using fences, netting, tree trunk guards.
  - Beneficial organisms, such as bats, birds, green lacewings, ladybugs, praying mantis, ground beetles, parasitic nematodes, trichogramma wasps, seed head weevils, and spiders that prey on detrimental pest species can be promoted.
- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.

- Use pesticides only if there is an actual pest problem (not on a regular preventative schedule).
- Do not use pesticides if rain is expected. Apply pesticides only when wind speeds are low (less than 5 mph).
- Do not mix or prepare pesticides for application near storm drains.
- Prepare the minimum amount of pesticide needed for the job and use the lowest rate that will effectively control the pest.
- Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- Calibrate fertilizer and pesticide application equipment to avoid excessive application.
- Periodically test soils for determining proper fertilizer use.
- Sweep pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Purchase only the amount of pesticide that you can reasonably use in a given time period (month or year depending on the product).
- Triple rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Dispose of empty pesticide containers according to the instructions on the container label.

Inspection

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.
- Inspect pesticide/fertilizer equipment and transportation vehicles daily.

Training

- Educate and train employees on use of pesticides and in pesticide application techniques to prevent pollution. Pesticide application must be under the supervision of a California qualified pesticide applicator.
- Train/encourage municipal maintenance crews to use IPM techniques for managing public green areas.
- Annually train employees within departments responsible for pesticide application on the appropriate portions of the agency's IPM Policy, SOPs, and BMPs, and the latest IPM techniques.

- Employees who are not authorized and trained to apply pesticides should be periodically (at least annually) informed that they cannot use over-the-counter pesticides in or around the workplace.
- Use a training log or similar method to document training.

Spill Response and Prevention

- Refer to SC-11, Spill Prevention, Control & Cleanup
- Have spill cleanup materials readily available and in a know in location
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Other Considerations

- The Federal Pesticide, Fungicide, and Rodenticide Act and California Title 3, Division 6, Pesticides and Pest Control Operations place strict controls over pesticide application and handling and specify training, annual refresher, and testing requirements. The regulations generally cover: a list of approved pesticides and selected uses, updated regularly; general application information; equipment use and maintenance procedures; and record keeping. The California Department of Pesticide Regulations and the County Agricultural Commission coordinate and maintain the licensing and certification programs. All public agency employees who apply pesticides and herbicides in "agricultural use" areas such as parks, golf courses, rights-of-way and recreation areas should be properly certified in accordance with state regulations. Contracts for landscape maintenance should include similar requirements.
- All employees who handle pesticides should be familiar with the most recent material safety data sheet (MSDS) files.
- Municipalities do not have the authority to regulate the use of pesticides by school districts, however the California Healthy Schools Act of 2000 (AB 2260) has imposed requirements on California school districts regarding pesticide use in schools. Posting of notification prior to the application of pesticides is now required, and IPM is stated as the preferred approach to pest management in schools.

Requirements

Costs

Additional training of municipal employees will be required to address IPM techniques and BMPs. IPM methods will likely increase labor cost for pest control which may be offset by lower chemical costs.

Maintenance

Not applicable

Supplemental Information

Further Detail of the BMP

Waste Management

Composting is one of the better disposal alternatives if locally available. Most municipalities either have or are planning yard waste composting facilities as a means of reducing the amount of waste going to the landfill. Lawn clippings from municipal maintenance programs as well as private sources would probably be compatible with most composting facilities

Contractors and Other Pesticide Users

Municipal agencies should develop and implement a process to ensure that any contractor employed to conduct pest control and pesticide application on municipal property engages in pest control methods consistent with the IPM Policy adopted by the agency. Specifically, municipalities should require contractors to follow the agency's IPM policy, SOPs, and BMPs; provide evidence to the agency of having received training on current IPM techniques when feasible; provide documentation of pesticide use on agency property to the agency in a timely manner.

References and Resources

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. 1995. King County Surface Water Management. July. On-line: http://dnr.metrokc.gov/wlr/dss/spcm.htm

Los Angeles County Stormwater Quality Model Programs. Public Agency Activities http://ladpw.org/wmd/npdes/model_links.cfm

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.

Orange County Stormwater Program http://www.ocwatersheds.com/StormWater/swp_introduction.asp

Santa Clara Valley Urban Runoff Pollution Prevention Program. 1997 Urban Runoff Management Plan. September 1997, updated October 2000.

United States Environmental Protection Agency (USEPA). 2002. Pollution Prevention/Good Housekeeping for Municipal Operations Landscaping and Lawn Care. Office of Water. Office of Wastewater Management. On-line: http://www.epa.gov/npdes/menuofbmps/poll_8.htm

Efficient Irrigation SD-12

Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Irrigation water provided to landscaped areas may result in excess irrigation water being conveyed into stormwater drainage systems.

Approach

Project plan designs for development and redevelopment should include application methods of irrigation water that minimize runoff of excess irrigation water into the stormwater conveyance system.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Designing New Installations

The following methods to reduce excessive irrigation runoff should be considered, and incorporated and implemented where determined applicable and feasible by the Permittee:

- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Design irrigation systems to each landscape area's specific water requirements.
- Include design featuring flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
- Implement landscape plans consistent with County or City water conservation resolutions, which may include provision of water sensors, programmable irrigation times (for short cycles), etc.

- Design timing and application methods of irrigation water to minimize the runoff of excess irrigation water into the storm water drainage system.
- Group plants with similar water requirements in order to reduce excess irrigation runoff and promote surface filtration. Choose plants with low irrigation requirements (for example, native or drought tolerant species). Consider design features such as:
  - Using mulches (such as wood chips or bar) in planter areas without ground cover to minimize sediment in runoff
  - Installing appropriate plant materials for the location, in accordance with amount of sunlight and climate, and use native plant materials where possible and/or as recommended by the landscape architect
  - Leaving a vegetative barrier along the property boundary and interior watercourses, to act as a pollutant filter, where appropriate and feasible
  - Choosing plants that minimize or eliminate the use of fertilizer or pesticides to sustain growth
- Employ other comparable, equally effective methods to reduce irrigation water runoff.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Storm Drain Signage SD-13

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Waste materials dumped into storm drain inlets can have severe impacts on receiving and ground waters. Posting notices regarding discharge prohibitions at storm drain inlets can prevent waste dumping. Storm drain signs and stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets.

Approach

The stencil or affixed sign contains a brief statement that prohibits dumping of improper materials into the urban runoff conveyance system. Storm drain messages have become a popular method of alerting the public about the effects of and the prohibitions against waste disposal.

Suitable Applications

Stencils and signs alert the public to the destination of pollutants discharged to the storm drain. Signs are appropriate in residential, commercial, and industrial areas, as well as any other area where contributions or dumping to storm drains is likely.

Design Considerations

Storm drain message markers or placards are recommended at all storm drain inlets within the boundary of a development project. The marker should be placed in clear sight facing toward anyone approaching the inlet from either side. All storm drain inlet locations should be identified on the development site map.

Designing New Installations

The following methods should be considered for inclusion in the project design and show on project plans:

- Provide stenciling or labeling of all storm drain inlets and catch basins, constructed or modified, within the project area with prohibitive language. Examples include "NO DUMPING

– DRAINS TO OCEAN" and/or other graphical icons to discourage illegal dumping.

- Post signs with prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area.

Note - Some local agencies have approved specific signage and/or storm drain message placards for use. Consult local agency stormwater staff to determine specific requirements for placard types and methods of application.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. If the project meets the definition of "redevelopment", then the requirements stated under " designing new installations" above should be included in all project design plans.

Additional Information

Maintenance Considerations

- Legibility of markers and signs should be maintained. If required by the agency with jurisdiction over the project, the owner/operator or homeowner's association should enter into a maintenance agreement with the agency or record a deed restriction upon the property title to maintain the legibility of placards or signs.

Placement

- Signage on top of curbs tends to weather and fade.
- Signage on face of curbs tends to be worn by contact with vehicle tires and sweeper brooms.

Supplemental Information

Examples

- Most MS4 programs have storm drain signage programs. Some MS4 programs will provide stencils, or arrange for volunteers to stencil storm drains as part of their outreach program.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Trash Storage Areas SD-32

Description

Trash storage areas are areas where a trash receptacle (s) are located for use as a repository for solid wastes. Stormwater runoff from areas where trash is stored or disposed of can be polluted. In addition, loose trash and debris can be easily transported by water or wind into nearby storm drain inlets, channels, and/or creeks. Waste handling operations that may be sources of stormwater pollution include dumpsters, litter control, and waste piles.

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

Approach

This fact sheet contains details on the specific measures required to prevent or reduce pollutants in stormwater runoff associated with trash storage and handling. Preventative measures including enclosures, containment structures, and impervious pavements to mitigate spills, should be used to reduce the likelihood of contamination.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Design requirements for waste handling areas are governed by Building and Fire Codes, and by current local agency ordinances and zoning requirements. The design criteria described in this fact sheet are meant to enhance and be consistent with these code and ordinance requirements. Hazardous waste should be handled in accordance with legal requirements established in Title 22, California Code of Regulation.

Wastes from commercial and industrial sites are typically hauled by either public or commercial carriers that may have design or access requirements for waste storage areas. The design criteria in this fact sheet are recommendations and are not intended to be in conflict with requirements established by the waste hauler. The waste hauler should be contacted prior to the design of your site trash collection areas. Conflicts or issues should be discussed with the local agency.

Designing New Installations

Trash storage areas should be designed to consider the following structural or treatment control BMPs:

- Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on. This might include berming or grading the waste handling area to prevent run-on of stormwater.
- Make sure trash container areas are screened or walled to prevent off-site transport of trash.

- Use lined bins or dumpsters to reduce leaking of liquid waste.
- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Pave trash storage areas with an impervious surface to mitigate spills.
- Do not locate storm drains in immediate vicinity of the trash storage area.
- Post signs on all dumpsters informing users that hazardous materials are not to be disposed of therein.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Additional Information

Maintenance Considerations

The integrity of structural elements that are subject to damage (i.e., screens, covers, and signs) must be maintained by the owner/operator. Maintenance agreements between the local agency and the owner/operator may be required. Some agencies will require maintenance deed restrictions to be recorded of the property title. If required by the local agency, maintenance agreements or deed restrictions must be executed by the owner/operator before improvement plans are approved.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

APPENDIX 15:
Preliminary WQMP Site Plan

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IN THE CITY OF EASTVALE

PRELIMINARY WQMP SITE PLAN

GOSSETT DEVELOPMENT

CHANDLER STREET CHANNEL

OVERFLOW INLET

SUMP AND PUMP WITH OUTLET TO CHANNEL

SD

OVERFLOW INLET

DMA 5

DMA 4

DMA 3

DMA 2

DMA 1

SHED

GM

IRV

SMH

WV

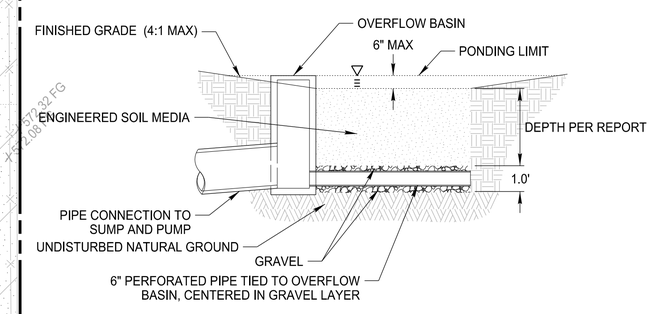
CHANDLER STREET

64'

55'

43'

64'



BIO-RETENTION BASIN DETAIL

NTS

LEGEND

- INDICATES CONCRETE OR ASPHALT
- INDICATES BUILDING ROOF
- INDICATES LANDSCAPE
- INDICATES BIO-RETENTION BASIN
- INDICATES DMA BOUNDARY
- INDICATES FLOW DIRECTION
- INDICATES DRAIN INLET

OWNER/APPLICANT/DEVELOPER

GOSSETT DEVELOPMENT, INC.
207 MONARCH BAY DRIVE
DANA POINT, CA 92629
CONTACT: GARRETT GOSSETT
(949)735-6041

ENGINEER/CONTACT PERSON

THIS PLAN WAS PREPARED UNDER THE DIRECTION OF MARTEN L. ANDERSON, A REGISTERED CIVIL ENGINEER IN THE STATE OF CALIFORNIA.

OCTOBER 23, 2019

MARTEN L. ANDERSON — DATE
RCE 51313, EXPIRES 6-30-20
MTH2 ENGINEERING, INC.
639 LAKEWOOD DRIVE
RIVERSIDE, CA 92506
(951) 850-2190

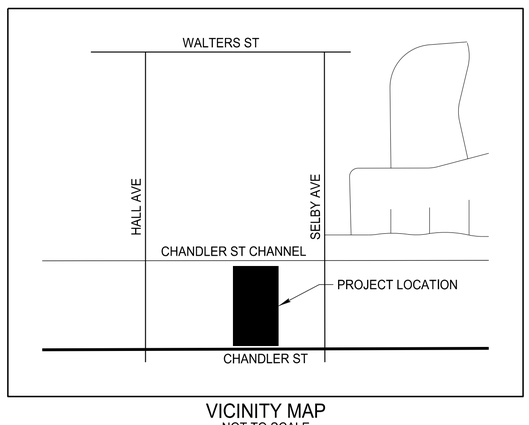
REGISTERED PROFESSIONAL ENGINEER — MARTEN L. ANDERSON — No. 51313 — Exp. 6-30-20 — CIVIL — STATE OF CALIFORNIA

SITE ADDRESS

14555, 14577, AND 14587 CHANDLER STREET
EASTVALE, CA 92880

ASSESSOR'S PARCEL NUMBERS

140-120-002, -003, AND -004



VICINITY MAP
NOT TO SCALE

DMA 1			
1a	Concrete or Asphalt	32.61	SF
1b	Roofs	0.00	SF
1c	Landscape	1183.18	SF
		1215.79	SF Total
DMA 2			
2a	Concrete or Asphalt	2583.99	SF
2b	Roofs	5372.17	SF
2c	Landscape	4070.64	SF
		12026.81	SF Total
DMA 3			
3a	Concrete or Asphalt	520.67	SF
3b	Roofs	0.00	SF
3c	Landscape	812.42	SF
		1333.09	SF Total
DMA 4			
4a	Concrete or Asphalt	43861.29	SF
4b	Roofs	49332.71	SF
4c	Landscape	11478.65	SF
		104672.64	SF Total
DMA 5			
5a	Concrete or Asphalt	29644.60	SF
5b	Roofs	23779.93	SF
5c	Landscape	4306.80	SF
		57731.33	SF Total

SCALE: 1" = 20'

20 0 20 40

MTH2 engineering, inc
639 Lakewood Drive
Riverside, CA 92506
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www.mth2engineering.com
civil • water resources • storm water
urban design and planning

APPENDIX 16:
Noise Impact Analysis

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EASTVALE SELF-STORAGE FACILITY (14555 CHANDLER STREET) NOISE IMPACT ANALYSIS

City of Eastvale

February 25, 2020

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

EASTVALE SELF-STORAGE FACILITY (14555 CHANDLER STREET) NOISE IMPACT ANALYSIS

City of Eastvale

February 25, 2020

prepared by
Roma Stromberg INCE, MS
Catherine Howe, MS

GANDDINI GROUP INC
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Santa Ana, CA 92705
(714) 795-3100 | ganddini.com

19226

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EXECUTIVE SUMMARY

The purpose of this report is to provide an assessment of the noise impacts associated with development and operation of the proposed Eastvale Self-Storage Facility (14555 Chandler Street) project and to identify mitigation measures that may be necessary to reduce those impacts. The noise issues related to the proposed land use and development have been evaluated in light of applicable federal, state and local policies, including those of the City of Eastvale.

Although this is a technical report, effort has been made to write the report clearly and concisely. To assist the reader with terms related to noise analysis, a list of acronyms and a glossary of terms are provided in Appendix A and Appendix B.

PROJECT LOCATION

The proposed project is located at 14555 Chandler Street, approximately 500 feet west of the intersection of Selby Avenue and Chandler Street, in the City of Eastvale.

PROJECT DESCRIPTION

The proposed project involves a Zone Change from Light Agriculture (A-1) to General Commercial (C-1/C-P), the demolition of existing residential structures, and the construction of a 901-unit self-storage facility. The proposed 142,839 square foot development consists of four one- to two-story buildings ranging in size from 6,775 square feet to 63,182 square feet. Vehicular project site access is proposed at Chandler Street.

PROJECT IMPACTS

Construction Impacts

Modeled unmitigated construction noise levels when combined with existing measured noise levels could reach 78.3 dBA L_{eq} at the nearest residential property line and result in increases over existing of up to 23.7 dBA. Use of mufflers, enclosures and/or acoustical tents (as appropriate) that provide at least 13 dB of noise reduction, which would reduce the highest construction noise level to 67.6 dBA L_{eq} and greatest increase over existing to 11.5 dB.

The City of Eastvale prohibits construction related activities within one-quarter of a mile from an inhabited dwelling between the hours of: 6:00 PM and 6:00 AM during the months of June through September and 6:00 PM and 7:00 AM during the months of October through May.

Construction noise impacts are considered significant if they occur at any time other than the permitted hours of 6:00 AM to 6:00 PM June through September, and 7:00 AM to 6:00 PM October through May; generate noise levels which exceed the 85 dBA L_{eq} acceptable noise level threshold at the nearby sensitive receiver locations; or generate temporary project construction-related noise level increases which exceed the 12 dBA L_{eq} substantial noise level increase threshold at noise-sensitive receiver locations.

Impacts would be significant without mitigation. However, with incorporation of mitigation measures identified in Section 7 of this report, construction noise impacts would be less than significant.

Noise Impacts to Off-Site Receptors Due to Project Generated Trips

Existing and Existing Plus Project noise levels along acoustically significant area roadways were modeled utilizing the FHWA Traffic Noise Prediction Model FHWA-RD-77-108 in order to quantify the proposed project's contribution to increases in ambient noise levels.

Increases in ambient noise along affected roadways due to project generated vehicle traffic are considered substantial if the noise levels at existing and future noise-sensitive land uses (e.g., residential, etc.):

- are less than 60 dBA CNEL and the project creates a readily perceptible 5 dBA CNEL or greater project-related noise level increase; or
- range from 60 to 65 dBA CNEL and the project creates a barely perceptible 3 dBA CNEL or greater project-related noise level increase; or
- already exceed 65 dBA CNEL, and the project creates a community noise level impact of greater than 1.5 dBA CNEL

Based on the FHWA noise model, project generated vehicle traffic is not expected to result in increases of more than 1 dB (approximately 0.1 dBA CNEL) and therefore would not result in significant impacts. No mitigation is required.

Transportation Noise Impacts to the Proposed Project

Per the City of Eastvale, commercial land uses are considered to be "completely compatible" in environments where the exterior noise level reach up to 70 CNEL and "tentatively compatible" in environments where the exterior noise level reaches up to 75 CNEL.

Chandler Street is the only roadway that is projected to generate enough traffic under buildout conditions that could affect the proposed project. Future buildout traffic noise levels associated with this roadway on the project site were modeled utilizing the FHWA Traffic Noise Prediction Model - FHWA-RD-77-108.

Future buildout traffic noise at the proposed self-storage use could reach up to approximately 75.0 dBA CNEL. Therefore, per Table 3, the proposed project would be compatible with future traffic noise levels in the area. Noise impacts to the project would be less than significant. No mitigation is required.

Noise Impacts to Off-Site Receptors Due to On-Site Operational Noise

Compliance with General Plan Stationary Noise Standards

Although existing noise levels at Receptors R1, R2 and R3 currently exceed daytime noise standards, the proposed project will not substantially contribute to these noise levels. Existing measured nighttime noise levels range between 45.4 and 54.3 dBA L_{eq}. However, peak hour operations are not expected to occur during nighttime hours, in fact only an occasional visitor is expected during nighttime hours. Nighttime project operational noise levels (L_{eq}) are not expected to result in violations of the City's nighttime non-transportation noise standard.

Project operation is not expected to violate City Non-Transportation daytime or nighttime noise standards. Operational noise impacts to sensitive receptors would be less than significant. No mitigation is required.

CEQA - Increase in Ambient Noise Levels

Operational noise levels associated with the proposed project are expected to range between 40.5 to 49.1 dBA L_{eq} at the nearby sensitive receptors. Project operational noise levels are expected to result in an increase

in daytime ambient noise levels of up to 1.2 dBA (L_{eq}) and will not be readily noticeable over the existing measured daytime noise levels that range between 49.2 to 66.6 dBA L_{eq}.

Existing measured nighttime noise levels range between 45.4 and 54.3 dBA L_{eq} and modeled peak hour operational noise levels are expected to range between 40.5 to 49.1 dBA. Further, peak hour operations are also not expected to occur during nighttime hours; only an occasional visitor is expected during nighttime hours. Nighttime project operational noise levels (L_{eq}) will not be readily noticeable and will not result in substantial increases in ambient noise levels.

The project would not result in substantial increases in ambient noise levels. This impact would be less than significant. No mitigation is required.

Groundborne Vibration Impacts

The nearest off-site structure to the project site is the residential building located approximately 12 feet west of the property line.

Annoyance

Due to the proximity of the adjacent residential buildings to the west, project construction activities could result in groundborne vibration that is annoying. Annoyance is expected to be short-term. In order to satisfy the City of Eastvale vibration standard of 0.0787 in/sec PPV, a mitigation measure restricting the use of vibratory rollers, and other similar vibratory equipment, within 50 feet and large bulldozers within 30 feet of the residential structures located at the western project boundary is presented in Section 7 of this report.

Architectural Damage

Table 12 identifies a PPV level of 0.2 as the threshold at which there is a risk to "architectural" damage to normal dwelling units. The use of a vibratory roller would be expected to generate a PPV of 0.198 at 26 feet and a large bulldozer would be expected to generate a PPV of 0.191 at 15 feet. Therefore, in order to avoid the potential for structural damage at the residential dwelling units located as close as approximately 12 feet west of the project site's western property line, a mitigation measure prohibiting the use of vibratory rollers within 14 feet and large bulldozers within 3 feet of the western property line is presented in Section 7 of this report.

With incorporation of mitigation, groundborne vibration impacts associated with construction activities would be less than significant.

CONSTRUCTION NOISE REDUCTION MEASURES

In addition to adherence to the City of Eastvale Municipal Code, which limits the construction hours of operation, the following measures are recommended to reduce construction noise and vibrations, emanating from the proposed project:

1. During all project construction phases on-site, construction contractors shall equip all construction equipment, fixed or mobile, with either properly operating and maintained mufflers or enclosures/acoustical tents (as appropriate) that achieve at least 13 dB reduction from noise level specifications presented in Table 8 of this report. The sound barriers need to be solid without holes or cracks. Openings in the temporary barriers for access will be necessary, but should be placed in a manner that does not interrupt the solid barrier between the noise source and the affected sensitive receptor(s).

2. The contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

3. Equipment shall be shut off and not left to idle when not in use.

4. The contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the project site during all project construction.

5. Jackhammers, pneumatic equipment and all other portable stationary noise sources shall be shielded and noise shall be directed away from sensitive receptors.

6. The project proponent shall mandate that the construction contractor prohibit the use of music or sound amplification on the project site during construction.

7. The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment.

8. In order to limit annoyance due to vibration, the contractor shall restrict the use of vibratory rollers, and other similar equipment, within 50 feet of the residential structures located at the western project boundary and large bulldozers within 30 feet of the residential structure located at the western project boundary.

9. In order to avoid potential structural damage, the use of vibratory rollers, or other similar vibratory equipment, within 14 feet and large bulldozers within 3 feet of the western property line is prohibited.

1. INTRODUCTION

This section describes the purpose of this noise impact analysis, project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

PURPOSE AND OBJECTIVES

The purpose of this report is to provide an assessment of the noise impacts resulting from development of the proposed Eastvale Self-Storage Facility (14555 Chandler Street) project and to identify mitigation measures that may be necessary to reduce those impacts. The noise issues related to the proposed land use and development have been evaluated in light of applicable federal, state and local policies, including those of the City of Eastvale.

Although this is a technical report, effort has been made to write the report clearly and concisely. To assist the reader with terms related to noise analysis, a list of acronyms and a glossary of terms are provided in Appendix A and Appendix B.

PROJECT DESCRIPTION

The proposed project involves a Zone Change from Light Agriculture (A-1) to General Commercial (C-1/C-P), the demolition of existing residential structures, and the construction of a 901-unit self-storage facility. The proposed 142,839 square foot development consists of four one- to two-story buildings ranging in size from 6,775 square feet to 63,182 square feet. Vehicular project site access is proposed at Chandler Street. Figure 2 illustrates the project site plan.

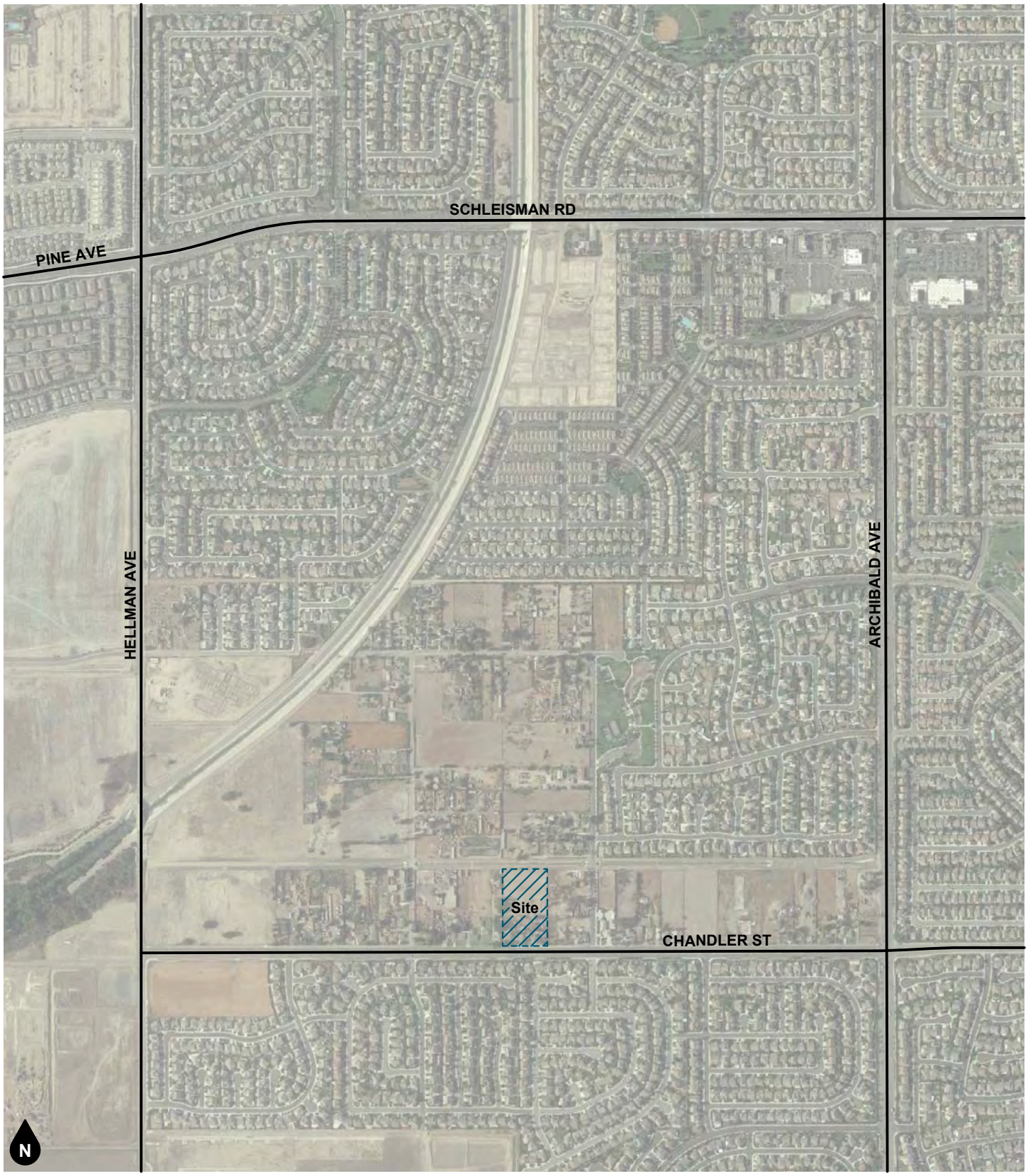


Figure 1
Project Location Map

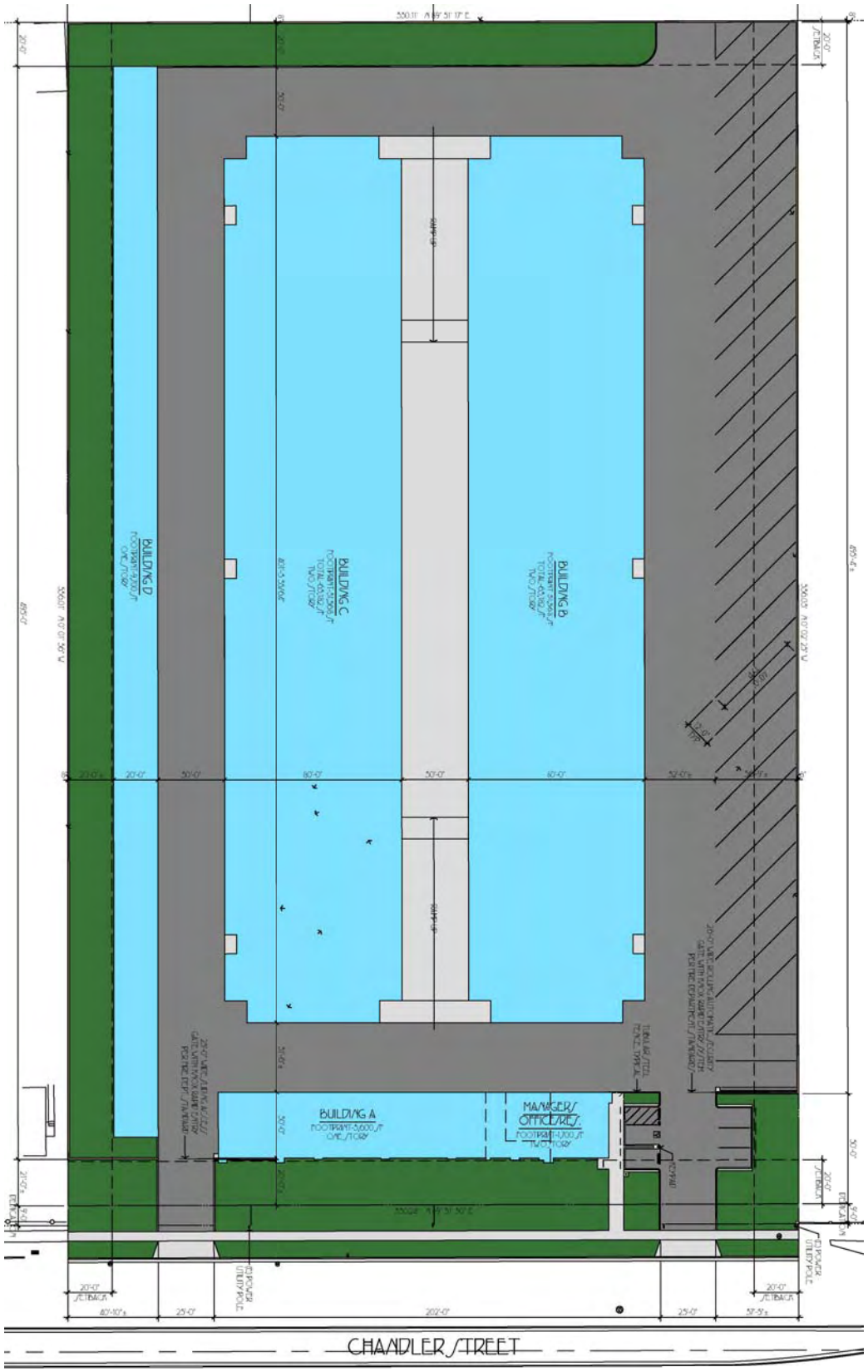


Figure 2
Site Plan

2. NOISE AND VIBRATION FUNDAMENTALS

NOISE FUNDAMENTALS

Sound is a pressure wave created by a moving or vibrating source that travels through an elastic medium such as air. Noise is defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in extreme circumstances, hearing impairment.

Commonly used noise terms are presented in Appendix B. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA.

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source as well as ground absorption, atmospheric effects and refraction, and shielding by natural and manmade features. Sound from point sources, such as air conditioning condensers, radiates uniformly outward as it travels away from the source in a spherical pattern. The noise drop-off rate associated with this geometric spreading is 6 dBA per each doubling of the distance (dBA/DD). Transportation noise sources such as roadways are typically analyzed as line sources, since at any given moment the receiver may be impacted by noise from multiple vehicles at various locations along the roadway. Because of the geometry of a line source, the noise drop-off rate associated with the geometric spreading of a line source is 3 dBA/DD.

Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as a doubled traffic volume, would increase the noise levels by 3 dBA; halving of the energy would result in a 3 dBA decrease.
Figure 3 shows the relationship of various noise levels to commonly experienced noise events.

Average noise levels over a period of minutes or hours are usually expressed as dBA L_{eq}, or the equivalent noise level for that period of time. For example, $L_{eq(3)}$ would represent a 3-hour average. When no period is specified, a one-hour average is assumed.

Noise standards for land use compatibility are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (DNL). CNEL is a 24-hour weighted average measure of community noise. CNEL is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours. DNL is a very similar 24-hour average measure that weights only the nighttime hours.

It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud. This definition is recommended by the California Department of Transportation's Technical Noise Supplement to the Traffic Noise Analysis Protocol (2013).

VIBRATION FUNDAMENTALS

The way in which vibration is transmitted through the earth is called propagation. Propagation of earthborn vibrations is complicated and difficult to predict because of the endless variations in the soil through which waves travel. There are three main types of vibration propagation: surface, compression and shear waves. Surface waves, or Raleigh waves, travel along the ground's surface. These waves carry most of their energy

along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. Compression waves, or P-waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. Shear waves, or S-waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or "side-to-side and perpendicular to the direction of propagation".

As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal in inches per second. The RMS of a signal is the average of the squared amplitude of the signal in vibration decibels (VdB), ref one micro-inch per second. The Federal Railroad Administration uses the abbreviation "VdB" for vibration decibels to reduce the potential for confusion with sound decibel.

PPV is appropriate for evaluating the potential of building damage and VdB is commonly used to evaluate human response. Decibel notation acts to compress the range of numbers required in measuring vibration. Similar to the noise descriptors, L_{eq} and L_{max} can be used to describe the average vibration and the maximum vibration level observed during a single vibration measurement interval. Figure 4 illustrates common vibration sources and the human and structural responses to ground-borne vibration. As shown in the figure, the threshold of perception for human response is approximately 65 VdB; however, human response to vibration is not usually substantial unless the vibration exceeds 70 VdB. Vibration tolerance limits for sensitive instruments such as magnetic resonance imaging (MRI) or electron microscopes could be much lower than the human vibration perception threshold.

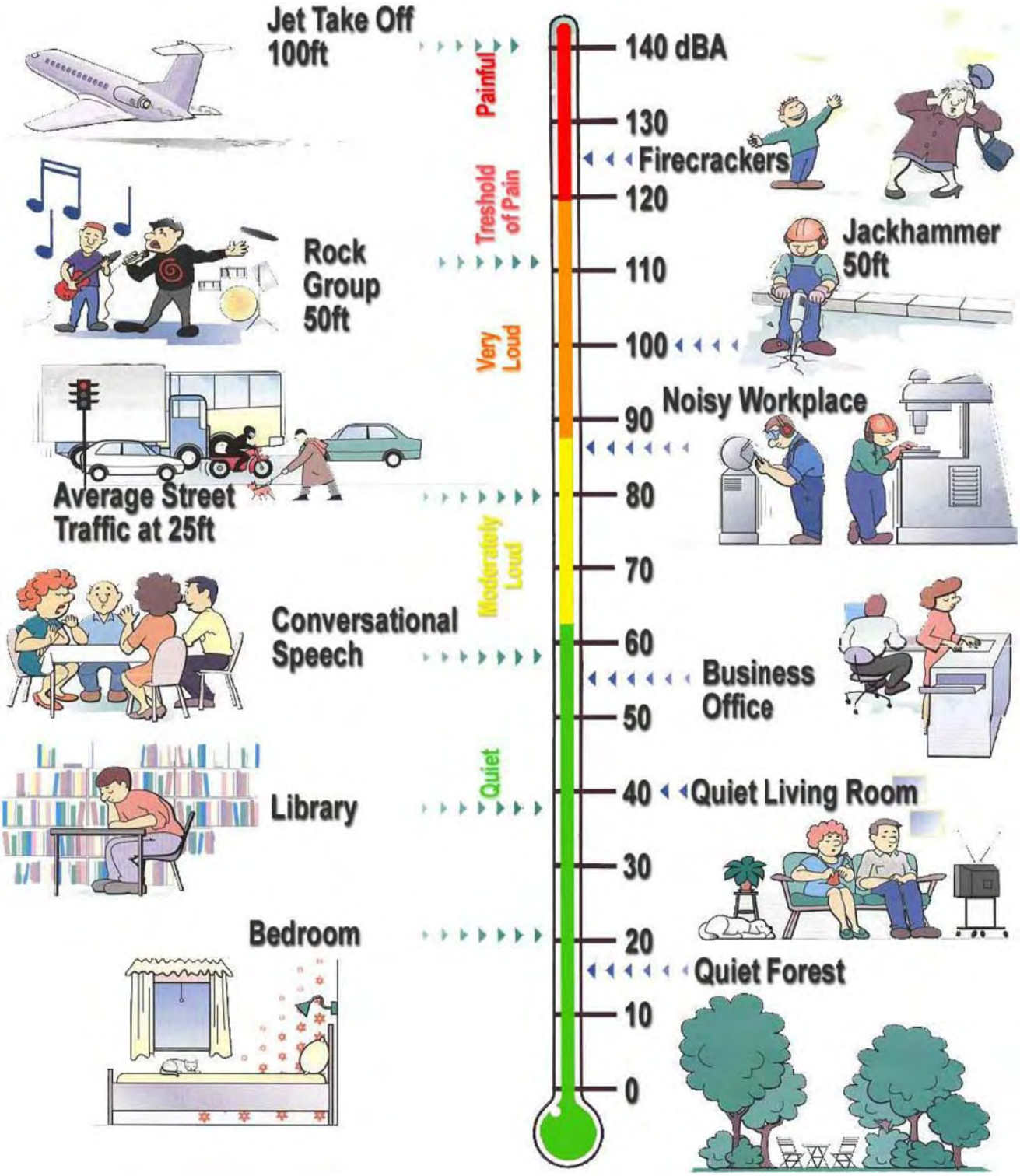
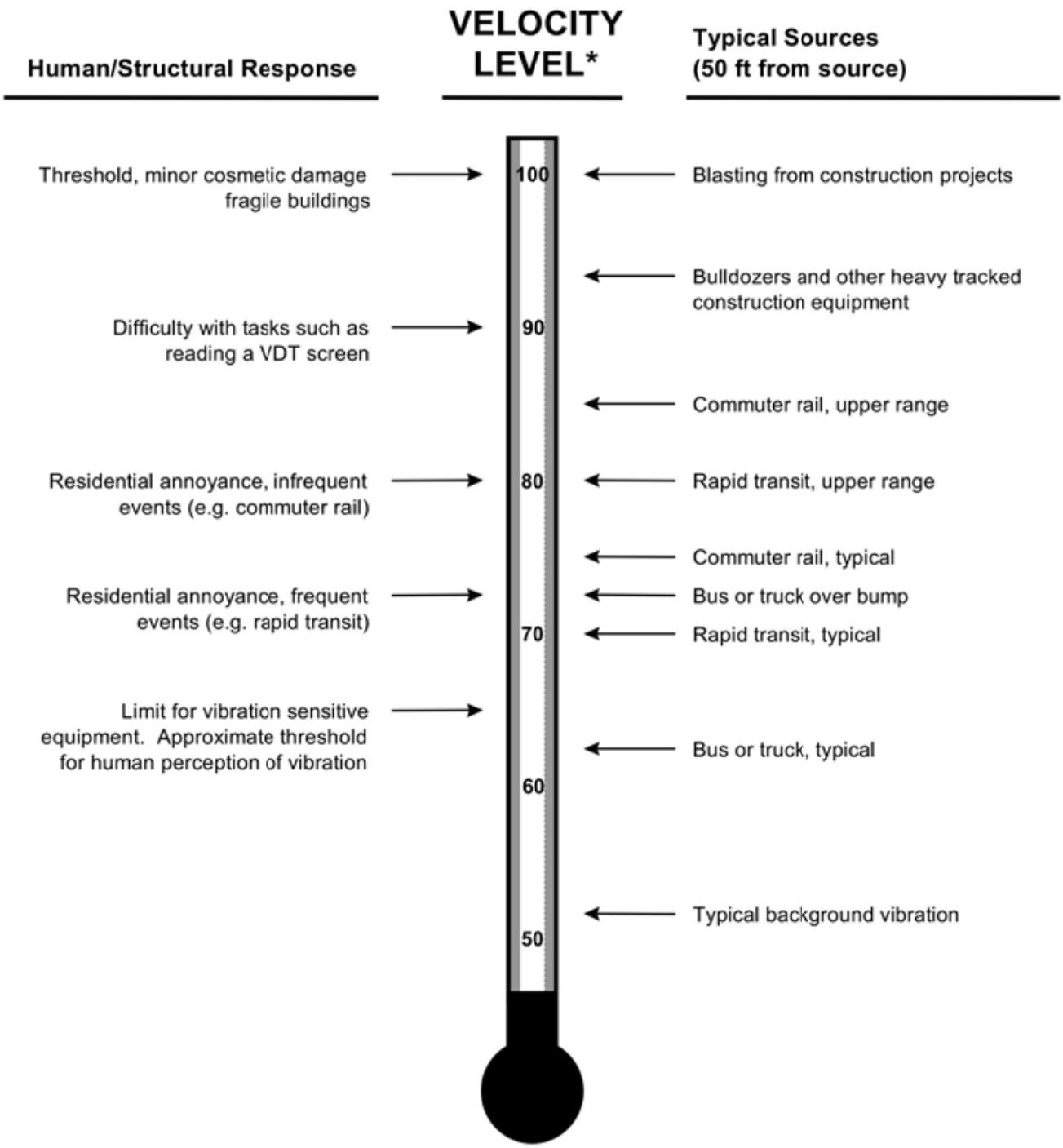


Figure 3
Weighted Sound Levels and Human Response

Source: Bruel & Kjaer 2001



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

Source: FRA, 2012. Federal Railroad Administration High-Speed Ground Transportation Noise and Vibration Impact Assessment. Office of Railroad Policy Development, Washington, D.C. DOT/FRA/ORD-12/15. September.

Figure 4
Typical Levels of Groundborne Vibration

3. EXISTING NOISE ENVIRONMENT

EXISTING LAND USES AND SENSITIVE RECEPTORS

The project site is bordered by a drainage channel to the north, residential uses to the east and west, and Chandler Street to the south.

The State of California defines sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions. Schools, libraries, churches, hospitals, single and multiple-family residential, including transient lodging, motels and hotel uses make up the majority of these areas. Sensitive land uses that may be affected by project noise include the existing single-family detached residential dwelling units located adjacent to the east and west, approximately 80 feet north (across the drainage channel), and approximately 115 feet south (across Chandler Street) of the project site.

NOISE MEASUREMENTS

Existing Ambient Noise Measurements

An American National Standards Institute (ANSI Section SI4 1979, Type 1) Larson Davis model LxT sound level meter was used to document existing ambient noise levels. In order to document existing ambient noise levels in the project area, five (5) 15-minute daytime noise measurements were taken between 10:07 AM and 1:13 PM on January 30, 2020. In addition, one (1) long-term 24-hour noise measurement was also taken from January 30, 2020 to January 31, 2020. Field worksheets and noise measurement output data are included in Appendix C.

As shown on

Figure 5, the noise measurements were taken near the residential uses adjacent to the west of the project site (STNM1), near the residential uses to the south of the project site (across Chandler Street) (STNM2), near the residential uses to the east of the project site (along Chandler Street) (STNM3), near the residential uses to the east of the project site (along Selby Avenue) (STNM4), near the residential uses to the north of the project site (across the drainage channel) (STNM5), and along the western boundary of the project site (LTNM1). Table 1 provides a summary of the short-term ambient noise data. Table 2 provides hourly interval ambient noise data from the long-term noise measurement. Short-term noise measurement ambient noise levels ranged from 49.2 to 66.6 dBA L_{eq}. Long-term hourly noise measurement ambient noise levels ranged from 45.4 to 55.2 dBA L_{eq}. The dominant noise sources were from vehicles traveling along Chandler Street and Selby Avenue as well as livestock/birds, residential noise, and aircrafts.

Table 1
Short-Term Noise Measurement Summary (dBA)

Daytime Measurements[1,2]								
Site Location	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
STNM1	10:07 AM	64.1	75.9	41.2	73.3	70.3	62.5	56.0
STNM2	10:41 AM	66.6	81.5	39.0	75.8	72.3	65.5	56.8
STNM3	11:29 AM	63.6	76.5	41.0	73.0	68.9	62.6	57.7
STNM4	12:29 PM	53.9	77.1	35.9	62.8	51.7	42.9	40.5
STNM5	12:58 PM	49.2	70.8	39.9	57.5	52.4	49.3	47.0

Notes:

(1) See Figure 5 for noise measurement locations. Each noise measurement was performed over a 15-minute duration.

(2) Noise measurements performed on January 30, 2020.

Table 2
Long-Term Noise Measurement Summary (dBA)

24-Hour Ambient Noise[1,2]								
Hourly Measurements	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
Overall Summary	4:00 PM	51.6	77.8	32.6	58.4	54.2	51.4	49.5
1	4:00 PM	52.3	68.3	45.9	58.8	54.3	51.9	50.7
2	5:00 PM	54.5	77.8	44.9	61.7	54.5	51.8	50.6
3	6:00 PM	51.1	66.4	46.5	54.9	53.1	51.5	50.6
4	7:00 PM	50.3	69.7	41.9	57.3	52.5	49.7	48.1
5	8:00 PM	49.2	63.8	41.4	56.0	52.5	49.4	47.1
6	9:00 PM	50.1	70.9	40.5	57.2	53.7	50.0	47.4
7	10:00 PM	51.1	72.4	39.6	58.5	54.0	50.4	47.0
8	11:00 PM	48.8	64.4	35.5	56.6	52.7	49.0	45.4
9	12:00 AM	46.2	65.5	33.3	55.2	47.4	42.5	39.4
10	1:00 AM	45.4	72.5	32.6	51.5	45.6	40.9	38.3
11	2:00 AM	45.9	64.1	34.0	53.4	49.0	45.4	43.8
12	3:00 AM	49.2	64.7	40.9	57.3	52.7	48.8	46.2
13	4:00 AM	50.6	67.3	42.9	57.9	53.3	49.8	48.0
14	5:00 AM	49.9	61.5	43.9	54.6	52.5	50.4	49.1
15	6:00 AM	52.4	61.9	47.5	56.4	54.0	52.8	51.9
16	7:00 AM	54.3	65.2	50.0	58.5	56.2	54.7	53.7
17	8:00 AM	54.6	72.5	48.0	62.5	57.5	53.4	51.6
18	9:00 AM	55.2	74.4	46.3	64.1	59.1	52.6	50.4
19	10:00 AM	52.6	72.8	46.4	59.0	54.2	51.4	49.9
20	11:00 AM	52.4	68.6	45.7	61.1	55.4	51.3	49.6
21	12:00 PM	50.6	70.2	44.1	55.3	52.4	50.5	49.4
22	1:00 PM	52.3	68.6	45.7	58.9	54.6	51.8	50.4
23	2:00 PM	51.4	65.8	43.9	58.8	54.3	50.8	49.4
24	3:00 PM	51.5	71.6	46.5	55.7	53.3	51.4	50.2

Notes:

(1) See Figure 5 for noise measurement locations. Noise measurement was performed over a 24-hour duration.

(2) Noise measurement performed from January 30, 2020 to January 31, 2020.

Legend

NM 1 Noise Measurement Location

ST NM Short-Term Noise Measurement

LT NM Long-Term Noise Measurement

Figure 5
Noise Measurement Location Map

4. REGULATORY SETTING

FEDERAL REGULATION

Federal Noise Control Act of 1972

The U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In response, the EPA published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (Levels of Environmental Noise). The Levels of Environmental Noise recommended that the Ldn should not exceed 55 dBA outdoors or 45 dBA indoors to prevent significant activity interference and annoyance in noise-sensitive areas.

In addition, the Levels of Environmental Noise identified five (5) dBA as an "adequate margin of safety" for a noise level increase relative to a baseline noise exposure level of 55 dBA Ldn (i.e., there would not be a noticeable increase in adverse community reaction with an increase of five dBA or less from this baseline level). The EPA did not promote these findings as universal standards or regulatory goals with mandatory applicability to all communities, but rather as advisory exposure levels below which there would be no risk to a community from any health or welfare effect of noise.

In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to State and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated Federal agencies, allowing more individualized control for specific issues by designated Federal, State, and local government agencies.

STATE REGULATIONS

State of California General Plan Guidelines 2017

Though not adopted by law, the State of California General Plan Guidelines 2017, published by the California Governor's Office of Planning and Research (OPR) (OPR Guidelines), provides guidance for the compatibility of projects within areas of specific noise exposure. The OPR Guidelines identify the suitability of various types of construction relative to a range of outdoor noise levels and provide each local community some flexibility in setting local noise standards that allow for the variability in community preferences. Findings presented in the Levels of Environmental Noise Document (EPA 1974) influenced the recommendations of the OPR Guidelines, most importantly in the choice of noise exposure metrics (i.e., Ldn or CNEL) and in the upper limits for the normally acceptable outdoor exposure of noise-sensitive uses.

The OPR Guidelines include a Noise and Land Use Compatibility Matrix which identifies acceptable and unacceptable community noise exposure limits for various land use categories. Where the "normally acceptable" range is used, it is defined as the highest noise level that should be considered for the construction of the buildings which do not incorporate any special acoustical treatment or noise mitigation. The "conditionally acceptable" or "normally unacceptable" ranges include conditions calling for detailed acoustical study prior to the construction or operation of the proposed project. The City of Eastvale has adopted their own version of the State Land Use Compatibility Guidelines for land use planning and to assess potential transportation noise impacts to proposed land uses (see Table 3).

California Environmental Quality Act

The California Environmental Quality Act Guidelines (Appendix G) establishes thresholds for noise impact analysis. This noise study includes analysis of noise and vibration impacts necessary to assess the project in light of the following Appendix G Checklist Thresholds.

Would the project result in:

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

Substantial increases in ambient noise levels are usually associated with project construction noise (temporary) and project operational noise (permanent).

Project Construction Noise

Construction noise sources are regulated within the City of Eastvale Municipal Code Section 8.52.020 which prohibits construction activities within one-quarter of a mile from an inhabited dwelling between the hours of: 6:00 PM and 6:00 AM during the months of June through September and 6:00 PM and 7:00 AM during the months of October through May. Further, Policy N-24 of the City of Eastvale General Plan requires construction equipment to be kept properly tuned and use noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

Although construction activity may be exempt from the noise standards in the City's Municipal Code, CEQA requires that potential noise impacts still be evaluated for significance.

To evaluate whether the project will generate potentially significant temporary construction noise levels at off-site sensitive receiver locations, a construction-related noise level threshold is adopted from the Criteria for Recommended Standard: Occupational Noise Exposure prepared by the National Institute for Occupational Safety and Health (NIOSH). A division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The construction related noise level threshold starts at 85 dBA for more than eight hours per day, and for every 3 dBA increase, the exposure time is cut in half. This results in noise level thresholds of 88 dBA for more than four hours per day, 92 dBA for more than one hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. For the purposes of this analysis, the lowest, more conservative construction noise level threshold of 85 dBA L_{eq} is used as an acceptable threshold for construction noise at the nearby sensitive receiver locations. Since this construction-related noise level threshold represents the energy average of the noise source over a given time period, they are expressed as L_{eq} noise levels. Therefore, the noise level threshold of 85 dBA L_{eq} over a period of eight hours or more is used to evaluate the potential project-related construction noise level impacts at the nearby sensitive receiver locations (NIOSH 1998).

The 85 dBA L_{eq} threshold is also consistent with the FTA Transit Noise and Vibration Impact Assessment criteria for construction noise which identifies an hourly construction noise level threshold of 90 dBA L_{eq} during daytime hours, and 80 dBA L_{eq} during nighttime hours for construction for general assessment at noise-sensitive uses (e.g., residential, medical/hospital, school, etc.) (FTA 2006). Detailed assessment, according to the FTA, identifies an 8-hour dBA L_{eq} noise level threshold specific to noise-sensitive uses of 80 dBA L_{eq}. Therefore, the Noise Study relies on the NIOSH 85 dBA L_{eq} threshold, consistent with FTA general and detailed assessment criteria for noise-sensitive uses and represents an appropriate threshold for construction noise analysis.

Due to the temporary, short-term nature of noise-generating construction activities, the temporary or periodic noise level increases over the existing ambient conditions must be considered under CEQA Guideline D, consistent with the legal case, Friends of Riverside's Hills v. Riverside Transportation Commission, et al. (2013).

Therefore, the California Department of Transportation Traffic Noise Analysis Protocol 12 dBA L_{eq} substantial noise level increase threshold is used in this analysis to assess temporary noise level increases. If the project-related construction noise levels generate a temporary noise level increase above the existing ambient noise levels of up to 12 dBA L_{eq}, then the project construction noise level increases will be considered a potentially significant impact. Although the California Department of Transportation recommendations were specifically developed to assess traffic noise impacts, the 12 dBA L_{eq} substantial noise level increase threshold is used in California to address noise level increases with the potential to exceed existing conditions (California Department of Transportation 2011).

In compliance with the City's Municipal Code, it is assumed that construction would not occur during the noise-sensitive nighttime hours.

Construction Noise Thresholds

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development.

- If project-related construction activities:
    - Occur at any time other than the permitted hours of 6:00 AM to 6:00 PM June through September, and 7:00 AM to 6:00 PM October through May (Section 8.52.040 of the City of Eastvale Municipal Code); or
    - Generate noise levels which exceed the 85 dBA L_{eq} acceptable noise level threshold at the nearby sensitive receiver locations (NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure); or
    - Generate temporary project construction-related noise level increases which exceed the 12 dBA L_{eq} substantial noise level increase threshold at noise-sensitive receiver locations (California Department of Transportation, Traffic Noise Analysis Protocol).

<u>Project Operational Noise (Permanent)</u>

The proposed project has the potential to generate on-site and off-site noise. For on-site generated noise, the City of Eastvale General Plan Table N-4 (see Table 4 of this report) applies. This ordinance establishes non-transportation related noise levels standards of 60 dBA L_{eq} for daytime and 50 dBA L_{eq} for nighttime for single-family homes an duplexes and 60 dBA L_{eq} for daytime and 55 dBA L_{eq} for nighttime for multiple residential uses (3 or more units per building).

For off-site project generated noise, Federal Interagency Committee on Noise (FICON) identifies a readily perceptible 5 dBA or greater project-related noise level increase is considered a significant impact when the noise criteria for a given land use is exceeded. Per FICON, in areas where the without project noise levels range from 60 to 65 dBA, a 3 dBA barely perceptible noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance.

Permanent Noise Thresholds

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development.

Operational Noise:

- If project-related operational (stationary-source) noise levels exceed the exterior 60 dBA L_{eq} daytime or 50 dBA L_{eq} nighttime noise level standards at nearby sensitive receiver locations (City of Eastvale General Plan Noise Element, Table N-4, (included in this report as Table 2) or

- If the existing ambient noise levels at the nearby noise-sensitive receivers near the project site:

    - are less than 60 dBA L_{eq} and the project creates a readily perceptible 5 dBA Leq or greater project-related noise level increase; or

    - range from 60 to 65 dBA L_{eq} and the project creates a barely perceptible 3 dBA L_{eq} or greater project-related noise level increase; or

    - already exceed 65 dBA L_{eq}, and the project creates a community noise level impact of greater than 1.5 dBA Leq (FICON, 1992).

Off-Site Traffic Noise:

When the noise levels at existing and future noise-sensitive land uses (e.g., residential, etc.):

- are less than 60 dBA CNEL and the project creates a readily perceptible 5 dBA CNEL or greater project-related noise level increase; or

- range from 60 to 65 dBA CNEL and the project creates a barely perceptible 3 dBA CNEL or greater project-related noise level increase; or

- already exceed 65 dBA CNEL, and the project creates a community noise level impact of greater than 1.5 dBA CNEL (FICON, 1992).

b) Generate excessive groundborne vibration or groundborne noise levels?

As shown in Table 13, a peak particle velocity (PPV) of 0.20 is the threshold at which there is a risk to "architectural" damage to normal dwellings. It is also the level at which groundborne vibration can become annoying.

California Department of Transportation (Caltrans)

The California Department of Transportation has published one of the seminal works for the analysis of ground-borne noise and vibration relating to transportation- and construction-induced vibrations and although the project is not subject to these regulations, it serves as useful tools to evaluate vibration impacts. These guidelines recommend that a standard of 0.2 inches per section (in/sec) PPV not be exceeded for the protection of normal residential buildings (California Department of Transportation, 2013).

City of Eastvale

The City of Eastvale General Plan Noise Element, Policy N-3, identifies a vibration level standard for sensitive land uses of 0.0787 inches per second peak particle velocity (PPV).

Therefore, for the purposes of this analysis, the vibration level shall not exceed 0.0787 in/sec PPV at the nearby sensitive receiver locations during project construction activities capable of generating vibration levels.

LOCAL REGULATIONS

City of Eastvale General Plan

The State of California requires each city to adopt a general plan outlining the effects of development, including the effect of noise. Applicable goals and policies from the City of Eastvale General Plan Noise Element are provided below.

Goal N-1: Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Eastvale.

Goal N-2: Locate noise-tolerant land uses within areas irrevocably committed to land uses that are noise producing, such as transportation corridors.

Goal N-3: Ensure that noise sensitive uses do not encroach into areas needed by noise generating uses.

Goal N-4: Locate noise sources away from existing noise sensitive land uses unless appropriate noise control measures are provided.

Policies

N-1: Protect noise-sensitive land uses from high levels of noise by restricting noise producing land uses from these areas.

N-3: Consider the following uses to be sensitive to noise and vibration, and discourage these uses in areas where existing or projected future noise levels would be in excess of 65 CNEL and/or vibration would be more than 0.0787 Peak Particle Velocity (inches/second):

- Schools;
- Hospitals;
- Rest Homes;
- Long Term Care Facilities;
- Mental Care Facilities;
- Residential Uses;
- Libraries;
- Passive Recreation Use; and
- Places of worship.

N-5: Require that exterior noise forecasts use the appropriate Level of Service for the adjacent roadways, or a 20-year projection of traffic volumes (whichever is greater) for future noise forecasts.

N-6: Mitigate exterior noise to the levels shown in Table 3 to the extent feasible.

N-7: Table 4 provides the City's standards for maximum exterior non-transportation noise levels to which land designated for residential land uses may be exposed for any 30-minute period on any day. Where existing ambient noise levels exceed these standards, the ambient noise level shall be highest allowable noise level as measured in dBA Leq (30 minutes).

N-8: The noise levels specified in Policy N-7 shall be lowered by 5 dB for simple tonal noises (such as humming sounds), noises consisting primarily of speech or music, or for recurring impulsive noises (such as pile drivers, punch presses, and similar machinery). Example: the Single-Family/Duplex standard from 10:00 PM to 7:00 AM for these types of noises is 45 dBA.

N-9: The City may impose exterior noise standards which are less restrictive than those specified in Table 4, provided that:

(1) The noise impact on the residential or other noise-sensitive use is addressed in an environmental analysis and at least one outdoor area meets the standard; and
(2) A finding is made by the approving body specifying why the exception would not be detrimental to the public health, safety and general welfare; and
(3) The exception would not adversely affect the character of the surrounding development.
(4) The exception would not be injurious to adjacent uses, property and improvements; and,
(5) Alternatives have been considered but none are technologically feasible for the proposal; and,
(6) Interior noise levels resulting from an external source will be no more than 45 dBA CNEL from 7:00 AM to 10:00 PM; and,
(7) Residents of noise sensitive uses are informed of the proposal during the review stage and prior to approval.

N-10: Table 5: Maximum Acceptable Interior Noise Levels Created by Exterior Noise Sources provides the City's standards for acceptable indoor noise levels for various types of land uses. These standards should receive special attention when projects are considered in "Tentatively Compatible" or "Normally Incompatible" areas.

N-12: The City's preferences for providing noise mitigation are, in order of preference (#1 is most preferred; #5 is the least):

(1) Reduce noise at the source.
(2) If #1 is not practical, designate land uses which are compatible with projected noise levels.
(3) If #1 or #2 are not practical, use distance from the source to reduce noise to acceptable levels.
(4) If #1, #2, or #3 are not practical, use buildings, berms, or landscaping or a combination of these to reduce exterior noise to acceptable levels. Use construction techniques (sound-reducing windows, insulation, etc.) to reduce interior noise to acceptable levels.
(5) The last measure which should be considered is the use of a sound wall to reduce noise to acceptable levels.

N-14: Ensure compatibility between industrial and commercial development and adjacent land uses. To achieve compatibility, industrial and commercial development projects may be required to include noise mitigation measures to avoid or minimize project impacts on adjacent uses.

N-15: Encourage noise-tolerant land uses such as commercial or industrial development, to locate in areas already committed to land uses that are noise-producing.

N-16: Require that parking structures, terminals, and loading docks of commercial or industrial land uses be designed to minimize potential noise impacts on adjacent noise sensitive land uses.

N-17: If noise levels in Table 4 exceed, or are projected to be exceeded as a result of the proposed commercial or industrial loading dock or delivery area, require delivery hours be limited when adjacent to noise-sensitive land uses.

N-18: Natural buffers, setbacks or other noise attenuation shall be established between freeways and urban arterial roadways and adjoining noise-sensitive areas.

N-22: Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.

N-23: Condition subdivision and other land development approval adjacent to developed/occupied noise-sensitive land uses to require the developer to submit a construction-related noise mitigation plan to

the City for review and approval prior to issuance of a grading permit. The plan must depict the location of construction equipment and specify how the noise from this equipment will be mitigated during construction of this project, through the use of such methods as:

- Temporary noise attenuation fences;
- Preferential location of equipment;
- Length of equipment use and idling time; and,
- Use of current noise suppression technology and equipment.

N-24: Require that all construction equipment be kept properly tuned and use noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

N-25: Development should use natural barriers such as berms, setbacks and/or dense vegetation to assist in noise reduction.

N-27: Noise reduction measures shall be included in the design of new development through measures which may include:

- Separation of noise-sensitive buildings from noise-generating sources;
- Use of natural topography and intervening structures to shield noise-sensitive land uses; and
- Adequate sound proofing of noise sources or receptor structures to maintain desired interior noise levels.

City of Eastvale Municipal Code

In addition to any measures to reduce noise levels recommended in this report, project operations will be subject to the following City ordinances.

8.52.020 - Exemptions

Sound emanating from the following sources is exempt from the provisions of this chapter:

- Private construction projects located one-quarter of a mile or more from an inhabited dwelling;
- Private construction projects located within one-quarter of a mile from an inhabited dwelling, provided that construction does not occur between the hours of: 6:00 PM and 6:00 AM during the months of June through September and 6:00 PM and 7:00 AM during the months of October through May;
- Property maintenance, including, but not limited to, the operation of lawnmowers, leaf blowers, etc., provided such maintenance occurs between the hours of 7:00 AM and 8:00 PM;
- Heating and air conditioning equipment.
- Safety, warning and alarm devices, including, but not limited to, house and car alarms, and other warning devices that are designed to protect the public health, safety and welfare.

8.52.040 – General sound level standards

No person shall create any sound, or allow the creation of any sound, on any property that causes the exterior sound level on any other occupied property to exceed the sound level standards set forth in Table 6.

Table 3
City of Eastvale Noise Compatibility and Land Use Designation[1,2]

Land Use Designations	Completely Compatible	Tentatively Compatible	Normally Incompatible	Completely Incompatible
All Residential (Single- and Multi-Family)	Less than 60 dBA	60-70 dBA	70-75 dBA	Greater than 75 dBA
All Non-Residential (Commercial, Industrial, & Institutional)	Less than 70 dBA	70-75 dBA	Greater than 75 dBA	(3)
Public Parks (Lands on which public parks are located or planned)	Less than 65 dBA	65-70 dBA	70-75 dBA	Greater than 75 dBA

Notes:

(1) Source: City of Eastvale General Plan, Table N-3.

(2) All noise levels shown in this table are designated CNEL.

(3) To be determined as part of the project review process.

Table 4

City of Eastvale Exterior Noise Level Standards for Non-Transportation Noise, Measured as dBA Leq (30 Minutes)

Land Use Type	Time Period	Maximum Noise Level (dBA)
Single-Family Homes and Duplexes	10 PM to 7 AM	50
	7 AM to 10 PM	60
Multiple Residential 3 or More Units Per Building (Triplex +)	10 PM to 7 AM	55
	7 AM to 10 PM	60

Notes:

Source: City of Eastvale General Plan, Table N-4.

Table 5
City of Eastvale Maximum Acceptable Noise Levels Created by Exterior Noise Sources

Land Use Type	Acceptable Noise Level (dBA CNEL)
Residential Living and Sleeping Areas	45 dBA
Residential Living and Sleeping Areas where the dwelling unit is subject to noise from railroad tracks, aircraft overflights, or similar sources which produce clearly identifiable, discrete noise events (such as the passing of a train as opposed to relatively steady or constant noise sources such as roadways)	40 dBA
Private and Semi Private School Classrooms[1]	55 dBA
All Places of Work Other than School Classrooms	Conform with applicable state and federal workplace safety standards

Notes:

Source: City of Eastvale General Plan, Table N-5.

(1) Standards for public schools are set and enforced by the State of California and are not regulated by the City of Eastvale.

Table 6
City of Eastvale Sound Level Standards (dB Lmax)

General Plan Foundation Component			Maximum Decibel Level	
Land Use Designation General Plan	Land Use Designation Name	Density	7:00 AM to 10:00 PM	10:00 PM to 7:00 AM
Community Development				
EDR	Estate density residential	2 acres	55	45
VLDR	Very low-density residential	1 acre	55	45
LDR	Low-density residential	1/2 acre	55	45
MDR	Medium-density residential	2--5	55	45
MHDR	Medium high-density residential	5--8	55	45
HDR	High-density residential	8--14	55	45
VHDR	Very high-density residential	14--20	55	45
H'TDR	Highest density residential	20 +	55	45
CR	Retail commercial		65	55
CO	Office commercial		65	55
CT	Tourist commercial		65	55
CC	Community center		65	55
LI	Light industrial		75	55
HI	Heavy industrial		75	75
BP	Business park		65	45
PF	Public facility		65	45
SP	Specific plan-residential		55	45
	Specific plan-commercial		65	55
	Specific plan-light industrial		75	55
	Specific plan-heavy industrial		75	75
Rural Community				
EDR	Estate density residential	2 acres	55	45
VLDR	Very low-density residential	1 acre	55	45
LDR	Low-density residential	1/2 acre	55	45
Rural				
RR	Rural residential	5 acres	45	45
RM	Rural mountainous	10 acres	45	45
RD	Rural desert	10 acres	45	45
Agriculture				
AG	Agriculture	10 acres	45	45
Open Space				
C	Conservation		45	45
CH	Conservation habitat		45	45
REC	Recreation		45	45
RUR	Rural	20 acres	45	45
W	Watershed		45	45
MR	Mineral resources		75	45

Notes:

Source: City of Eastvale Municipal Code, Section 8.52.040 Table 1.

5. ANALYTICAL METHODOLOGY AND MODEL PARAMETERS

This section discusses the analysis methodologies used to assess noise impacts.

CONSTRUCTION NOISE MODELING

Construction noise associated with the proposed project was calculated at the sensitive receptor locations, utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Distances to receptors were based on the acoustical center of the project site. The equipment used to calculate the construction noise levels for each phase were based on the assumptions provided in the CalEEMod modeling in the Air Quality, Global Climate Change, and Energy Impact Analysis prepared for the proposed project (Ganddini Group, Inc., 2020). For construction noise purposes, the distance measured from the project site to sensitive receptors was assumed to be the acoustical center of the proposed renovation area to the property line of receptor property lines. Construction noise worksheets are provided in Appendix D.

FEDERAL HIGHWAY ADMINISTRATION (FHWA) TRAFFIC NOISE PREDICTION MODEL

Existing and Existing Plus project traffic noise levels were modeled for roadways affected by project generated traffic utilizing the FHWA Traffic Noise Prediction Model FHWA-RD-77-108 in order to quantify the proposed project's contribution to increases in ambient noise levels. Future traffic noise levels were modeled to assess potential traffic related impacts to the proposed project.

The FHWA Traffic Noise Prediction Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). Adjustments are then made to the REMEL to account for: total average daily traffic volumes, roadway classification, width, speed and truck mix, roadway grade and site conditions (hard or soft ground surface). adjacent to all modeled roadways were assumed to have a "hard site" to predict worst-case, conservative noise levels. A hard site, such as pavement, is highly reflective and does not attenuate noise as quickly as grass or other soft sites. Possible reductions in noise levels due to intervening topography and buildings were not accounted for in this analysis.

Roadway parameters utilized to model future traffic noise levels to the project include location, traffic volume, speed and vehicle mix (autos, medium trucks, and heavy trucks). It is important to evaluate potential impacts of the noisiest possible future conditions. These conditions occur when the maximum amount of vehicles pass at the greatest speed. Level of Service (LOS) C represents this condition. The City of Eastvale General Plan Circulation and Infrastructure Element identifies Chandler Street as an Arterial (128 foot right-of-way) roadway. Per the County of Riverside Industrial Hygiene Guidelines for Determining and Mitigating Traffic Noise Impacts to Residential Structures and County of Riverside General Plan, Chapter 4, Figure C-3 "Link Volume Capacities/Level of Service for Riverside County Roadways" revised March 2001, future buildout noise levels associated with these roadways were modeled using average daily traffic volume Level of Service "C" design capacities (also known as future build-out daily traffic volumes). Chandler Street is expected to accommodate up to 28,700 vehicles per day at Level of Service C. The D/E/N splits for use in acoustical studies published by the Riverside County Department of Industrial Hygiene were utilized for noise modeling. Existing Plus project vehicle mixes were calculated by adding the proposed project trips to existing conditions.

The existing average daily trips were obtained from the Archibald Avenue and Chandler Street Project Traffic Impact Analysis, Ganddini Group, Inc. (December 20, 2018) and the project average daily vehicle trips were estimated from the trip generation rate provided in the Eastvale Self-Storage Facility (14555 Chandler Street) Trip Generation Analysis (Trip Generation Analysis) prepared by Ganddini Group, Inc. (January 15, 2020). Existing Plus Project vehicle mixes were calculated by adding the proposed project trips to existing conditions. FHWA spreadsheets are included in Appendix E.

SOUNDPLAN NOISE MODEL

The SoundPLAN acoustical modeling software was utilized to model project operational worst-case stationary noise impacts from the proposed project to adjacent sensitive uses (e.g., residences). SoundPLAN is capable of evaluating stationary noise sources (e.g., parking lots, drive-thru menus, carwash equipment, vacuums, etc.) and much more. The SoundPLAN software utilizes algorithms (based on the inverse square law) to calculate noise level projections. The software allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography, and sensitive receptor locations. In addition to the information provided below, noise modeling input and outputs assumptions are provided in Appendix F.

Peak hour operational noise levels were modeled utilizing the SoundPLAN model. Peak Hour noise levels were modeled assuming peak hour traffic and loading/unloading activity. Vehicle traffic assumptions were based on the peak hour trip generation provided in the Trip Generation Analysis prepared for the proposed project (Ganddini 2020). An area source equivalent to 65 dBA Leq was utilized to model loading and unloading activities. The area source assumes this noise level spread throughout the loading and unloading activities for the entire peak hour. A total of five (5) receptors were modeled to accurately evaluate the proposed project's operational noise impact.

6. IMPACT ANALYSIS

This impact discussion analyzes the potential for noise and/or groundborne vibration impacts to cause the exposure of a person to, or generation of, noise levels in excess of established City of Eastvale standards related to: construction, operation, and transportation noise related impacts to, or from, the proposed project.

IMPACTS RELATED TO CONSTRUCTION NOISE

Sensitive land uses that may be affected by short-term noise impacts associated the transport of workers, the movement of construction materials to and from the project site, ground clearing, excavation, grading, and building activities project construction include the existing single-family detached residential dwelling units located adjacent to the east and west, approximately 80 feet north (across the drainage channel), and approximately 115 feet south (across Chandler Street) of the project site. Construction and demolition noise will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work.

The construction phases for the proposed project are anticipated to include: demolition, site preparation, building construction, paving and architectural coating. A summary of noise level data for a variety of construction equipment compiled by the U.S. Department of Transportation is presented in Table 7. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings.

Construction noise associated with the proposed project was calculated utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Distances to receptors were based on the acoustical center of the proposed construction activity. Construction noise levels were calculated for each phase. Anticipated noise levels during each construction phase are presented in Table 8. Worksheets for each phase are included as Appendix D.

A comparison of existing noise levels and existing plus project construction noise levels are presented in Table 8. Noise measurement 4 (STNM4) was chosen to represent noise levels at the property line of the residential uses to the east of the project site, noise measurement 1 (STNM1) was chosen to represent noise levels at the property line of the residential uses adjacent to the west of the project site, noise measurement 5 (STNM5) was chosen to represent noise levels at the property line of the residential uses to the north of the project site, and noise measurement 2 (STNM2) was chosen to represent noise levels at the property line of the residential uses to the south of the project site.

As discussed earlier, Section 8.52.020(9) of the City's Municipal Code exempts construction noise as long as it occurs between the hours of 6:00 AM and 6:00 PM during the months of June through September and 7:00 AM and 6:00 PM during the months of October through May. Further, Policy N-24 of the City of Eastvale General Plan requires construction equipment to be kept properly tuned and use noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

Noise impacts are considered significant if they occur at any time other than the permitted hours of 6:00 AM to 6:00 PM June through September, and 7:00 AM to 6:00 PM October through May; generate noise levels which exceed the 85 dBA L_{eq} acceptable noise level threshold at the nearby sensitive receiver locations; or generate temporary project construction-related noise level increases which exceed the 12 dBA L_{eq} substantial noise level increase threshold at noise-sensitive receiver locations.

Per the construction noise modeling, unmitigated construction noise levels when combined with existing measured noise levels are expected to reach 78.1 dBA L_{eq} at the nearest residential property line to the east

of the project site, up to 78.3 dBA L_{eq} at the nearest residential property line adjacent to the west of the project site, up to 71.3 dBA L_{eq} at the nearest residential property line to the north of the project site, and up to 72.1 dBA L_{eq} at the nearest residential property line to the south of the project site. Noise level increases are expected to range between 0.6 to 23.7 dB at the modeled receptors.

Although, unmitigated project construction noise levels are not expected to exceed the 85 dBA L_{eq} acceptable noise level threshold; they are expected to exceed the 12 dBA L_{eq} substantial noise level increase threshold. Impacts would be considered significant without mitigation.

As shown in Table 8, with incorporation of mufflers or enclosures or acoustical tents (as appropriate) that provide at least 13 dBA of reduction, construction noise levels will no longer exceed the 12 dBA L_{eq} substantial noise level increase threshold. Therefore, with incorporation of mitigation measures identified in Section 7 of this report, construction noise impacts would be less than significant.

NOISE IMPACTS TO OFF-SITE RECEPTORS DUE TO PROJECT GENERATED TRIPS

Existing and existing plus project traffic noise was modeled utilizing project trip generation information obtained from the Trip Generation Analysis prepared by Ganddini Group, Inc. (January 2020) an. As this project only has a Trip Generation Analysis, existing daily vehicle trips were obtained from a study conducted for a project nearby, Archibald Avenue and Chandler Street Project Traffic Impact Analysis, Ganddini Group, Inc. (December 20, 2018).

A worst-case scenario that assumes that all project generated vehicle trips will pass the single-family detached residential neighborhoods along Chandler Street was modeled. The proposed project is expected to generate approximately 157 average daily vehicle trips with 14 evening peak hour vehicle trips and 14 morning peak hour vehicle trips. See Table 9 for modeled traffic volumes and roadway parameters.

As stated previously, increases in ambient noise along affected roadways due to project generated vehicle traffic is considered substantial if the noise levels at existing and future noise-sensitive land uses (e.g., residential, etc.):

- are less than 60 dBA CNEL and the project creates a readily perceptible 5 dBA CNEL or greater project-related noise level increase; or
- range from 60 to 65 dBA CNEL and the project creates a barely perceptible 3 dBA CNEL or greater project-related noise level increase; or
- already exceed 65 dBA CNEL, and the project creates a community noise level impact of greater than 1.5 dBA CNEL

As shown in Table 10, project generated vehicle trips are projected to result in increases in the existing ambient noise by less than 1 dB and would not result in substantial increases in ambient noise levels. Impacts related to project generated trip impacts to sensitive receptors would be less than significant. No mitigation is necessary. See Appendix E for modeling spreadsheets and existing traffic volume data.

TRANSPORATION NOISE IMPACTS TO THE PROPOSED PROJECT

As shown in Table 3, per the City of Eastvale, commercial land uses are considered to be "completely compatible" in environments where the exterior noise level reach up to 70 CNEL and "tentatively compatible" in environments where the exterior noise level reaches up to 75 CNEL.

Chandler Street is the only roadway anticipated to carry enough vehicle traffic under buildout conditions to affect the proposed self-storage facility. The City of Eastvale General Plan Circulation and Infrastructure Element identifies Chandler Street as an Arterial (128 foot right-of-way) roadway. Per the County of Riverside Industrial Hygiene Guidelines for Determining and Mitigating Traffic Noise Impacts to Residential Structures

and County of Riverside General Plan, Chapter 4, Figure C-3 "Link Volume Capacities/Level of Service for Riverside County Roadways" revised March 2001, future buildout noise levels associated with these roadways were modeled using average daily traffic volume Level of Service "C" design capacities (also known as future build-out daily traffic volumes). Chandler Street is expected to accommodate up to 28,700 vehicles per day at Level of Service C.

FHWA modeling was conducted to calculate noise levels associated with buildout vehicle traffic noise from Chandler Street. Future buildout traffic noise levels could reach up to 75.0 dBA CNEL at the proposed self-storage building that lies closest to Chandler Street, approximately 82 feet north of the roadway. Modeling spreadsheets are presented in Appendix E.

The exterior noise levels at the proposed project site are anticipated to fall within the City's compatible standards for commercial land uses. Impacts related to future traffic noise impacts to the proposed project would be less than significant.

NOISE IMPACTS TO OFF-SITE RECEPTORS DUE TO ON-SITE OPERATIONAL NOISE

Sensitive receptors that may be affected by project operational noise include the single-family detached residential dwelling units located adjacent to the east and west, approximately 80 feet north, and approximately 115 feet south of the proposed project.

Peak hour operational noise levels were modeled utilizing the SoundPLAN model. Peak Hour noise levels were modeled assuming peak hour traffic and loading/unloading activity. Vehicle traffic assumptions were based on the peak hour trip generation provided in the Trip Generation Analysis prepared for the proposed project (Ganddini 2020). An area source equivalent to 65 dBA Leq was utilized to model loading and unloading activities. The area source assumes this noise level spread throughout the loading and unloading activities for the entire peak hour. A total of five (5) receptors were modeled to accurately evaluate the proposed project's operational noise impact. SoundPLAN input and output data are presented in Appendix F.

Figure 6 and Table 11 show that operational noise levels associated with the proposed project are expected to range between 40.5 to 49.1 dBA L_{eq} at the nearby sensitive receptors. Project operational noise levels are expected to result in an increase in daytime ambient noise levels of up to 1.2 dBA (L_{eq}) and will not be readily noticeable over the existing measured daytime noise levels that range between 49.2 to 66.6 dBA L_{eq}.

Compliance with General Plan Stationary Noise Standards

Although Table 11 shows that existing noise levels at Receptors R1, R2 and R3 currently exceed daytime noise standards, the proposed project will not substantially contribute to these noise levels. Existing measured nighttime noise levels range between 45.4 and 54.3 dBA L_{eq}. However, peak hour operations are not expected to occur during nighttime hours; only an occasional visitor is expected during nighttime hours. Nighttime project operational noise levels (L_{eq}) are not expected to result in violations of the City's nighttime non-transportation noise standard.

Project operation is not expected to violate City Non-Transportation daytime or nighttime noise standards. Operational noise impacts to sensitive receptors would be less than significant. No mitigation is required.

CEQA - Increase in Ambient Noise Levels

Project operational noise levels are expected to result in an increase in daytime ambient noise levels of up to 1.2 dBA (L_{eq}) and will not be readily noticeable over the existing measured daytime noise levels that range between 49.2 to 66.6 dBA L_{eq}.

Existing measured nighttime noise levels range between 45.4 and 54.3 dBA L_{eq} and modeled peak hour operational noise levels are expected to range between 40.5 to 49.1 dBA. Further, peak hour operations are

also not expected to occur during nighttime hours; only an occasional visitor is expected during nighttime hours. Nighttime project operational noise levels (L_{eq}) will not be readily noticeable and will not result in substantial increases in ambient noise levels.

The project would not result in substantial increases in ambient noise levels. This impact would be less than significant. No mitigation is required.

GROUNDBORNE VIBRATION IMPACTS

Construction Vibration

There are several types of construction equipment that can cause vibration levels high enough to annoy persons in the vicinity and/or result in architectural or structural damage to nearby structures and improvements. For example, as shown in Table 12, a vibratory roller could generate up to 0.21 PPV at a distance of 25 feet; and operation of a large bulldozer (0.089 PPV) at a distance of 25 feet (two of the most vibratory pieces of construction equipment). Groundborne vibration at sensitive receptors associated with this equipment would drop off as the equipment moves away. For example, as the vibratory roller moves further than 100 feet from the sensitive receptors, the vibration associated with it would drop below 0.0026 PPV. It should be noted that these vibration levels are reference levels and may vary slightly depending upon soil type and specific usage of each piece of equipment.

Annoyance to Persons
The primary effect of perceptible vibration is often a concern. However, secondary effects, such as the rattling of a china cabinet, can also occur, even when vibration levels are well below perception. Any effect (primary perceptible vibration, secondary effects, or a combination of the two) can lead to annoyance. The degree to which a person is annoyed depends on the activity in which they are participating at the time of the disturbance. For example, someone sleeping or reading will be more sensitive than someone who is running on a treadmill. Reoccurring primary and secondary vibration effects often lead people to believe that the vibration is damaging their home, although vibration levels are well below minimum thresholds for damage potential.

As shown in Table 13 vibration can be annoying to people in buildings at a PPV of 0.20. However, as stated above, the City of Eastvale identifies a vibration level standard for sensitive land uses of 0.0787 inches per second peak particle velocity (PPV).

The nearest off-site structure is the residential building located approximately 12 feet to the west of the project site. At 12 feet, use of a vibratory roller would be expected to generate a PPV of 0.631 and a large bulldozer would be expected to generate a PPV of 0.268. Due to the proximity of the adjacent residential buildings to the west, project construction activities could result in groundborne vibration that is annoying. Annoyance is expected to be short-term. In order to satisfy the City of Eastvale vibration standard of 0.0787 in/sec PPV, a mitigation measure restricting the use of vibratory rollers, and other similar vibratory equipment, within 50 feet and large bulldozers within 30 feet of the residential structures located at the western project boundary is presented in Section 7 of this report.

The next nearest off-site structure is the residential building located approximately 115 feet north of the project site's northern property line. At 115 feet, use of a vibratory roller would be expected to generate a PPV of 0.021 and a large bulldozer would be expected to generate a PPV of 0.009. Use of either a vibratory roller or a large bulldozer would not be considered annoying to the residential uses to the north.

Architectural Damage

Vibration generated by construction activity generally has the potential to damage structures. This damage could be structural damage, such as cracking of floor slabs, foundations, columns, beams, or wells, or cosmetic architectural damage, such as cracked plaster, stucco, or tile.

Table 13 identifies a PPV level of 0.2 as the threshold at which there is a risk to "architectural" damage to normal dwelling units. Groundborne vibration may reach up to 0.631 PPV at existing single-family residential structures along the project's western boundary and has the potential to result in architectural damage. However, this potential can be reduced to less than significant by avoiding the use of vibratory rollers and other similar vibratory equipment.

The use of a vibratory roller would be expected to generate a PPV of 0.198 at 26 feet and a large bulldozer would be expected to generate a PPV of 0.191 at 15 feet. Therefore, in order to avoid the potential for structural damage at the residential dwelling units located as close as approximately 12 feet west of the project site's western property line, a mitigation measure prohibiting the use of vibratory rollers within 14 feet and large bulldozers within 3 feet of the western property line is presented in Section 7 of this report.

With incorporation of mitigation, impacts associated with construction activities would be less than significant. Vibration worksheets are provided in Appendix G.

Operational Vibration

The City of Eastvale General Plan discourages residential dwelling units in areas where the background groundborne vibration levels exceed 0.0787 PPV. Project operation is expected to include ingress and egress of moving trucks. Moving trucks are expected to generate vibration levels of up to 0.20 PPV at a distance of 5 feet (Caltrans 2013) or 0.07 PPV at a distance of 10 feet. The project is not expected to result in groundborne vibration levels that exceed 0.0787 PPV at adjacent residential structures. Impacts related to operational groundborne vibration would be less than significant.

Table 7 (7 of 14)
CA/T Equipment Noise Emissions and Acoustical Usage Factor Database

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
All Other Equipment > 5 HP	No	50	85	-N/A-	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	-N/A-	0
Blasting	Yes	-N/A-	94	-N/A-	0
Boring Jack Power Unit	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch Plant	No	15	83	-N/A-	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Forklift[2,3]	No	50	-N/A-	61	-N/A-
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (<25KVA, VMS signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	-N/A-	0
Grapple (on backhoe)	No	40	85	87	1
Horizontal Boring Hydraulic Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	-N/A-	0
Impact Pile Driver	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarafier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	50	85	77	9
Paving Equipment	No	50	85	77	9

Table 7 (8 of 14)
CA/T Equipment Noise Emissions and Acoustical Usage Factor Database

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
Pneumatic Tools	No	50	85	85	90
Pumps	No	50	77	81	17
Refrigerator Unit	No	100	82	73	3
Rivit Buster/chipping gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (Single Nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Shears (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trenching Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	-N/A-	0
Tractor	No	40	84	-N/A-	0
Vacuum Excavator (Vac-truck)	No	40	85	85	149
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12
Welder/Torch	No	40	73	74	5

Notes:

(1) Source: FHWA Roadway Construction Noise Model User's Guide January 2006.

(2) Warehouse & Forklift Noise Exposure - NoiseTesting.info Carl Stautins, November 4, 2014 http://www.noisetesting.info/blog/carl-strautins/page-3/

(3) Data provided Leq as measured at the operator. Sound Level at 50 feet is calculated using Inverse Square Law.

Table 8
Construction Noise Levels (L_{eq})

Receptor Location	Phase	Existing Ambient Noise Levels (Leq)[1]	Unmitigated Construction Noise Levels (Leq)[2]	Combined Noise Levels	Increase (dB)	Reduction with Mitigation[3] (dB)	Mitigated Construction Noise Levels (Leq)	Mitigated Existing Plus Construction Noise Levels (Leq)	Mitigated Increase in Ambient Noise Levels (Leq)
East	Demolition	53.9	77.6	77.6	23.7	13	64.6	65.0	11.1
West		64.1	77.6	77.8	13.7	13	64.6	67.4	3.3
North		49.2	70.9	70.9	21.7	13	57.9	58.4	9.2
South		66.6	70.2	71.8	5.2	13	57.2	67.1	0.5
East	Site Preparation	53.9	65.6	65.9	12.0	13	52.6	56.3	2.4
West		64.1	65.6	67.9	3.8	13	52.6	64.4	0.3
North		49.2	58.9	59.3	10.1	13	45.9	50.9	1.7
South		66.6	58.2	67.2	0.6	13	45.2	66.6	0.0
East	Grading	53.9	76.6	76.6	22.7	13	63.6	64.0	10.1
West		64.1	76.6	76.8	12.7	13	63.6	66.9	2.8
North		49.2	69.8	69.8	20.6	13	56.8	57.5	8.3
South		66.6	69.1	71.0	4.4	13	56.1	67.0	0.4
East	Building Construction	53.9	74.4	74.4	20.5	13	61.4	62.1	8.2
West		64.1	74.4	74.8	10.7	13	61.4	66.0	1.9
North		49.2	67.7	67.8	18.6	13	54.7	55.8	6.6
South		66.6	67.0	69.8	3.2	13	54.0	66.8	0.2
East	Paving	53.9	78.1	78.1	24.2	13	65.1	65.4	11.5
West		64.1	78.1	78.3	14.2	13	65.1	67.6	3.5
North		49.2	71.3	71.3	22.1	13	58.3	58.8	9.6
South		66.6	70.6	72.1	5.5	13	57.6	67.1	0.5
East	Architectural Coating	53.9	65.6	65.9	12.0	13	52.6	56.3	2.4
West		64.1	65.6	67.9	3.8	13	52.6	64.4	0.3
North		49.2	58.9	59.3	10.1	13	45.9	50.9	1.7
South		66.6	58.2	67.2	0.6	13	45.2	66.6	0.0

Notes:

(1) Per measured existing ambient noise levels. STNM4 was used for receptors to the east, STNM1 was used for receptors to the west, STNM5 was used for receptors to the north, and STNM2 was used for receptors to the south.

(2) Construction noise worksheets are provided in Appendix D.

(3) This reduction can be verified by measuring on-site equipment or by special ordering mufflers to meet reduction requirement, or by providing sheilding/acoustic tent that provides a 20 dB reduction. See Appendix D.

Table 9
Project Average Daily Traffic Volumes and Roadway Parameters

Roadway	Segment	Average Daily Traffic Volume[1]		Posted Travel Speeds (MPH)	Site Conditions
		Existing	Existing Plus Project		
Chandler Street	West of Archibald Avenue	6,800	6,957	45	Hard

Vehicle Distribution (Heavy Mix)[2]			
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)
Automobiles	75.54	14.02	10.43
Medium Trucks	48.00	2.00	50.00
Heavy Trucks	48.00	2.00	50.00

Notes:

(1) Project average daily traffic volumes obtained from the Eastvale Self-Storage Facility (14555 Chandler Street) Trip Generation Analysis, Ganddini Group, Inc. (January 15, 2020) and existing average daily traffic volumes obtained from the Archibald Avenue and Chandler Street Project Traffic Impact Analysis, Ganddini Group, Inc. (December 20, 2018).

(2) Existing vehicle percentages are based on the Riverside County Industrial Hygiene Letter for Traffic Noise.

Table 10
Change in Existing Noise Levels Along Roadways as a Result of Project (dBA CNEL)

Roadway	Segment	Distance from roadway centerline to right-of-way (feet)[1]	Modeled Noise Levels (dBA CNEL)[2]				
			Existing Without Project at right-of-way	Existing Plus Project at right-of-way	Change in Noise Level	Exceeds Standards[3]	Greater than 3 dB Increase
Chandler Street	West of Archibald Avenue	64	70.16	70.26	0.10	YES	NO

Notes:

(1) Right of way per the City of Eastvale General Plan Circulation and Infrastructure Element (June 13, 2012).

(2) Exterior noise levels calculated 5-feet above pad elevation, perpendicular to subject roadway.

(3) Per the City of Eastvale completely compatible standard for residential dwelling units (see Table 3).

Table 11
Unmitigated Operational Noise Level Increases
(Daytime at Backyards of Affected Residences)

Reciever Location[1]	Project Operational Noise Levels (dBA Leq)[2]	Measurement Location[3]	Ambient Noise Levels (dBA Leq)[4]	Combined Project and Ambient (dBA Leq)[5]	Project Contribution (dBA Leq)[6]	Significance Threshold[7] (daytime)	Daytime Threshold Exceeded?
R1	40.5	NM1	64.1	64.1	0.0	60.0	Yes
R2	40.6	NM2	66.6	66.6	0.0	60.0	Yes
R3	40.7	NM3	63.9	63.9	0.0	60.0	Yes
R4	49.1	NM4	53.9	55.1	1.2	60.0	No
R5	43.5	NM3	49.2	50.2	1.0	60.0	No

Notes:

(1) See Figure 6 for receiver locations.

(2) See Figures 6 and 7 for Peak Hour Operational Noise Levels.

(3) See Figure 5 for Noise Measurement Locations.

(4) Measured Ambient Noise Levels (see Table 1).

(5) Represents combined ambient conditions plus the project activities.

(6) The noise level increase expected with the addition of the proposed project activities.

(7) Significance criteria as defined in Section 4 and summarized in Table 4.

Table 12
Construction Equipment Vibration Source Levels

Equipment		PPV at 25 ft, in/sec	Approximate Lv* at 25 ft
Pile Driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.170	93
clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large Bulldozer		0.089	87
Caisson Drilling		0.089	87
Loaded Trucks		0.076	86
Jackhammer		0.035	79
Small Bulldozer		0.003	58

Notes:

Source: Federal Transit Administration: Transit Noise and Vibration Impact Assessment Manual, 2018.

*RMS velocity in decibels, VdB re 1 micro-in/sec

Table 13
Typical Human Reaction and Effect on Buildings Due to Groundborne Vibration

Vibration Level Peak Particle Velocity (PPV)	Human Reaction	Effect on Buildings
0.006–0.019 in/sec	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08 in/sec	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10 in/sec	Level at which continuous vibration begins to annoy people	Virtually no risk of "architectural" (i.e., not structural) damage to normal buildings
0.20 in/sec	Vibrations annoying to people in buildings	Threshold at which there is a risk to "architectural" damage to normal dwelling – houses with plastered walls and ceilings
0.4–0.6 in/sec	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Notes:
(1) Source: California Department of Transportation. Transportation and Construction Vibration Guidance Manual, Chapter 6 Tables 5 and 12, September 2013.

Figure 6

Operational Noise Levels
Peak Hour (Leq)

Signs and symbols

- Project Site
- Receiver
- Loading/Unloading
- Parking lot

1 : 400

0 100 200 400 600 800 feet

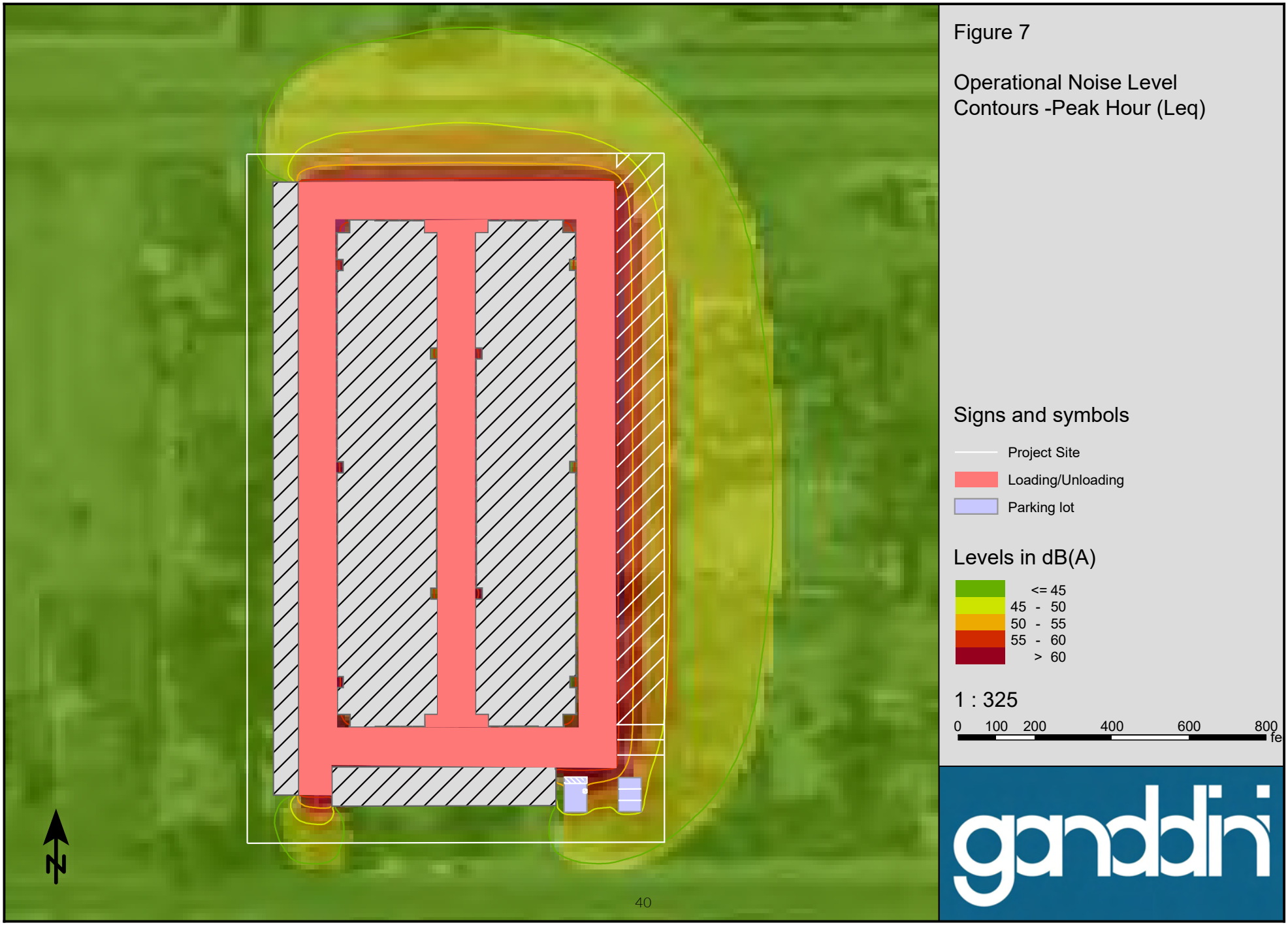


Figure 7
Operational Noise Level Contours -Peak Hour (Leq)
Signs and symbols
Project Site
Loading/Unloading
Parking lot
Levels in dB(A)
<= 45
45 - 50
50 - 55
55 - 60
> 60
1 : 325
0 100 200 400 600 800
N
gandini

7. MEASURES TO REDUCE IMPACTS

CONSTRUCTION NOISE REDUCTION MEASURES

In addition to adherence to the City of Eastvale Municipal Code, which limits the construction hours of operation, the following measures are recommended to reduce construction noise and vibrations, emanating from the proposed project:

1. During all project construction phases on-site, construction contractors shall equip all construction equipment, fixed or mobile, with either properly operating and maintained mufflers or enclosures/acoustical tents (as appropriate) that achieve at least 13 dB reduction from noise level specifications presented in Table 8 of this report. The sound barriers need to be solid without holes or cracks. Openings in the temporary barriers for access will be necessary, but should be placed in a manner that does not interrupt the solid barrier between the noise source and the affected sensitive receptor(s).

2. The contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

3. Equipment shall be shut off and not left to idle when not in use.

4. The contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the project site during all project construction.

5. Jackhammers, pneumatic equipment and all other portable stationary noise sources shall be shielded and noise shall be directed away from sensitive receptors.

6. The project proponent shall mandate that the construction contractor prohibit the use of music or sound amplification on the project site during construction.

7. The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment.

8. In order to limit annoyance due to vibration, the contractor shall restrict the use of vibratory rollers, and other similar equipment, within 50 feet of the residential structures located at the western project boundary and large bulldozers within 30 feet of the residential structure located at the western project boundary.

9. In order to avoid potential structural damage, the use of vibratory rollers, or other similar vibratory equipment, within 14 feet and large bulldozers within 3 feet of the western property line is prohibited.

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APPENDICES

Appendix A List of Acronyms
Appendix B Definitions of Acoustical Terms
Appendix C Noise Measurement field Worksheet
Appendix D Construction Noise Modeling
Appendix E FHWA Traffic Noise Prediction Model
Appendix F SoundPLAN Input and Output
Appendix G Vibration Worksheets

APPENDIX A

LIST OF ACRONYMS

Term	Definition
ADT	Average Daily Traffic
ANSI	American National Standard Institute
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
D/E/N	Day / Evening / Night
dB	Decibel
dBA or dB(A)	Decibel "A-Weighted"
dBA/DD	Decibel per Double Distance
dBA L_{eq}	Average Noise Level over a Period of Time
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
L_{02},L_{08},L_{50},L_{90}	A-weighted Noise Levels at 2 percent, 8 percent, 50 percent, and 90 percent, respectively, of the time period
DNL	Day-Night Average Noise Level
$L_{eq(x)}$	Equivalent Noise Level for '"x" period of time
L_{eq}	Equivalent Noise Level
L_{max}	Maximum Level of Noise (measured using a sound level meter)
L_{min}	Minimum Level of Noise (measured using a sound level meter)
LOS C	Level of Service C
OPR	California Governor's Office of Planning and Research
PPV	Peak Particle Velocities
RCNM	Road Construction Noise Model
REMEL	Reference Energy Mean Emission Level
RMS	Root Mean Square

APPENDIX B

DEFINITIONS OF ACOUSTICAL TERMS

Term	Definition
Ambient Noise Level	The all-encompassing noise environment associated with a given environment, at a specified time, usually a composite of sound from many sources, at many directions, near and far, in which usually no particular sound is dominant.
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear.
CNEL	Community Noise Equivalent Level. CNEL is a weighted 24-hour noise level that is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours.
Decibel, dB	A logarithmic unit of noise level measurement that relates the energy of a noise source to that of a constant reference level; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
DNL, Ldn	Day Night Level. The DNL, or Ldn is a weighted 24-hour noise level that is obtained by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the nighttime hours.
Equivalent Continuous Noise Level, L_{eq}	A level of steady state sound that in a stated time period, and a stated location, has the same A-weighted sound energy as the time-varying sound.
Fast/Slow Meter Response	The fast and slow meter responses are different settings on a sound level meter. The fast response setting takes a measurement every 100 milliseconds, while a slow setting takes one every second.
Frequency, Hertz	In a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., the number of cycles per second).
L_{02}, L_{08}, L_{50}, L_{90}	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level, 2 percent, 8 percent, 50 percent, and 90 percent of a stated time period, respectively.
L_{max}, L_{min}	L_{max} is the RMS (root mean squared) maximum level of a noise source or environment measured on a sound level meter, during a designated time interval, using fast meter response. L_{min} is the minimum level.
Offensive/ Offending/ Intrusive Noise	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of sound depends on its amplitude, duration, frequency, and time of occurrence, and tonal information content as well as the prevailing ambient noise level.
Root Mean Square (RMS)	A measure of the magnitude of a varying noise source quantity. The name derives from the calculation of the square root of the mean of the squares of the values. It can be calculated from either a series of lone values or a continuous varying function.

APPENDIX C

NOISE MEASUREMENT FIELD WORKSHEET

Noise Measurement
Field Data

Project Name: Eastvale Self Storage Facility, City of Eastvale **Date:** January 30, 2020

Project #: JN 19226

Noise Measurement #: STNM1 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Gallagher

Nearest Address or Cross Street: 14581 Chandler Street, Eastvale, California

Site Description (Type of Existing Land Use and any other notable features): Project site: grassy field used for storage of vehicles, livestock and miscellaneous. 5 single family residences on S end of site with various farm animals. Adjacent to Project Site: Medium density single family residences to N, E, W & S. Noise Measurement Site: Chandler Street to south, single-family residential to north.

Weather: About 5% high white cloud, filtered sun. Sunset 5:20 PM **Settings:** SLOW FAST

Temperature: 62 deg F **Wind:** 3-5 mph **Humidity:** 34% **Terrain:** Flat

Start Time: 10:07 AM **End Time:** 10:22 AM **Run Time:**

Leq: 64.1 dB **Primary Noise Source:** Traffic noise from 74 vehicles traveling along Chandler Street during 15 minute noise measurement.

Lmax 75.9 dB

L2 73.3 dB **Secondary Noise Sources:** Overhead choppers, aircraft both jet and propeller. Residential & farm like ambiance from people, cows, sheep, goats, dogs, cockerels & hens. Bird song.

L8 70.3 dB

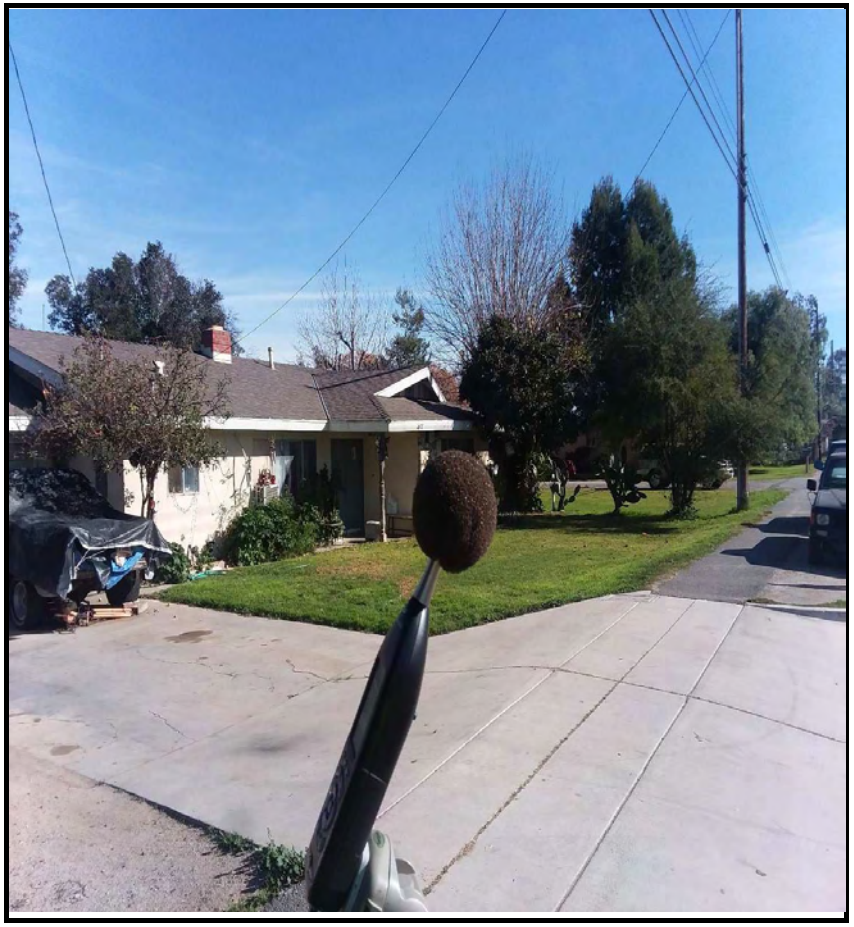
L25 62.5 dB

L50 56.0 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2733
FACTORY CALIBRATION DATE:	6/23/2017	**FACTORY CALIBRATION DATE:**	8/9/2017
FIELD CALIBRATION DATE:	1/30/2020		

Noise Measurement
Field Data

PHOTOS:



STNM1 looking NE across driveway of residence 14577 Chandler Street, Eastvale.

STNM1 looking W down Chandler Street towards Hall Avenue intersection.

Summary	
File Name on Meter	LxT_Data.333
File Name on PC	SLM_0003099_LxT_Data_333.01.ldbin
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.301
User	Ian Edward Gallagher
Location	STNM1 JN 19226 Eastvale 33°56'46.88"N 117°36'8.38"W
Job Description	15 minute noise measurement (1 x 15 minutes)

Measurement	
Start	2020-01-30 10:07:59
Stop	2020-01-30 10:22:59
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2020-01-30 10:03:21
Post Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Low
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	122.7 dB

Results			
LA_{eq}	64.1		
LAE	93.6		
EA	256.413	µPa²h	
EA8	8.205	mPa²h	
EA40	41.026	mPa²h	
$LZ_{peak\ (max)}$	2020-01-30 10:15:38	94.6	dB
LAS_{max}	2020-01-30 10:09:49	75.9	dB
LAS_{min}	2020-01-30 10:10:17	41.2	dB
SEA	-99.9	dB	

			Statistics	
LC_{eq}	68.7	dB	**LAI2.00**	73.3 dB
LA_{eq}	64.1	dB	**LAI8.00**	70.3 dB
LC_{eq} - LA_{eq}	4.7	dB	**LAI25.00**	62.5 dB
LAI_{eq}	65.8	dB	**LAI50.00**	56.0 dB
LA_{eq}	64.1	dB	**LAI66.60**	51.9 dB
LAI_{eq} - LA_{eq}	1.7	dB	**LAI90.00**	46.4 dB
# Overloads	0			

Noise Measurement
Field Data

Project Name: Eastvale Self Storage Facility, City of Eastvale **Date:** January 30, 2020

Project #: JN 19226

Noise Measurement #: STNM2 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Gallagher

Nearest Address or Cross Street: 7817 Hazelnut Drive, Eastvale, California

Site Description (Type of Existing Land Use and any other notable features): Project site: grassy field used for storage of vehicles, livestock and miscellaneous. 5 single family residences on S end of site with various farm animals. Adjacent to Project Site: Medium density single family residences to N, E, W & S. Noise Measurement Site: Chandler Street to north, block wall to south with single-family residential just passed wall.

Weather: About 5% high white cloud, filtered sun. Sunset 5:20 PM **Settings:** SLOW FAST

Temperature: 62 deg F **Wind:** 3-5 mph **Humidity:** 34% **Terrain:** Flat

Start Time: 10:41 AM **End Time:** 10:56 AM **Run Time:**

Leq: 66.6 dB

Lmax 81.5 dB

L2 75.8 dB

L8 72.3 dB

L25 65.5 dB

L50 56.8 dB

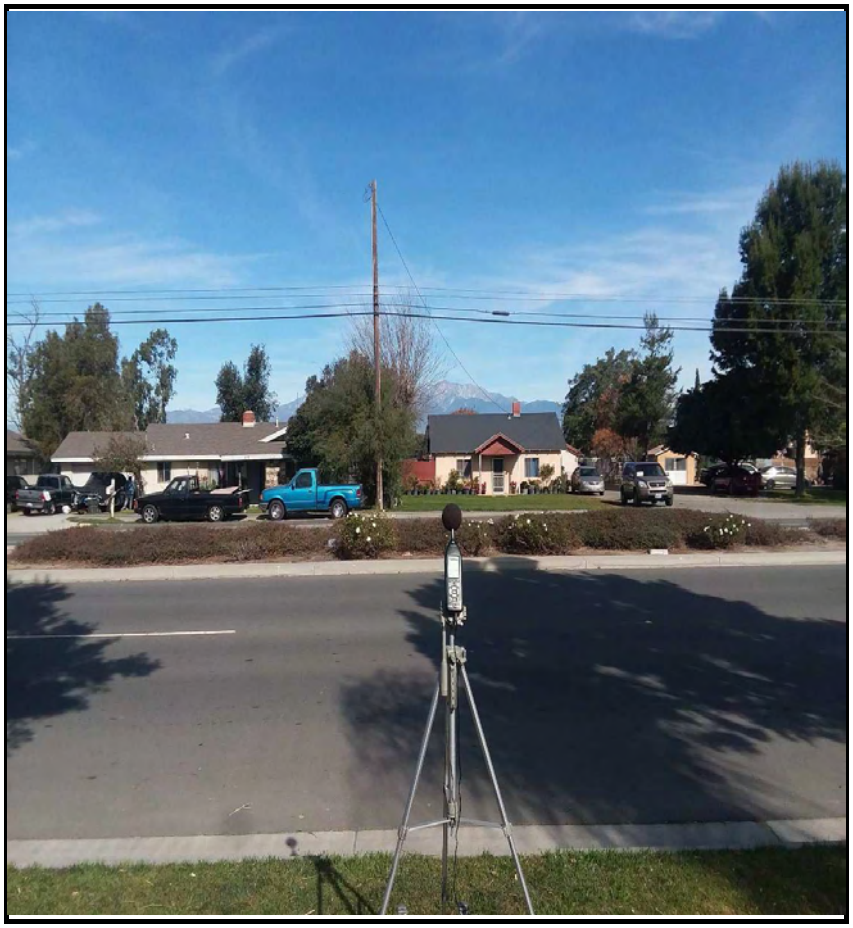
Primary Noise Source: Traffic noise from 63 vehicles traveling along Chandler Street during 15 minute noise measurement.

Secondary Noise Sources: Overhead choppers, aircraft both jet and propeller. Residential & farm like ambiance from people, cows, sheep, goats, dogs, cockerels & hens. Bird song.

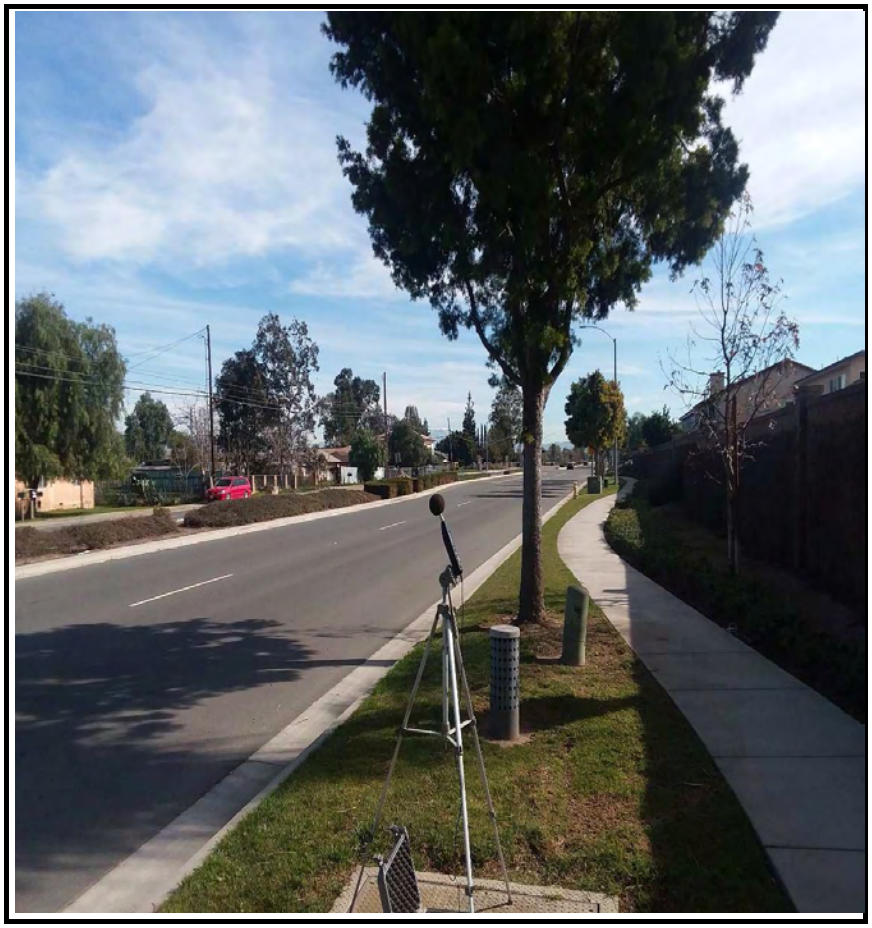
NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2733
FACTORY CALIBRATION DATE:	6/23/2017	**FACTORY CALIBRATION DATE:**	8/9/2017
FIELD CALIBRATION DATE:	1/30/2020		

Noise Measurement
Field Data

PHOTOS:



STNM2 looking N across Chandler Street towards residence 14565 Chandler Street, Eastvale, California.



STNM2 looking E down Chandler Street, cinder block wall between 7 to 8 feet tall. about 15 feet S of microphone.

Summary	
File Name on Meter	LxT_Data.334
File Name on PC	SLM_0003099_LxT_Data_334.00.ldbin
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.301
User	Ian Edward Gallagher
Location	STNM2 JN 19226 Eastvale 33°56'45.91"N 117°36'6.31"W
Job Description	15 minute noise measurement (1 x 15 minutes)

Measurement	
Start	2020-01-30 10:41:11
Stop	2020-01-30 10:56:11
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2020-01-30 10:39:37
Post Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Low
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	122.5 dB

Results			
L_{Aeq}	66.6		
LAE	96.1		
EA	456.801	µPa²h	
EA8	14.618	mPa²h	
EA40	73.088	mPa²h	
$LZ_{peak\ (max)}$	2020-01-30 10:42:33	101.5	dB
LAS_{max}	2020-01-30 10:42:33	81.5	dB
LAS_{min}	2020-01-30 10:41:13	39.0	dB
SEA	-99.9	dB	

			Statistics	
LC_{eq}	71.3	dB	**LAI2.00**	75.8 dB
LA_{eq}	66.6	dB	**LAI8.00**	72.3 dB
LC_{eq} - LA_{eq}	4.7	dB	**LAI25.00**	65.5 dB
LAI_{eq}	68.7	dB	**LAI50.00**	56.8 dB
LA_{eq}	66.6	dB	**LAI66.60**	50.2 dB
LAI_{eq} - LA_{eq}	2.1	dB	**LAI90.00**	43.1 dB
# Overloads	0			

Noise Measurement
Field Data

Project Name: Eastvale Self Storage Facility, City of Eastvale **Date:** January 30, 2020

Project #: JN 19226

Noise Measurement #: STNM3 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Gallagher

Nearest Address or Cross Street: 14519 Chandler Street, Eastvale, California.

Site Description (Type of Existing Land Use and any other notable features): Project site: grassy field used for storage of vehicles, livestock and miscellaneous. 5 single family residences on S end of site with various farm animals. Adjacent to Project Site: Medium density single family residences to N, E, W & S. Noise Measurement Site: Chandler Street to south, single-family residential to north.

Weather: About 5% high white cloud, filtered sun. Sunset 5:20 PM **Settings:** SLOW FAST

Temperature: 65 deg F **Wind:** 3-5 mph **Humidity:** 25% **Terrain:** Flat

Start Time: 11:29 AM **End Time:** 11:44 AM **Run Time:**

Leq: 63.6 dB

Lmax 76.5 dB

L2 73.0 dB

L8 68.9 dB

L25 62.6 dB

L50 57.7 dB

Primary Noise Source: Traffic noise from 63 vehicles traveling along Chandler Street during 15 minute noise measurement. (Same # of vehicles as STNM2)

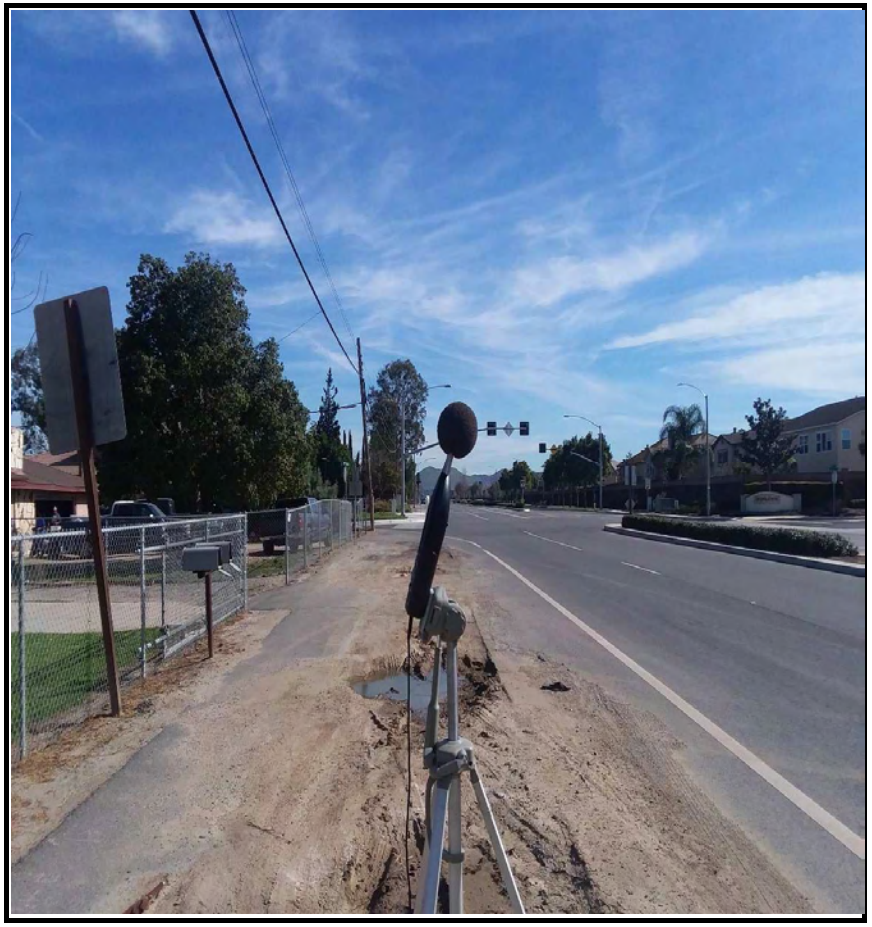
Secondary Noise Sources: Overhead choppers, aircraft both jet and propeller. Residential & farm like ambiance from people, cows, sheep, goats, dogs, cockerels & hens. Bird song.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2733
FACTORY CALIBRATION DATE:	6/23/2017	**FACTORY CALIBRATION DATE:**	8/9/2017
FIELD CALIBRATION DATE:	1/30/2020		

Noise Measurement
Field Data

PHOTOS:

STNM3 looking N into front yard of residence 14519 Chandler Street, Eastvale.



STNM3 looking E down Chandler Street passed Selby Avenue intersection.

Summary				
File Name on Meter	LxT_Data.336			
File Name on PC	SLM_0003099_LxT_Data_336.00.ldbin			
Serial Number	0003099			
Model	SoundTrack LxT®			
Firmware Version	2.301			
User	Ian Edward Gallagher			
Location	STNM3 JN 19226 Eastvale 33°56'46.85"N 117°36'2.58"W			
Job Description	15 minute noise measurement (1 x 15 minutes)			
Measurement				
Start	2020-01-30 11:29:12			
Stop	2020-01-30 11:44:12			
Duration	00:15:00.0			
Run Time	00:15:00.0			
Pause	00:00:00.0			
Pre Calibration	2020-01-30 11:08:03			
Post Calibration	None			
Overall Settings				
RMS Weight	A Weighting			
Peak Weight	Z Weighting			
Detector	Slow			
Preamp	PRMLxT1L			
Microphone Correction	Off			
Integration Method	Linear			
OBA Range	Low			
OBA Bandwidth	1/1 and 1/3			
OBA Freq. Weighting	Z Weighting			
OBA Max Spectrum	Bin Max			
Overload	122.6 dB			
Results				
LAeq	63.6			
LAE	93.1			
EA	228.292 µPa²h			
EA8	7.305 mPa²h			
EA40	36.527 mPa²h			
LZpeak (max)	2020-01-30 11:31:47	99.9 dB		
LASmax	2020-01-30 11:34:57	76.5 dB		
LASmin	2020-01-30 11:39:22	41.0 dB		
SEA	-99.9 dB			
			Statistics	
LCeq	69.9 dB		**LAI2.00**	73.0 dB
LAeq	63.6 dB		**LAI8.00**	68.9 dB
LCeq - LAeq	6.3 dB		**LAI25.00**	62.6 dB
LAIeq	65.5 dB		**LAI50.00**	57.7 dB
LAeq	63.6 dB		**LAI66.60**	54.3 dB
LAIeq - LAeq	1.9 dB		**LAI90.00**	49.9 dB
# Overloads	0			

Noise Measurement
Field Data

Project Name: Eastvale Self Storage Facility, City of Eastvale **Date:** January 30, 2020

Project #: JN 19226

Noise Measurement #: STNM4 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Gallagher

Nearest Address or Cross Street: 7759 Selby Avenue, Eastvale, California.

Site Description (Type of Existing Land Use and any other notable features): Project site: grassy field used for storage of vehicles, livestock and miscellaneous. 5 single family residences on S end of site with various farm animals. Adjacent to Project Site: Medium density single family residences to N, E, W & S. Noise Measurement Site: Selby Avenue to east, single-family residential to west.

Weather: About 5% high white cloud, filtered sun. Sunset 5:20 PM **Settings:** SLOW FAST

Temperature: 67 deg F **Wind:** 3-5 mph **Humidity:** 23% **Terrain:** Flat

Start Time: 12:29 PM **End Time:** 12:44 PM **Run Time:**

Leq: 53.9 dB

Lmax 77.1 dB

L2 62.8 dB

L8 51.7 dB

L25 42.9 dB

L50 40.5 dB

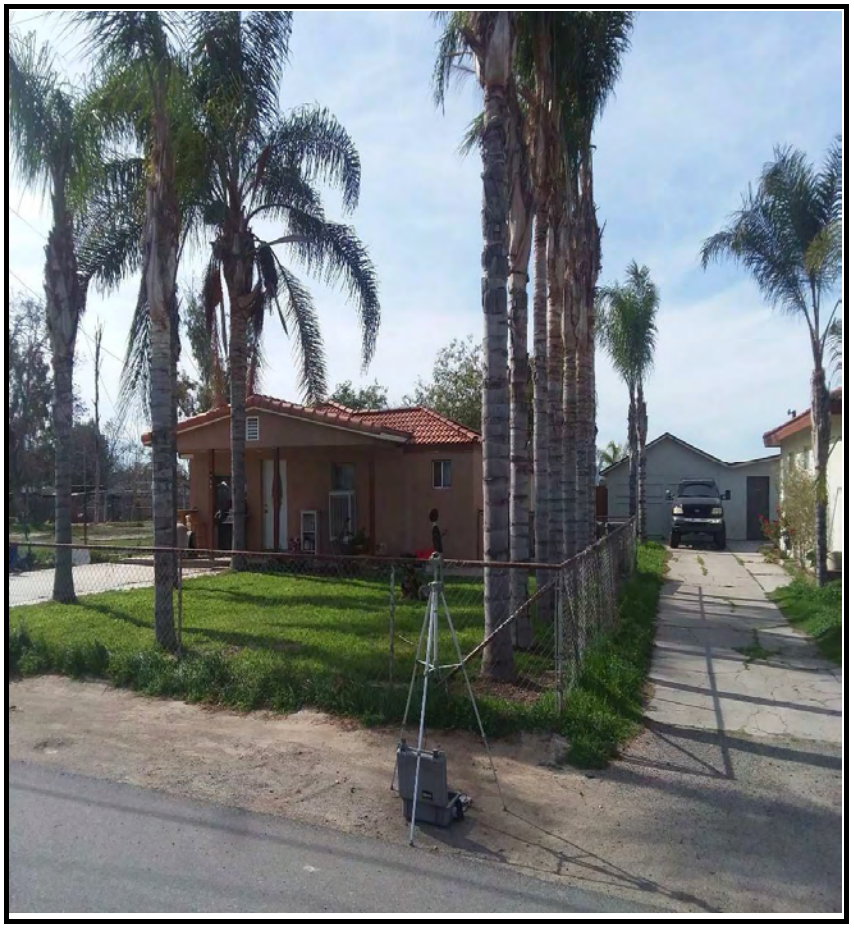
Primary Noise Source: Traffic noise from 6 vehicles traveling along Selby Avenue during 15 minute noise measurement.

Secondary Noise Sources: Overhead choppers, aircraft both jet and propeller. Residential & farm like ambiance from people, cows, sheep, goats, dogs, cockerels & hens. Bird song.

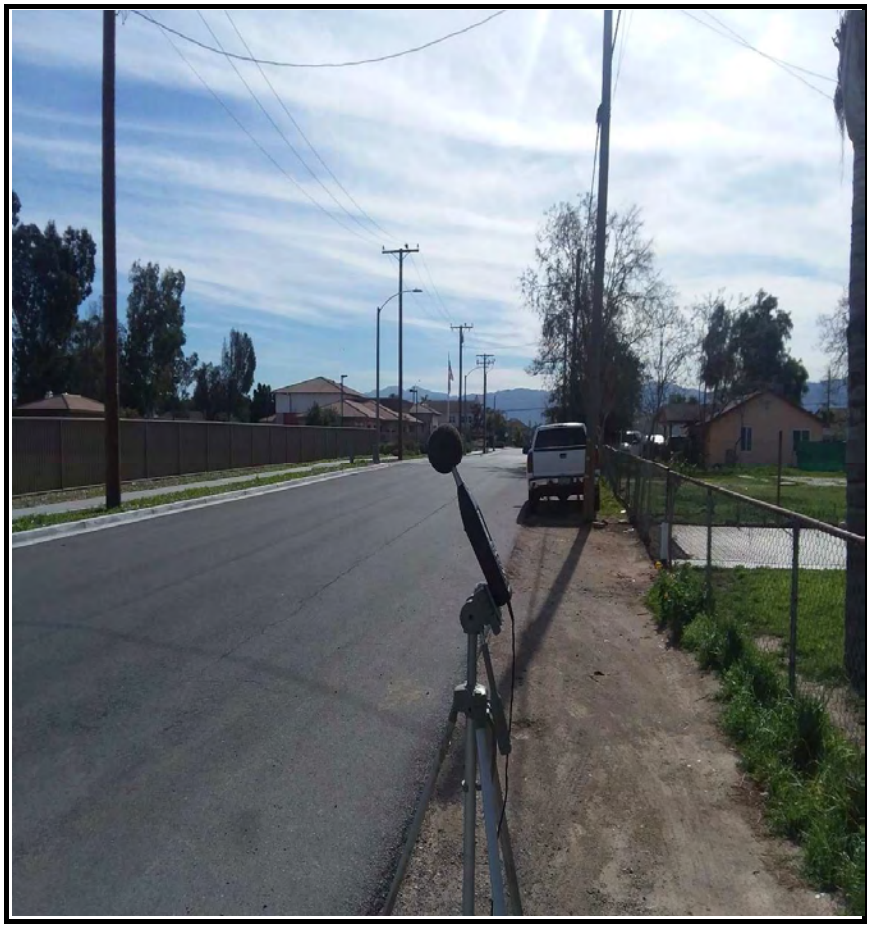
NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2733
FACTORY CALIBRATION DATE:	6/23/2017	**FACTORY CALIBRATION DATE:**	8/9/2017
FIELD CALIBRATION DATE:	1/30/2020		

Noise Measurement
Field Data

PHOTOS:



STNM4 looking SW into front yard of residence 7759 Selby Avenue, Eastvale. German Shepherd dog in yard remained silent during 15 minute noise sample.



STNM4 looking S down Selby Avenue towards Chandler Street intersection.

Summary					
File Name on Meter	LxT_Data.337				
File Name on PC	SLM_0003099_LxT_Data_337.00.ldbin				
Serial Number	0003099				
Model	SoundTrack LxT®				
Firmware Version	2.301				
User	Ian Edward Gallagher				
Location	STNM4 JN 19-0226 Eastvale 33°56'51.54"N 117°36'0.68"W				
Job Description	15 minute noise measurement (1 x 15 minutes)				
Measurement					
Start	2020-01-30 12:29:54				
Stop	2020-01-30 12:44:54				
Duration	00:15:00.0				
Run Time	00:15:00.0				
Pause	00:00:00.0				
Pre Calibration	2020-01-30 12:27:46				
Post Calibration	None				
Overall Settings					
RMS Weight	A Weighting				
Peak Weight	Z Weighting				
Detector	Slow				
Preamp	PRMLxT1L				
Microphone Correction	Off				
Integration Method	Linear				
OBA Range	Low				
OBA Bandwidth	1/1 and 1/3				
OBA Freq. Weighting	Z Weighting				
OBA Max Spectrum	Bin Max				
Overload	122.6 dB				
Results					
LA_{eq}	53.9				
LAE	83.5				
EA	24.637 µPa²h				
EA8	788.396 µPa²h				
EA40	3.942 mPa²h				
$LZ_{peak\ (max)}$	2020-01-30 12:30:22	96.4 dB			
LAS_{max}	2020-01-30 12:30:22	77.1 dB			
LAS_{min}	2020-01-30 12:37:12	35.9 dB			
SEA	-99.9 dB				
			Statistics		
LC_{eq}	62.5 dB		**LAI2.00**	62.8 dB	
LA_{eq}	53.9 dB		**LAI8.00**	51.7 dB	
LC_{eq} - LA_{eq}	8.5 dB		**LAI25.00**	42.9 dB	
LAI_{eq}	55.9 dB		**LAI50.00**	40.5 dB	
LA_{eq}	53.9 dB		**LAI66.60**	39.5 dB	
LAI_{eq} - LA_{eq}	2.0 dB		**LAI90.00**	38.0 dB	
# Overloads	0				

Noise Measurement
Field Data

Project Name: Eastvale Self Storage Facility, City of Eastvale **Date:** January 30, 2020

Project #: JN 19226

Noise Measurement #: STNM5 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Gallagher

Nearest Address or Cross Street: 7739 Selby Avenue, Eastvale, California.

Site Description (Type of Existing Land Use and any other notable features): Project site: grassy field used for storage of vehicles, livestock and miscellaneous. 5 single family residences on S end of site with various farm animals. Adjacent to Project Site: Medium density single family residences to N, E, W & S. Noise Measurement Site: Drainage channel to south, driveay to north/east, single-family residential to west.

Weather: About 5% high white cloud, filtered sun. Sunset 5:20 PM **Settings:** SLOW FAST

Temperature: 69 deg F **Wind:** 3-5 mph **Humidity:** 20% **Terrain:** Flat

Start Time: 12:58 PM **End Time:** 1:13 PM **Run Time:**

Leq: 49.2 dB **Primary Noise Source:** Cockerels crowing, hens clucking, hen house near residence 7737 Selby Avenue, Eastvale.

Lmax 70.8 dB

L2 57.5 dB **Secondary Noise Sources:** Overhead choppers, aircraft both jet and propeller. Residential & farm like ambiance from people, cows, sheep, goats, dogs. Bird song.

L8 52.4 dB

L25 49.3 dB

L50 47.0 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2733
FACTORY CALIBRATION DATE:	6/23/2017	**FACTORY CALIBRATION DATE:**	8/9/2017
FIELD CALIBRATION DATE:	1/30/2020		

Noise Measurement
Field Data

PHOTOS:

STNM5 looking E down shared driveway to residences 7733, 7737 & 7739 Selby Avenue.

STNM5 looking SW across drainage channel towards northern edge of site (green field on other side of drainage channel).

Summary	
File Name on Meter	LxT_Data.338
File Name on PC	SLM_0003099_LxT_Data_338.00.ldbin
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.301
User	Ian Edward Gallagher
Location	STNM5 JN 19226 Eastvale 33°56'53.25"N 117°36'4.36"W
Job Description	15 minute noise measurement (1 x 15 minutes)

Measurement	
Start	2020-01-30 12:58:17
Stop	2020-01-30 13:13:17
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2020-01-30 12:58:07
Post Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Low
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	122.7 dB

Results			
L_{Aeq}	49.2		
LAE	78.7		
EA	8.269	µPa²h	
EA8	264.622	µPa²h	
EA40	1.323	mPa²h	
$L_{Zpeak\ (max)}$	2020-01-30 13:05:27	91.3	dB
L_{ASmax}	2020-01-30 12:58:17	70.8	dB
L_{ASmin}	2020-01-30 13:00:12	39.9	dB
SEA	-99.9	dB	

		Statistics	
L_{Ceq}	62.6 dB	**LAI2.00**	57.5 dB
L_{Aeq}	49.2 dB	**LAI8.00**	52.4 dB
L_{Ceq} - L_{Aeq}	13.5 dB	**LAI25.00**	49.3 dB
L_{AIeq}	56.4 dB	**LAI50.00**	47.0 dB
L_{Aeq}	49.2 dB	**LAI66.60**	45.7 dB
L_{AIeq} - L_{Aeq}	7.2 dB	**LAI90.00**	43.4 dB
# Overloads	0		

Noise Measurement
Field Data

Project Name: Eastvale Self Storage Facility, City of Eastvale **Date:** January 30-31, 2020

Project #: JN 19226

Noise Measurement #: LTNM1 Run Time: 24 hours (24 x 1 hours) **Technician:** Ian Gallagher

Nearest Address or Cross Street: 14611 Chandler Streer, Eastvale, California.

Site Description (Type of Existing Land Use and any other notable features): Project site: Grassy field used for storage of vehicles, livestock and miscellaneous. 5 single family residences on S end of site with various farm animals. Adjacent to Project Site: Medium density single family residences to N, E, W & S. Noise Measurement Site: Single-family residences to west, open field/livestock to east, single-famly residences to south.

Weather: About 5% high white cloud. Sunset/rise 5:20 PM/ 6:51 AM **Settings:** SLOW FAST

Temperature: 36-82 deg F **Wind:** 0-10 mph **Humidity:** 18- 45% **Terrain:** Flat

Start Time: 5:00 PM **End Time:** 5:00 PM **Run Time:**

Leq: 51.6 dB
Lmax 77.8 dB
L2 58.4 dB
L8 54.2 dB
L25 51.4 dB
L50 49.5 dB

Primary Noise Source: Overhead choppers, aircraft both jet and propeller. Residential & farm like ambiance from people, cows, sheep, goats, dogs, cockerels & hens. Bird song.

Secondary Noise Sources: Traffic ambiance from Chandler Street, Archibald Avenue, Selby Avenue & other surrounding roads.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2733
FACTORY CALIBRATION DATE:	6/23/2017	**FACTORY CALIBRATION DATE:**	8/9/2017
FIELD CALIBRATION DATE:	1/30/2020		

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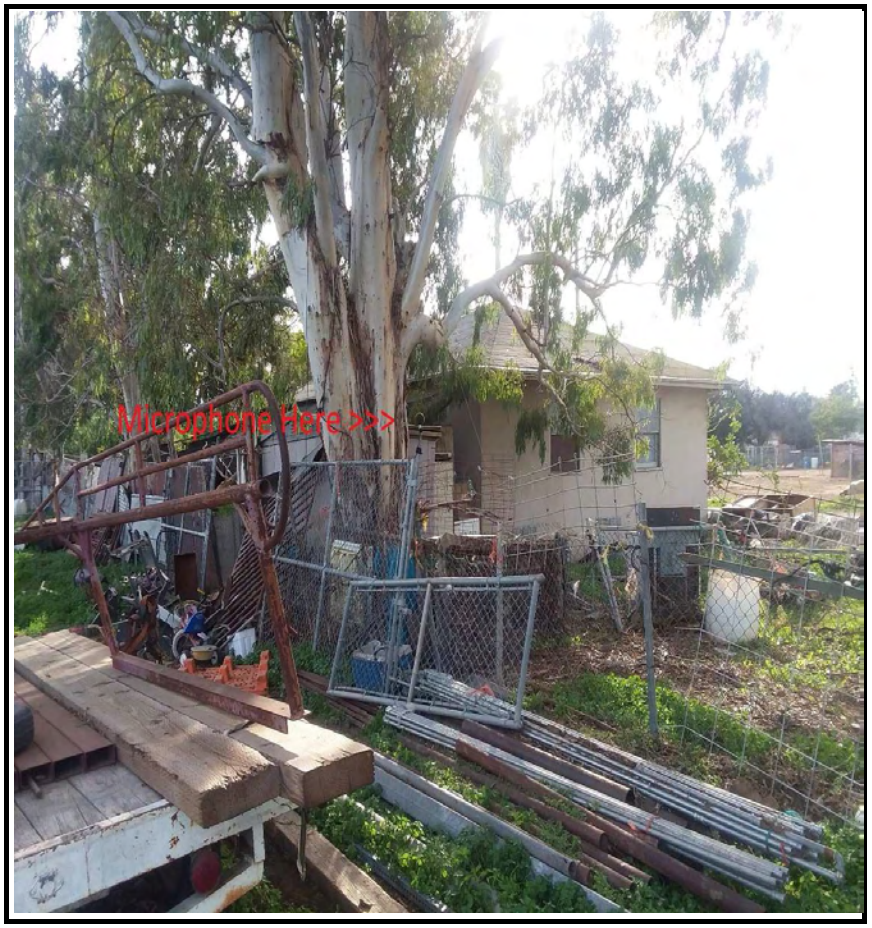
Noise Measurement
Field Data

PHOTOS:

LTNM1 looking N along western edge of site towards northern edge of site.



LTNM1 looking SW towards residence just North of other residence 14611 Chandler Street, Eastvale.

Summary	
File Name on Meter	LxT_Data.339
File Name on PC	SLM_0003099_LxT_Data_339.00.ldbin
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.301
User	Ian Edward Gallagher
Location	LTNM1 JN 19226 Eastvale 33°56'49.90"N 117°36'8.29"W
Job Description	24 hour noise measurement (24 x 1 hours)

Measurement	
Start	2020-01-30 16:00:00
Stop	2020-01-31 16:00:00
Duration	24:00:00.0
Run Time	24:00:00.0
Pause	00:00:00.0
Pre Calibration	2020-01-30 14:00:17
Post Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	A Weighting
OBA Max Spectrum	Bin Max
Overload	122.7 dB

Results			
LA_{eq}	51.6		
LAE	101.0		
EA	1.388	mPa²h	
EA8	462.544	µPa²h	
EA40	2.313	mPa²h	
$LA_{peak\ (max)}$	2020-01-31 09:12:02	95.7	dB
LAS_{max}	2020-01-30 17:05:26	77.8	dB
LAS_{min}	2020-01-31 01:36:03	32.6	dB
SEA	-99.9	dB	

			Statistics		
LC_{eq}	64.8	dB	**LAI2.00**	58.4	dB
LA_{eq}	51.6	dB	**LAI8.00**	54.2	dB
LC_{eq} - LA_{eq}	13.2	dB	**LAI25.00**	51.4	dB
LAI_{eq}	54.4	dB	**LAI50.00**	49.5	dB
LA_{eq}	51.6	dB	**LAI90.00**	42.7	dB
LAI_{eq} - LA_{eq}	2.8	dB	**LAI99.00**	35.4	dB
# Overloads	0				

Record #	Date	Time	Run Duration	Run Time	Pause	LAeq	LAE	LASmin	LASmin Time	LASmax	LASmax Time	LAS2.00	LAS8.00	LAS25.00	LAS50.00	LAS90.00	LAS99.00
1	2020-01-30	16:00:00	01:00:00.0	01:00:00.0	00:00:00.0	52.3	87.9	45.9	16:58:53	68.3	16:09:46	58.8	54.3	51.9	50.7	48.9	47.2
2	2020-01-30	17:00:00	01:00:00.0	01:00:00.0	00:00:00.0	54.5	90.1	44.9	17:41:50	77.8	17:05:26	61.7	54.5	51.8	50.6	48.4	46.6
3	2020-01-30	18:00:00	01:00:00.0	01:00:00.0	00:00:00.0	51.1	86.7	46.5	18:52:33	66.4	18:28:32	54.9	53.1	51.5	50.6	48.8	47.4
4	2020-01-30	19:00:00	01:00:00.0	01:00:00.0	00:00:00.0	50.3	85.8	41.9	19:43:20	69.7	19:47:42	57.3	52.5	49.7	48.1	45.0	43.5
5	2020-01-30	20:00:00	01:00:00.0	01:00:00.0	00:00:00.0	49.2	84.8	41.4	20:32:10	63.8	20:59:50	56.0	52.5	49.4	47.1	44.1	42.3
6	2020-01-30	21:00:00	01:00:00.0	01:00:00.0	00:00:00.0	50.1	85.6	40.5	21:31:01	70.9	21:39:42	57.2	53.7	50.0	47.4	43.9	42.0
7	2020-01-30	22:00:00	01:00:00.0	01:00:00.0	00:00:00.0	51.1	86.6	39.6	22:35:43	72.4	22:59:49	58.5	54.0	50.4	47.0	42.8	41.1
8	2020-01-30	23:00:00	01:00:00.0	01:00:00.0	00:00:00.0	48.8	84.3	35.5	23:54:28	64.4	23:38:25	56.6	52.7	49.0	45.4	40.1	37.2
9	2020-01-31	00:00:00	01:00:00.0	01:00:00.0	00:00:00.0	46.2	81.7	33.3	00:49:03	65.5	00:14:16	55.2	47.4	42.5	39.4	35.7	34.2
10	2020-01-31	01:00:00	01:00:00.0	01:00:00.0	00:00:00.0	45.4	80.9	32.6	01:36:03	72.5	01:40:43	51.5	45.6	40.9	38.3	34.9	33.4
11	2020-01-31	02:00:00	01:00:00.0	01:00:00.0	00:00:00.0	45.9	81.5	34.0	02:02:29	64.1	02:18:28	53.4	49.0	45.4	43.8	38.2	35.1
12	2020-01-31	03:00:00	01:00:00.0	01:00:00.0	00:00:00.0	49.2	84.7	40.9	03:25:35	64.7	03:52:56	57.3	52.7	48.8	46.2	43.3	41.6
13	2020-01-31	04:00:00	01:00:00.0	01:00:00.0	00:00:00.0	50.6	86.2	42.9	04:27:58	67.3	04:44:17	57.9	53.3	49.8	48.0	44.9	43.6
14	2020-01-31	05:00:00	01:00:00.0	01:00:00.0	00:00:00.0	49.9	85.5	43.9	05:10:57	61.5	05:46:38	54.6	52.5	50.4	49.1	46.8	45.3
15	2020-01-31	06:00:00	01:00:00.0	01:00:00.0	00:00:00.0	52.4	88.0	47.5	06:07:53	61.9	06:53:16	56.4	54.0	52.8	51.9	50.2	48.6
16	2020-01-31	07:00:00	01:00:00.0	01:00:00.0	00:00:00.0	54.3	89.9	50.0	07:02:29	65.2	07:03:40	58.5	56.2	54.7	53.7	52.1	50.9
17	2020-01-31	08:00:00	01:00:00.0	01:00:00.0	00:00:00.0	54.6	90.1	48.0	08:43:44	72.5	08:30:38	62.5	57.5	53.4	51.6	49.9	48.9
18	2020-01-31	09:00:00	01:00:00.0	01:00:00.0	00:00:00.0	55.2	90.8	46.3	09:21:47	74.4	09:05:22	64.1	59.1	52.6	50.4	48.8	47.6
19	2020-01-31	10:00:00	01:00:00.0	01:00:00.0	00:00:00.0	52.6	88.1	46.4	10:57:34	72.8	10:09:11	59.0	54.2	51.4	49.9	48.4	47.5
20	2020-01-31	11:00:00	01:00:00.0	01:00:00.0	00:00:00.0	52.4	88.0	45.7	11:09:15	68.6	11:43:57	61.1	55.4	51.3	49.6	47.8	46.7
21	2020-01-31	12:00:00	01:00:00.0	01:00:00.0	00:00:00.0	50.6	86.2	44.1	12:00:53	70.2	12:28:59	55.3	52.4	50.5	49.4	47.7	46.0
22	2020-01-31	13:00:00	01:00:00.0	01:00:00.0	00:00:00.0	52.3	87.8	45.7	13:47:05	68.6	13:35:23	58.9	54.6	51.8	50.4	48.9	47.7
23	2020-01-31	14:00:00	01:00:00.0	01:00:00.0	00:00:00.0	51.4	87.0	43.9	14:37:58	65.8	14:36:28	58.8	54.3	50.8	49.4	46.9	45.0
24	2020-01-31	15:00:00	01:00:00.0	01:00:00.0	00:00:00.0	51.5	87.0	46.5	15:42:04	71.6	15:04:31	55.7	53.3	51.4	50.2	48.6	47.6

APPENDIX D

CONSTRUCTION NOISE MODELING

Receptor -Residential adjacent to East and West

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1, 2]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Receptor Item Leq, dBA	Required Mitigation	Mitigated Noise Level
Demolition								
Concrete/Industrial Saws	1	76	166	20	0.20	58.6	Enclosure or Acoustic Tent (10 dB Reduction)	48.6
Excavator	3	85	166	40	1.20	75.4	Muffler (10 dB Reduction)	65.4
Rubber Tired Dozers	2	85	166	40	0.80	73.6	Muffler (10 dB Reduction)	63.6
						77.6		**67.6**
Site Preparation								
Tractors/Loaders/Backhoes	1	80	166	40	0.40	65.6	Muffler (10 dB Reduction)	55.6
						65.6		**55.6**
Grading								
Excavator	1	85	166	40	0.40	70.6	Muffler (10 dB Reduction)	60.6
Grader	1	85	166	40	0.40	70.6	Muffler (10 dB Reduction)	60.6
Rubber Tired Dozers	1	85	166	40	0.40	70.6	Muffler (10 dB Reduction)	60.6
Tractors/Loaders/Backhoes	3	80	166	40	1.20	70.4	Muffler (10 dB Reduction)	60.4
						76.6		**66.6**
Building Construction								
Cranes	1	83	166	16	0.16	64.6	Muffler (10 dB Reduction)	54.6
Forklifts [2]	4	64	166	50	2.00	56.6	n/a	52.1
Generator Set	1	82	166	40	0.40	67.6	Enclosure or Acoustic Tent (10 dB Reduction)	57.6
Welders	2	64	166	40	0.80	52.6	n/a	66.8
Tractors/Loaders/Bakhoes	5	80	166	40	2.00	72.6	Muffler (10 dB Reduction)	62.6
						74.4		**68.8**
Paving								
Cement and Mortar Mixers	2	85	166	40	0.80	73.6	Muffler (10 dB Reduction)	63.6
Pavers	1	85	166	50	0.50	71.6	Muffler (10 dB Reduction)	61.6
Paving Equipment	2	85	166	20	0.40	70.6	Muffler (10 dB Reduction)	60.6
Tractors/Loaders/Backhoes	1	80	166	40	0.40	65.6	Muffler (10 dB Reduction)	55.6
Rollers	2	85	166	20	0.40	70.6	Muffler (10 dB Reduction)	60.6
						78.1		**68.1**
Architectural Coating								
Air Compressors	1	80	166	40	0.40	65.6	Enclosure or Acoustic Tent (10 dB Reduction)	55.6
						65.6		**55.6**

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA RoadwayConstruciton Noise Model User's Guide (January 2006)

(2) Source: http://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels

(8) Source: https://www.cat.com/en_US/products/new/equipment/off-highway-trucks/off-highway-trucks/18549188.html

Receptor -Residential to North (across drainage channel)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1, 2]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Receptor Item Leq, dBA	Required Mitigation	Mitigated Noise Level
Demolition								
Concrete/Industrial Saws	1	76	360	20	0.20	51.9	Enclosure or Acoustic Tent (10 dB Reduction)	41.9
Excavator	3	85	360	40	1.20	68.6	Muffler (10 dB Reduction)	58.6
Rubber Tired Dozers	2	85	360	40	0.80	66.9	Muffler (10 dB Reduction)	56.9
						70.9		**60.9**
Site Preparation								
Tractors/Loaders/Backhoes	1	80	360	40	0.40	58.9	Muffler (10 dB Reduction)	48.9
						58.9		**48.9**
Grading								
Excavator	1	85	360	40	0.40	63.9	Muffler (10 dB Reduction)	53.9
Grader	1	85	360	40	0.40	63.9	Muffler (10 dB Reduction)	53.9
Rubber Tired Dozers	1	85	360	40	0.40	63.9	Muffler (10 dB Reduction)	53.9
Tractors/Loaders/Backhoes	3	80	360	40	1.20	63.6	Muffler (10 dB Reduction)	53.6
						69.8		**59.8**
Building Construction								
Cranes	1	83	360	16	0.16	57.9	Muffler (10 dB Reduction)	47.9
Forklifts [2]	4	64	360	50	2.00	49.9	n/a	52.1
Generator Set	1	82	360	40	0.40	60.9	Enclosure or Acoustic Tent (10 dB Reduction)	50.9
Welders	2	64	360	40	0.80	45.9	n/a	66.8
Tractors/Loaders/Bakhoes	5	80	360	40	2.00	65.9	Muffler (10 dB Reduction)	55.9
						67.7		**67.4**
Paving								
Cement and Mortar Mixers	2	85	360	40	0.80	66.9	Muffler (10 dB Reduction)	56.9
Pavers	1	85	360	50	0.50	64.8	Muffler (10 dB Reduction)	54.8
Paving Equipment	2	85	360	20	0.40	63.9	Muffler (10 dB Reduction)	53.9
Tractors/Loaders/Backhoes	1	80	360	40	0.40	58.9	Muffler (10 dB Reduction)	48.9
Rollers	2	85	360	20	0.40	63.9	Muffler (10 dB Reduction)	53.9
						71.3		**61.3**
Architectural Coating								
Air Compressors	1	80	360	40	0.40	58.9	Enclosure or Acoustic Tent (10 dB Reduction)	48.9
						58.9		**48.9**

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA RoadwayConstruciton Noise Model User's Guide (January 2006)

(2) Source: http://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels

(8) Source: https://www.cat.com/en_US/products/new/equipment/off-highway-trucks/off-highway-trucks/18549188.html

Receptor -Residential to South (across Chandler Street)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1, 2]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Receptor Item Leq, dBA	Required Mitigation	Mitigated Noise Level
Demolition								
Concrete/Industrial Saws	1	76	390	20	0.20	51.2	Enclosure or Acoustic Tent (10 dB Reduction)	41.2
Excavator	3	85	390	40	1.20	67.9	Muffler (10 dB Reduction)	57.9
Rubber Tired Dozers	2	85	390	40	0.80	66.2	Muffler (10 dB Reduction)	56.2
						70.2		**60.2**
Site Preparation								
Tractors/Loaders/Backhoes	1	80	390	40	0.40	58.2	Muffler (10 dB Reduction)	48.2
						58.2		**48.2**
Grading								
Excavator	1	85	390	40	0.40	63.2	Muffler (10 dB Reduction)	53.2
Grader	1	85	390	40	0.40	63.2	Muffler (10 dB Reduction)	53.2
Rubber Tired Dozers	1	85	390	40	0.40	63.2	Muffler (10 dB Reduction)	53.2
Tractors/Loaders/Backhoes	3	80	390	40	1.20	62.9	Muffler (10 dB Reduction)	52.9
						69.1		**59.1**
Building Construction								
Cranes	1	83	390	16	0.16	57.2	Muffler (10 dB Reduction)	47.2
Forklifts [2]	4	64	390	50	2.00	49.2	n/a	52.1
Generator Set	1	82	390	40	0.40	60.2	Enclosure or Acoustic Tent (10 dB Reduction)	50.2
Welders	2	64	390	40	0.80	45.2	n/a	66.8
Tractors/Loaders/Bakhoes	5	80	390	40	2.00	65.2	Muffler (10 dB Reduction)	55.2
						67.0		**67.4**
Paving								
Cement and Mortar Mixers	2	85	390	40	0.80	66.2	Muffler (10 dB Reduction)	56.2
Pavers	1	85	390	50	0.50	64.1	Muffler (10 dB Reduction)	54.1
Paving Equipment	2	85	390	20	0.40	63.2	Muffler (10 dB Reduction)	53.2
Tractors/Loaders/Backhoes	1	80	390	40	0.40	58.2	Muffler (10 dB Reduction)	48.2
Rollers	2	85	390	20	0.40	63.2	Muffler (10 dB Reduction)	53.2
						70.6		**60.6**
Architectural Coating								
Air Compressors	1	80	390	40	0.40	58.2	Enclosure or Acoustic Tent (10 dB Reduction)	48.2
						58.2		**48.2**

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA RoadwayConstruciton Noise Model User's Guide (January 2006)

(2) Source: http://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels

(8) Source: https://www.cat.com/en_US/products/new/equipment/off-highway-trucks/off-highway-trucks/18549188.html

APPENDIX E

FHWA TRAFFIC NOISE PREDICTION MODEL

Existing Traffic Noise

1	:Id	Vehicle Distribution (Heavy Truck Mix)				ADT	6800
		Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	
Chandler Street	:Road					Speed	45
		Automobiles	75.54	14.02	10.43	92.00	Distance 64
West of Archibald Avenue	:Segment	Medium Trucks	48.00	2.00	50.00	3.00	Left Angle -90
		Heavy Trucks	48.00	2.00	50.00	5.00	Right Angle 90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	393.82	8.16	13.60	292.36	1.36	2.27	72.50	11.33	18.89
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	19.11	2.28	4.50	17.82	-5.50	-3.28	11.77	3.71	5.92
Distance	-1.14	-1.14	-1.14	-1.14	-1.14	-1.14	-1.14	-1.14	-1.14
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	62.32	53.76	60.50	61.02	45.98	52.72	54.97	55.19	61.92
	DAY LEQ	64.86		EVENING LEQ	61.74		NIGHT LEQ	63.43	

F	CNEL	70.16	Day hour	89.00
	DAY LEQ	64.86	Absorptive?	no
			Use hour?	no
			GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

1	:Id	Vehicle Distribution (Heavy Truck Mix)				ADT	6957
Chandler Street	:Road	Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	Speed	45
West of Archibald Avenue	:Segment	Automobiles	75.54	14.02	10.43	92.00	Distance	64
		Medium Trucks	48.00	2.00	50.00	3.00	Left Angle	-90
		Heavy Trucks	48.00	2.00	50.00	5.00	Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	402.91	8.35	13.91	299.11	1.39	2.32	74.17	11.60	19.33
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	19.21	2.38	4.60	17.92	-5.40	-3.18	11.86	3.80	6.02
Distance	-1.14	-1.14	-1.14	-1.14	-1.14	-1.14	-1.14	-1.14	-1.14
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	62.42	53.86	60.60	61.12	46.08	52.81	55.07	55.28	62.02
	DAY LEQ	64.96		EVENING LEQ	61.84		NIGHT LEQ	63.53	

CNEL	70.26	Day hour	89.00
DAY LEQ	64.96	Absorptive?	no
		Use hour?	no
		GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

FHWA Traffic Noise Prediction Model FHWA-RD-77-108
Riverside County Published Mix
Larger than Secondary

Buildout Traffic Noise

Chandler Street - at closest proposed building

	DAYTIME			EVENING			NIGHTTIME				
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	ADT	28700.00
							AUTOS			SPEED	45.00
										DISTANCE	82.00
INPUT PARAMETERS											
Vehicles per hour	1662.13	34.44	57.40	1233.95	5.74	9.57	305.99	47.83	79.72	% A	92.00
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	% MT	3.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	% HT	5.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	LEFT	-90.00
										RIGHT	90.00
NOISE CALCULATIONS											
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14	CNEL	75.00
ADJUSTMENTS										DAY LEQ	70.04
Flow	25.37	8.53	10.75	24.07	0.75	2.97	18.02	9.96	12.18		
Distance	-2.22	-2.22	-2.22	-2.22	-2.22	-2.22	-2.22	-2.22	-2.22	Day hour	89.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Absorbtive?	no
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	Use hour?	no
LEQ	67.49	58.94	65.67	66.20	51.15	57.89	60.15	60.36	67.10	GRADE dB	0.00

DAY LEQ 70.04 EVENING LEQ 66.92 NIGHT LEQ 68.60

CNEL **75.00**

APPENDIX F

SOUNDPLAN INPUT AND OUTPUT

Noise emissions of industry sources

Source name	Reference	Level Day dB(A)	Corrections Cwall dB	CI dB	CT dB
2	Lw/	59.5	-	-	-
1	Lw/	59.5	-	-	-

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	Building D 1	-	GF	-	40.5	-
2	Building D 3	-	GF	-	40.6	-
3	Building D 4	-	GF	-	40.7	-
4	Building D 5	-	GF	-	49.1	-
5	Building D 6	-	GF	-	43.5	-

Contribution levels of the receivers

Source name			Level Day dB(A)
Building D 1	GF	40.5	
1			40.2
2			29.1
Auto 1			6.4
Auto 2			3.7
Building D 3	GF	40.6	
1			39.0
2			35.2
Auto 1			18.3
Auto 2			17.5
Building D 4	GF	40.7	
1			40.1
2			31.2
Auto 1			19.6
Auto 2			16.5
Building D 5	GF	49.1	
1			49.0
2			32.6
Auto 1			14.3
Auto 2			12.2
Building D 6	GF	43.5	
1			42.9
2			33.8
Auto 1			7.2
Auto 2			5.0

APPENDIX G

VIBRATION WORKSHEETS

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19226 Eastvale Self-Storage Facility		Date: 1/27/20
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	12.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.268	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19226 Eastvale Self-Storage Facility		Date: 2/17/20
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	15.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.191	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19226 Eastvale Self-Storage Facility	Date:	2/3/20
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	28.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.075	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19226 Eastvale Self-Storage Facility		Date: 1/27/20
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to North		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	115.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.009	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19226 Eastvale Self-Storage Facility (14555 Chandler Stre	Date:	1/27/20
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	12.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.631	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19226 Eastvale Self-Storage Facility		Date: 2/17/20
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type =	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	26.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.198	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19226 Eastvale Self-Storage Facility	Date:	2/3/20
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type =	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	49.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.077	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19226 Eastvale Self-Storage Facility		Date: 1/27/20
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to North		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type =	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	115.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.021	IN/SEC	OUTPUT IN BLUE

GANDDINI GROUP, INC.
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APPENDIX 17:
Trip Generation Analysis

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January 15, 2020

Mr. Garrett Gossett, Principal
GOSSETT DEVELOPMENT, INC.
207 Monarch Bay Drive
Dana Point, CA 92629

RE: Eastvale Self-Storage Facility (14555 Chandler Street) Trip Generation Analysis
19226

Dear Mr. Gossett:

INTRODUCTION

Ganddini Group, Inc. is pleased to provide this trip generation memorandum for the proposed Eastvale Self-Storage Facility (14555 Chandler Street) Project. The purpose of this trip generation analysis is to document the number of trips forecast to be generated by the proposed project and to provide a trip generation comparison analysis between the proposed self-storage facility and the existing permitted zoning land use for the project site. We trust the findings of this analysis will aid in assessing the need for further traffic analysis.

PROJECT DESCRIPTION

The approximately 4-acre project site is located at 14555 Chandler Street, approximately 500 feet west of the intersection of Selby Avenue and Chandler Street, in the City of Eastvale, California. The project location map is shown on Figure 1.

The proposed project involves a Zone Change from Light Agriculture (A-1) to General Commercial (C-1/C-P), the demolition of existing residential structures, and the construction of a 901-unit self-storage facility. The 142,839 square foot proposed development is to consist of four one to two-story buildings ranging in size from 6,775 square feet to 63,182 square feet. Vehicular project site access is proposed at Chandler Street. The site map is shown on Figure 2.

TRIP GENERATION

Table 1 shows the project trip generation rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017) for the "Mini-storage Warehouse" (Land Use Code 151) and empirical trip generation rates[1] obtained from surveys of existing self-storage facilities in Southern California. The empirical data is based upon one week (Monday-Friday) of entry and exit data obtained from two existing Ace Self-Storage sites located in Rancho San Diego at 11852 Campo Road, Spring Valley, California and at 9672 Winter Gardens Boulevard, Lakeside, California. As shown in Table 1, the empirical data results in a similar rate for the AM peak hour period and slightly lower rates for the PM peak hour and daily periods compared to ITE trip generation rates.

[1] Source: Ace Self-Storage Trip Generation Analysis, LOS Engineering, Inc. (July 25, 2018).

As shown in Table 1, the proposed project is forecast to generate approximately 157 daily vehicle trips, including 14 trips during the AM peak hour and 14 trips during the PM peak hour based on the empirical trip generation rates.

TRIP GENERATION COMPARISON

The 4.0-acre project site could be developed with up to eight (8) single-family detached residential dwelling units with the currently permitted residential density (1 unit per 20,000 square feet) for the project site. Based upon the trip generation rates from the ITE Trip Generation Manual (10th Edition, 2017) for the "Single-Family Detached Housing" (Land Use Code 210), maximum allowable development of the project site under current zoning is forecast to generate approximately 76 daily vehicle trips, including 6 trips during the AM peak hour and 8 trips during the PM peak hour (see Table 1).

A trip generation comparison has been completed between the proposed self-storage project and maximum development of the project site under current zoning. As shown in Table 1, the proposed self-storage project would generate approximately 81 more daily vehicle trips, including 8 more trips during the AM peak hour and 6 more trips during the PM peak hour, compared to maximum development of the project site under current zoning.

CRITERIA FOR THE PREPARATION OF TRAFFIC IMPACT ANALYSES

The Riverside County Transportation Department Traffic Impact Analysis Preparation Guide (June 2008) contains Exhibit A – Traffic Impact Analysis Exemptions. As noted in Item 10 of Exhibit A, any use which can demonstrate trip generation of less than 100 vehicle trips during the peak hours may be exempt from preparation of a traffic impact analysis. However, the Transportation Department reserves the right to require a traffic impact analysis, or focused study, if special concerns exist.

CONCLUSION

The proposed project is forecast to generate fewer than 100 additional trips during the weekday AM and PM peak hours. Therefore, the project is not expected to result in appreciable traffic impacts and further traffic analysis is typically not required. The trip generation difference between the proposed self-storage project and maximum development of the project site under current zoning is minimal and would not result in appreciable impacts to General Plan buildout.

We appreciate the opportunity to assist you on this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 795-3100.

Sincerely,

Perrie Ilercil, PE (AZ)
Senior Engineer

Giancarlo Ganddini, TE, PTP
Principal

Table 1
Project Trip Generation Comparison

Trip Generation Rates									
			AM Peak Hour			PM Peak Hour			Daily
Land Use	Source[1]	Units[2]	% In	% Out	Rate	% In	% Out	Rate	Rate
Mini-Warehouse	ITE 151	TSF	60%	40%	0.10	47%	53%	0.17	1.51
	ACE[3]	TSF	60%	40%	0.10	60%	40%	0.10	1.10
Single-Family Housing	ITE 210	DU	25%	75%	0.74	63%	37%	0.99	9.44

Trips Generated									
			AM Peak Hour			PM Peak Hour			
Land Use	Quantity	Units[2]	In	Out	Total	In	out	Total	Daily
Existing Permitted Uses[4]									
Existing Single-Family Housing	-5	DU	-1	-3	-4	-3	-2	-5	-47
Additional Allowable Single-Family Housing	-3	DU	-1	-2	-2	-2	-1	-3	-28
Subtotal - Existing Permitted Trips			-1	-4	-6	-5	-3	-8	-76
Proposed Uses									
Mini-Warehouse	142.839	TSF	8	6	14	9	5	14	157
TRIPS GENERATED DIFFERENTIAL			**+7**	**+2**	**+8**	**+4**	**+2**	**+6**	**+81**

Notes:

(1) ITE = Institute of Transportation Engineers Trip Generation Manual (10th Edition, 2017); ### = Land Use Code(s).

(2) TSF = Thousand Square Feet; DU = Dwelling Units

(3) Source: Ace Self-Storage Trip Generation Analysis (LOS Engineering, Inc., July 25, 2018).

(4) Current A-1 Zoning allows maximum of 1 dwelling unit per 20,000 square feet. The property size of 4.0 acre permits 8 single family units to be built.

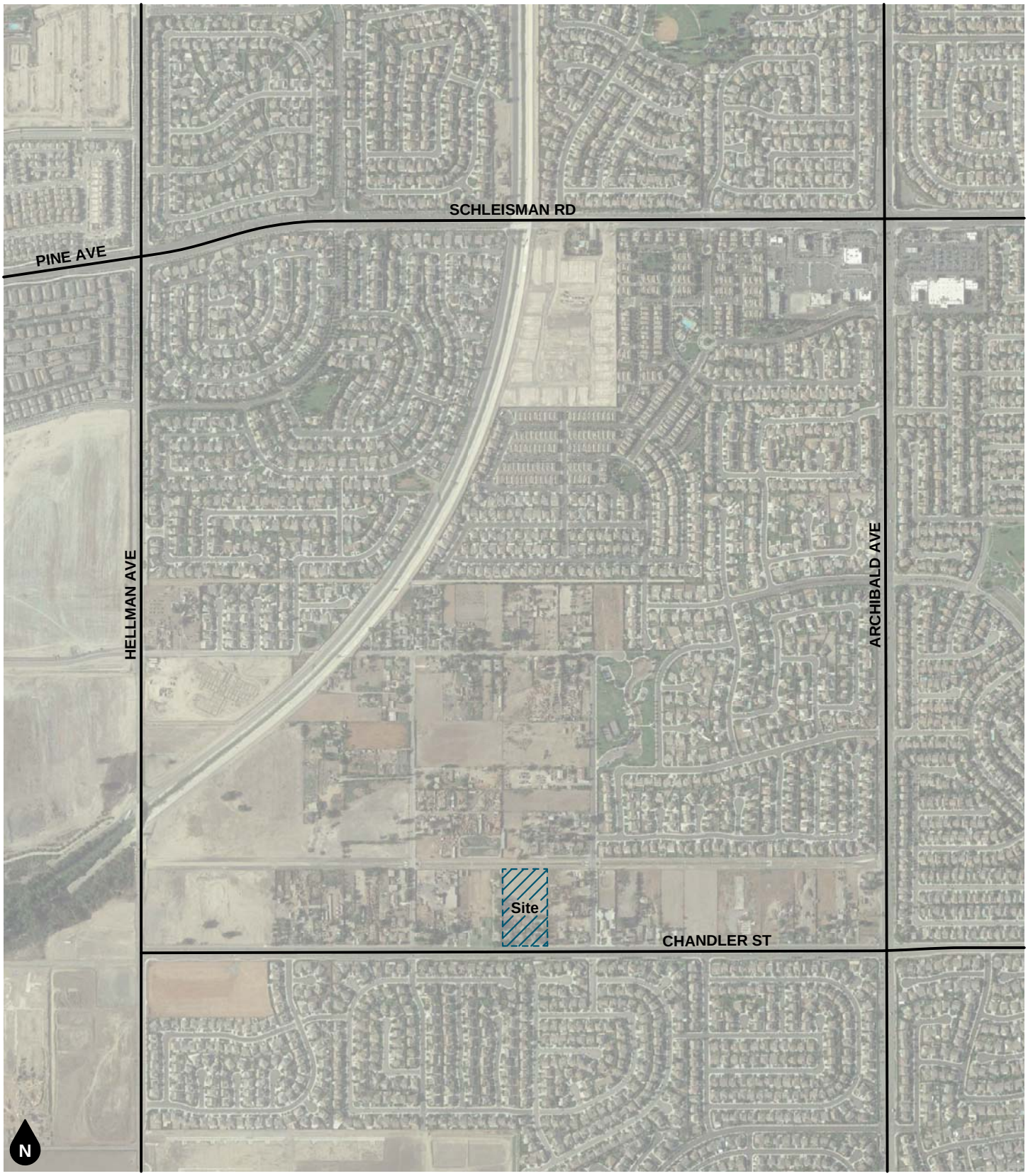

Figure 1
Project Location Map

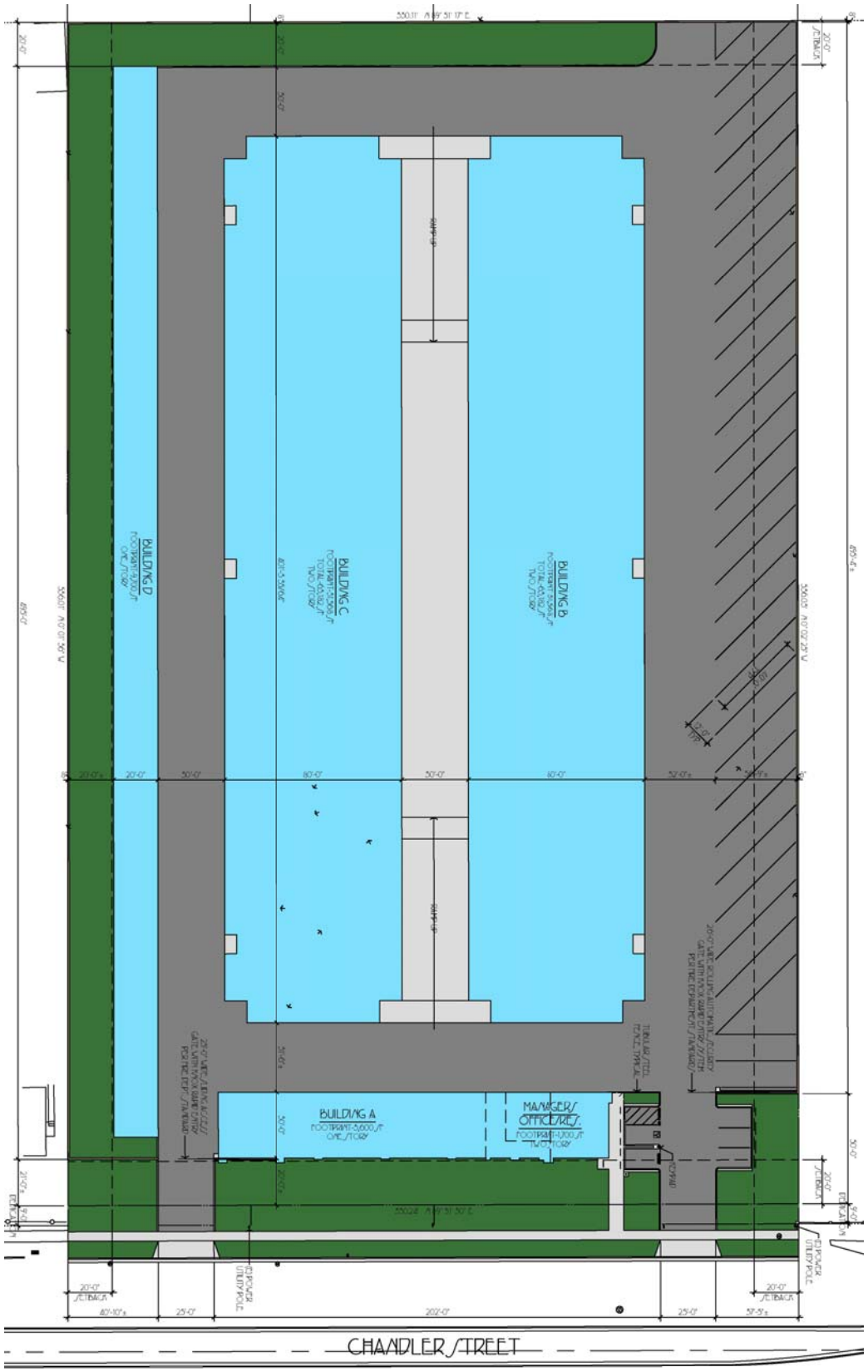

Figure 2
Site Plan