INTIAL STUDY / MITIGATED NEGATIVE DECLARATION

Belle Terre Water Storage Tank

Located Within Belle Terre Specific Plan No. 382

Prepared for

EASTERN MUNICIPAL WATER DISTRICT

April 2021

APPENDICES

APPENDICES

Appendix A – Preliminary Design Report

Appendix B – Air Quality and Greenhouse Gas Analysis

Appendix C – Biological Resource Assessment

Appendix D – Cultural Resources

Appendix E – Geotechnical Resource Assessment

Appendix F – Phase I ESA

Appendix G – Noise

Appendix H – Energy Calculations

Appendix A:

Preliminary Design Report

Technical Memorandum

To: Saleem Baig, Riverside County Transportation Dept.

From: Ranjit Singh, PE – Stormwater Engineering, Albert A. Webb Associates

Date: March 01, 2021

Re: Fields Drive at EMWD Tank Site – Arizona Crossing Assessment

Introduction

This memorandum is prepared to assess any peak flow impacts to fields drive due to the proposed design for EMWD tank site and corresponding changes to Fields Drive as part of the Belle Terre project. It presents our design methodology and approach to determine the functioning of Fields Drive @ Rebecca as na adequate Arizona crossing under guidelines and thresholds provided by the county.

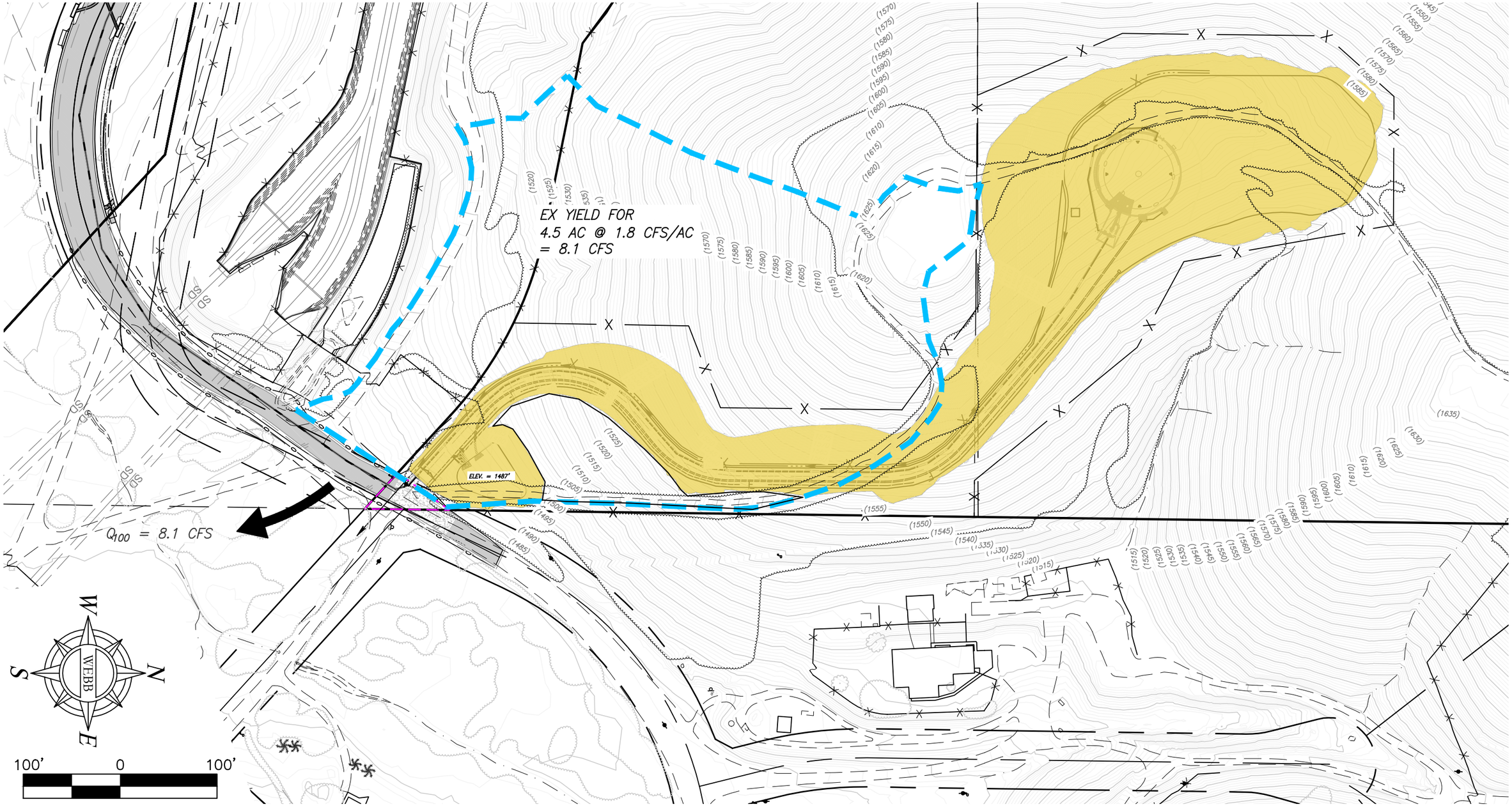
Existing & Proposed Drainage Patterns

The existing drainage pattern is identified on Exhibit 1. As can be seen the drainage is divided into easterly and westerly halves by an existing dirt road. This pattern is mostly maintained in the proposed scenario except for a minor diversion. The proposed grading renders a portion of the westerly drainage area sloping easterly as a result of the cut-fill grading operation. This area is identified in Exhibit 2 as “Diversion area”. The flows from the site can be broadly classified in 3 categories.

1. Flows from the proposed westerly hydroseeded slope that drains into a proposed ditch along the toe of the slope to a spreading structure at the downstream end and weir flows across Fields drive in an Arizona crossing manner.
2. The AC access road pavement drains to a Water Quality basin located across the access road from the spreading structure. Any flows above the WQ volume discharge across Fields Drive in an Arizona Crossing manner.
3. Drainage from existing portion east of the proposed slope that drain across Fields Drive in an Arizona crossing manner.

Methodology

A yield area methodology was used to determine flows from the proposed site. Existing yield was used from the Mass Grading scenario which closely reflects existing landuse for the BelleTerre project. Owing to the proximity of Belle Terre project to the tank site it can be safely assumed that the existing yields will be similar. Proposed yield was obtained from the initial proposed hydrology conducted on the tank site as part of the PDR submittal. Although the layout for the PDR layout



REVISIONS	DATE	BY	DATE	BY	

EXHIBIT 1 - EX. CONDITIONS

SCALE:	1" = 100'
DATE:	1/5/21
DESIGNED:	RFS
CHECKED:	ETH
PLN CK REF:	
F.B.	

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
3788 McCRAY STREET
RIVERSIDE CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

W.O. 2017-0229

SHEET 1 OF 1 SHEETS

G:\2017\17-0229\DRAINAGE\HYDROLOGY\TANK SITE\17-0229-C-HYD-TANKSITE.DWG 1/5/2021 2:28:19 PM

DIVERTED FLOW
PR YIELD FOR 0.7 AC
AT 2.9 CFS/AC
= 2 CFS

W'LY TRIB TO FRENCH
VALLEY CREEK

EX YIELD FOR
2.3 AC @ 1.8 CFS/AC
= 4.1 CFS

EX YIELD FOR
1.2 AC @ 1.8 CFS/AC
= 2.2 CFS

EX. ACCESS ROAD DIVIDING
TRIBUTARY AREA INTO EAST
AND WEST AREAS

PR YIELD FOR 1.1 AC
AT 2.9 CFS/AC
= 3.2 CFS

PR YIELD FOR 1.9 AC
AT 2.9 CFS/AC
= 5.5CFS

E'LY TRIB TO FRENCH
VALLEY CREEK

LOW FLOWS DIRECTED TO
EXISTING CULVERT

Q_{100} = 4.1 CFS

Q_{100} = 5.4 CFS

Q_{100} = 6.1 CFS

EX YIELD FOR
0.3 AC @ 1.8 CFS/AC
= 0.6 CFS

ELEV. = 1487'

W
S
E
N
WEBB

100' 0 100'

REVISIONS	DATE	BY	DATE	BY

EXHIBIT 2 - PR. CONDITIONS

SCALE: 1" = 100'
DATE: 1/5/21
DESIGNED: RFS
CHECKED: ETH
PLN CK REF:
F.B.

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W.O. 2017-0229
SHEET 1
OF 1 SHEETS

G:\2017\17-0229\DRAINAGE\HYDROLOGY\TANK SITE\17-0229-C-HYD-TANKSITE_RCTD.DWG 2/22/2021 1:56:49 PM

was slightly different from the current layout, the land use is almost the same and as such yield is believed to be very close.

Existing yield was calculated at 1.8 cfs/acre and proposed yield was calculated at 2.9 cfs/ acre. See Appendix A for yield calculations. The diversion area is calculated at 0.7 acres. See Exhibit 2.

Hydrology

As explained earlier, drainage patterns are consistent with existing conditions except for the diversion area. Referring to Exhibit 2, it can be seen that there are 3 primary outlet points to Fields Drive. First, the overflow from WQ basin at ***6.1 cfs***. The tributary areas consist of the access road and tank site (solid blue hatch) measuring 1.9 acres and a portion of existing area immediately north of the WQ basin (solid yellow hatch) measuring 0.3 acres. Secondly, the overflow from spreading structure at the downstream end of the trapezoidal ditch located at the intersection of Fields and Tank access road with a peak of ***5.4 cfs***. The tributary area consist of the proposed entire westerly slope (solid orange hatch) measuring at 1.1 acres and portion of existing area just west of the proposed slope (solid red hatch) measuring at 1.2 acres. Lastly, the larger existing area measuring at 2.3 acres with a peak flow of ***4.1 cfs***.

Based on discussions with the County it was agreed to maintain a minimum cross slope across the entire portion of fields Drive acting as Arizona crossing at 0.7%. It was also established that per County guidelines the flows cannot exceed a velocity of 1.5 ft/sec and a flow depth of 9". Following these criteria, weir flow calculations and normal depth calculations were carried out to establish weir lengths. Calculations are included in Appendix B. It can be seen that weir lengths of 50', 60', and 70' (a total of 180') are required for 4.1cfs, 5.4cfs, and 6.1cfs respectively. It must be noted that per request by county to avoid low flows from crossing consistently and rendering growth of algae on street, a low flow ditch is graded next to the north bound lane to drain low flows to the existing 18" culvert. The 18" culvert upstream end is within the street R/W and accepts low flows in existing conditions.

Conclusions

In line with the county requirements to keep velocity under 1.5 fps and depth of flow under 9", a total weir length of 230' is provided. This is adequately more than the 180' of required weir length. Detail design drawings will be included with the Fields Drive street improvement plans and the tank site grading plans. We believe that with the provided apron lengths and low flow ditch Fields drive will function adequately and safely as an Arizona crossing.

Appendices

Appendix A Yield Analysis

Appendix B Weir Calculations

APPENDIX A – Yield Analysis

RATIONAL HYDROLOGY EXCERPT FORM MASS GRADING HYDROLOGY REPORT
(EXISTING CONDITIONS SCENARIO)

BASIN B

TRIB AREA = 28 ACRES
PEAK FLOW = 50 CFS

YIELD = 1.7 CFS/ACRE

BASIN H

TRIB AREA = 47 ACRES
PEAK FLOW = 85 CFS

YIELD = 1.8 CFS/ACRE

AVERAGE EX. CONDITIONS YIELD = 1.8 CFS/ACRE

100-Year Existing Rational Hydrology

Basin H

Riverside County Rational Hydrology Program

```
CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2005 Version 7.1
        Rational Hydrology Study        Date: 10/18/17  File:hex100.out
------------------------------------------------------------------------
Belle Terre TPM 36628, County of Riverside
100-yr Rational Method Hydrology Existing Conditions
Basin H/ Area H  hex100.out            eta      17-0229

------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

 English (in-lb) Units used in input data file

------------------------------------------------------------------------


Program License Serial Number 4010

------------------------------------------------------------------------
Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) =  100.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation =  0.500(In.)
100 year, 1 hour precipitation =  1.200(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity =  1.200(In/Hr)
Slope of intensity duration curve = 0.5500




++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       10.000 to Point/Station       11.000
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------
Initial area flow distance =   935.000(Ft.)
Top (of initial area) elevation =  1557.000(Ft.)
Bottom (of initial area) elevation =  1501.000(Ft.)
Difference in elevation =    56.000(Ft.)
Slope =    0.05989  s(percent)=       5.99
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.359 min.
Rainfall intensity =      2.635(In/Hr) for a   100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.847
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2)  =  89.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =     12.609(CFS)
Total initial stream area =        5.650(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       11.000 to Point/Station       12.000
**** NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION ****
------------------------------------------------------------------------
Top of natural channel elevation =   1501.000(Ft.)
End of natural channel elevation =   1455.000(Ft.)
Length of natural channel  =   680.000(Ft.)
Estimated mean flow rate at midpoint of channel =     22.607(CFS)

Natural mountain channel type used
L.A. County flood control district formula for channel velocity:
 Velocity = 5.48(q^.33)(slope^.492)
Velocity using mean channel flow =   4.08(Ft/s)

Correction to map slope used on extremely rugged channels with
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```
drops and waterfalls (Plate D-6.2)
        Normal channel slope =  0.0676
Corrected/adjusted channel slope =  0.0676
Travel time =    2.78 min.     TC =   17.14  min.


 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.840
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.100
Decimal fraction soil group D = 0.900
RI index for soil(AMC 2)  =  88.70
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      2.390(In/Hr) for a   100.0 year storm
Subarea runoff =     17.997(CFS) for      8.960(Ac.)
Total runoff =     30.606(CFS)  Total area =      14.610(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       12.000 to Point/Station       13.000
**** NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION ****
------------------------------------------------------------------------
Top of natural channel elevation =   1455.000(Ft.)
End of natural channel elevation =   1428.000(Ft.)
Length of natural channel  =   915.000(Ft.)
Estimated mean flow rate at midpoint of channel =     40.221(CFS)

Natural mountain channel type used
L.A. County flood control district formula for channel velocity:
 Velocity = 5.48(q^.33)(slope^.492)
Velocity using mean channel flow =   3.28(Ft/s)

Correction to map slope used on extremely rugged channels with
drops and waterfalls (Plate D-6.2)
        Normal channel slope =  0.0295
Corrected/adjusted channel slope =  0.0295
Travel time =    4.65 min.     TC =   21.79  min.


 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.798
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.470
Decimal fraction soil group C = 0.190
Decimal fraction soil group D = 0.340
RI index for soil(AMC 2)  =  83.26
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      2.095(In/Hr) for a   100.0 year storm
Subarea runoff =     15.341(CFS) for      9.180(Ac.)
Total runoff =     45.947(CFS)  Total area =      23.790(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       10.000 to Point/Station       13.000
**** SUBAREA FLOW ADDITION ****
------------------------------------------------------------------------
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.816
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.270
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.730
RI index for soil(AMC 2)  =  86.03
Pervious area fraction =  1.000; Impervious fraction =  0.000
Time of concentration =    21.79 min.
Rainfall intensity =      2.095(In/Hr) for a   100.0 year storm
Subarea runoff =     39.397(CFS) for     23.060(Ac.)
Total runoff =     85.344(CFS)  Total area =      46.850(Ac.)
End of computations, total study area =           46.85 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  86.4
```

100-Year Existing Rational Hydrology

Basin B


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                Riverside County Rational Hydrology Program

 CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2005 Version 7.1
        Rational Hydrology Study        Date: 11/03/17  File:bex100.out
 ------------------------------------------------------------------------
 Belle Terre TPM 36628, County of Riverside
 100-yr Rational Method Hydrology Existing Conditions
 Basin B/ Area B  bex100.out            eta      17-0229

 ------------------------------------------------------------------------
  *********   Hydrology Study Control Information **********

  English (in-lb) Units used in input data file

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 Program License Serial Number 4010

 ------------------------------------------------------------------------
 Rational Method Hydrology Program based on
 Riverside County Flood Control & Water Conservation District
 1978 hydrology manual

 Storm event (year) =  100.00 Antecedent Moisture Condition = 2

 2 year, 1 hour precipitation =  0.500(In.)
 100 year, 1 hour precipitation =  1.200(In.)

 Storm event year = 100.0
 Calculated rainfall intensity data:
 1 hour intensity =  1.200(In/Hr)
 Slope of intensity duration curve = 0.5500




 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 Process from Point/Station       30.000 to Point/Station       31.000
 **** INITIAL AREA EVALUATION ****
 ----------------------------------------------------------------------------
 Initial area flow distance =   900.000(Ft.)
 Top (of initial area) elevation =  1489.000(Ft.)
 Bottom (of initial area) elevation =  1455.000(Ft.)
 Difference in elevation =    34.000(Ft.)
 Slope =    0.03778  s(percent)=       3.78
 TC = k(0.530)*[(length^3)/(elevation change)]^0.2
 Initial area time of concentration =   15.507 min.
 Rainfall intensity =      2.526(In/Hr) for a   100.0 year storm
 UNDEVELOPED (poor cover) subarea
 Runoff Coefficient = 0.816
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 0.300
 Decimal fraction soil group C = 0.650
 Decimal fraction soil group D = 0.050
 RI index for soil(AMC 2)  =  83.75
 Pervious area fraction =  1.000; Impervious fraction =  0.000
 Initial subarea runoff =     12.990(CFS)
 Total initial stream area =        6.300(Ac.)
 Pervious area fraction = 1.000


 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 Process from Point/Station       30.000 to Point/Station       31.000
 **** SUBAREA FLOW ADDITION ****
 ----------------------------------------------------------------------------
 UNDEVELOPED (poor cover) subarea
 Runoff Coefficient = 0.795
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 0.750
 Decimal fraction soil group C = 0.250
 Decimal fraction soil group D = 0.000
 RI index for soil(AMC 2)  =  80.00
 Pervious area fraction =  1.000; Impervious fraction =  0.000
 Time of concentration =    15.51 min.
 Rainfall intensity =      2.526(In/Hr) for a   100.0 year storm
 Subarea runoff =     11.245(CFS) for      5.600(Ac.)
```

Total runoff = 24.235(CFS) Total area = 11.900(Ac.)

++
Process from Point/Station 31.000 to Point/Station 32.000
**** NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION ****

Top of natural channel elevation = 1455.000(Ft.)
End of natural channel elevation = 1432.000(Ft.)
Length of natural channel = 1210.000(Ft.)
Estimated mean flow rate at midpoint of channel = 40.426(CFS)

Natural mountain channel type used
L.A. County flood control district formula for channel velocity:
Velocity = 5.48(q^.33)(slope^.492)
Velocity using mean channel flow = 2.64(Ft/s)

Correction to map slope used on extremely rugged channels with
drops and waterfalls (Plate D-6.2)
Normal channel slope = 0.0190
Corrected/adjusted channel slope = 0.0190
Travel time = 7.63 min. TC = 23.14 min.

Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.810
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.170
Decimal fraction soil group C = 0.550
Decimal fraction soil group D = 0.280
RI index for soil(AMC 2) = 85.48
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 2.027(In/Hr) for a 100.0 year storm
Subarea runoff = 26.089(CFS) for 15.900(Ac.)
Total runoff = 50.324(CFS) Total area = 27.800(Ac.)
End of computations, total study area = 27.80 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number = 84.0

RATIONAL HYDROLOGY FOR PROPOSED TANK SITE IN PRELIMINAY PDR
(PROPOSED CONDITIONS SCENARIO)

100 TO 120

TRIB AREA = 1.6 ACRES
PEAK FLOW = 5.4 CFS

YIELD = 3.4 CFS/ACRE

100 TO 150

TRIB AREA = 2 ACRES
PEAK FLOW = 5 CFS

YIELD = 2.5 CFS/ACRE

120 TO 170

TRIB AREA = 1 ACRES
PEAK FLOW = 2.8 CFS

YIELD = 2.8 CFS/ACRE

AVERAGE PR. CONDITIONS YIELD = 2.9 CFS/ACRE

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2005 Version 7.1
Rational Hydrology Study Date: 09/27/16 File:BELLETANK.out

BELLE TERRE TANK SITE HYDROLOGY STUDY
100-YEAR STORM EVENT
DEVELOPED CONDITIONS
BELLTANK100

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [Homeland-Winchester] area used.
10 year storm 10 minute intensity = 2.030(In/Hr)
10 year storm 60 minute intensity = 0.800(In/Hr)
100 year storm 10 minute intensity = 3.050(In/Hr)
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.200(In/Hr)
Slope of intensity duration curve = 0.5200

++

Process from Point/Station 100.000 to Point/Station 120.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 375.000(Ft.)
Top (of initial area) elevation = 1636.000(Ft.)
Bottom (of initial area) elevation = 1578.000(Ft.)
Difference in elevation = 58.000(Ft.)
Slope = 0.15467 s(percent)= 15.47
TC = k(0.390)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 6.065 min.
Rainfall intensity = 3.952(In/Hr) for a 100.0 year storm
SINGLE FAMILY (1/4 Acre Lot)
Runoff Coefficient = 0.874
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3) = 84.40
Pervious area fraction = 0.500; Impervious fraction = 0.500
Initial subarea runoff = 5.351(CFS)
Total initial stream area = 1.550(Ac.)
Pervious area fraction = 0.500

++

```
Process from Point/Station      100.000 to Point/Station      150.000
**** INITIAL AREA EVALUATION ****
----------------------------------------------------------------------
Initial area flow distance =   874.000(Ft.)
Top (of initial area) elevation =  1635.000(Ft.)
Bottom (of initial area) elevation =  1482.000(Ft.)
Difference in elevation =   153.000(Ft.)
Slope =    0.17506  s(percent)=      17.51
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   11.278 min.
Rainfall intensity =      2.862(In/Hr) for a   100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.876
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  94.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      5.013(CFS)
Total initial stream area =        2.000(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      120.000 to Point/Station      170.000
**** INITIAL AREA EVALUATION ****
----------------------------------------------------------------------
Initial area flow distance =   876.000(Ft.)
Top (of initial area) elevation =  1583.000(Ft.)
Bottom (of initial area) elevation =  1482.000(Ft.)
Difference in elevation =   101.000(Ft.)
Slope =    0.11530  s(percent)=      11.53
TC = k(0.390)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.030 min.
Rainfall intensity =      3.213(In/Hr) for a   100.0 year storm
SINGLE FAMILY (1/4 Acre Lot)
Runoff Coefficient = 0.868
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  0.500; Impervious fraction =  0.500
Initial subarea runoff =      2.788(CFS)
Total initial stream area =        1.000(Ac.)
Pervious area fraction = 0.500
End of computations, total study area =            4.55 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.720
Area averaged RI index number =  76.5
```

APPENDIX B – Weir Calculations

```
************************************************************************
                HYDRAULIC ELEMENTS - I  PROGRAM PACKAGE
        (C) Copyright 1982-2013 Advanced Engineering Software (aes)
            Ver. 20.0  Release Date: 06/01/2013  License ID 1238

                          Analysis prepared by:



------------------------------------------------------------------------
  TIME/DATE OF STUDY: 14:38 02/22/2021
========================================================================
 Problem Descriptions:
  Existing area Weir Calculations


************************************************************************
>>>>CHANNEL INPUT INFORMATION<<<<
------------------------------------------------------------------------
    CHANNEL Z1(HORIZONTAL/VERTICAL) =    0.00
            Z2(HORIZONTAL/VERTICAL) =    0.00
    BASEWIDTH(FEET) =    50.00
    CONSTANT CHANNEL SLOPE(FEET/FEET) = 0.010000
    UNIFORM FLOW(CFS) =        4.10
    MANNINGS FRICTION FACTOR = 0.0150
========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
------------------------------------------------------------------------
    >>>>> NORMAL DEPTH(FEET) =   0.06
    FLOW TOP-WIDTH(FEET) =        50.00
    FLOW AREA(SQUARE FEET) =           2.77
    HYDRAULIC DEPTH(FEET) =     0.06
    FLOW AVERAGE VELOCITY(FEET/SEC.) =     1.48
    UNIFORM FROUDE NUMBER =    1.111
    PRESSURE + MOMENTUM(POUNDS) =           16.55
    AVERAGED VELOCITY HEAD(FEET) =      0.034
    SPECIFIC ENERGY(FEET) =      0.089
========================================================================
    CRITICAL-DEPTH FLOW INFORMATION:
------------------------------------------------------------------------
    CRITICAL FLOW TOP-WIDTH(FEET) =        50.00
    CRITICAL FLOW AREA(SQUARE FEET) =           2.92
    CRITICAL FLOW HYDRAULIC DEPTH(FEET) =     0.06
    CRITICAL FLOW AVERAGE VELOCITY(FEET/SEC.) =     1.40
    CRITICAL DEPTH(FEET) =     0.06
    CRITICAL FLOW PRESSURE + MOMENTUM(POUNDS) =          16.48
```

```
    AVERAGED CRITICAL FLOW VELOCITY HEAD(FEET) =      0.031
    CRITICAL FLOW SPECIFIC ENERGY(FEET) =      0.089
================================================================================
```

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************************************************************************
                HYDRAULIC ELEMENTS - I  PROGRAM PACKAGE
        (C) Copyright 1982-2013 Advanced Engineering Software (aes)
            Ver. 20.0  Release Date: 06/01/2013  License ID 1238

                          Analysis prepared by:



------------------------------------------------------------------------
  TIME/DATE OF STUDY: 14:34 02/22/2021
========================================================================
 Problem Descriptions:
  Ditch Weir Calculations


************************************************************************
>>>>CHANNEL INPUT INFORMATION<<<<
------------------------------------------------------------------------
    CHANNEL Z1(HORIZONTAL/VERTICAL) =    0.00
            Z2(HORIZONTAL/VERTICAL) =    0.00
    BASEWIDTH(FEET) =    60.00
    CONSTANT CHANNEL SLOPE(FEET/FEET) = 0.010000
    UNIFORM FLOW(CFS) =        5.40
    MANNINGS FRICTION FACTOR = 0.0150
========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
------------------------------------------------------------------------
    >>>>> NORMAL DEPTH(FEET) =   0.06
    FLOW TOP-WIDTH(FEET) =       60.00
    FLOW AREA(SQUARE FEET) =           3.55
    HYDRAULIC DEPTH(FEET) =     0.06
    FLOW AVERAGE VELOCITY(FEET/SEC.) =     1.52
    UNIFORM FROUDE NUMBER =    1.103
    PRESSURE + MOMENTUM(POUNDS) =           22.47
    AVERAGED VELOCITY HEAD(FEET) =      0.036
    SPECIFIC ENERGY(FEET) =      0.095
========================================================================
    CRITICAL-DEPTH FLOW INFORMATION:
------------------------------------------------------------------------
    CRITICAL FLOW TOP-WIDTH(FEET) =        60.00
    CRITICAL FLOW AREA(SQUARE FEET) =           3.79
    CRITICAL FLOW HYDRAULIC DEPTH(FEET) =     0.06
    CRITICAL FLOW AVERAGE VELOCITY(FEET/SEC.) =     1.42
    CRITICAL DEPTH(FEET) =     0.06
    CRITICAL FLOW PRESSURE + MOMENTUM(POUNDS) =           22.38
```

```
    AVERAGED CRITICAL FLOW VELOCITY HEAD(FEET) =      0.032
    CRITICAL FLOW SPECIFIC ENERGY(FEET) =      0.095
================================================================================
```

```
**************************************************************************
                HYDRAULIC ELEMENTS - I  PROGRAM PACKAGE
        (C) Copyright 1982-2013 Advanced Engineering Software (aes)
            Ver. 20.0  Release Date: 06/01/2013  License ID 1238

                          Analysis prepared by:



--------------------------------------------------------------------------
  TIME/DATE OF STUDY: 14:40 02/22/2021
==========================================================================
 Problem Descriptions:
  Basin Weir Depth Calculations


**************************************************************************
>>>>CHANNEL INPUT INFORMATION<<<<
--------------------------------------------------------------------------
    CHANNEL Z1(HORIZONTAL/VERTICAL) =    0.00
            Z2(HORIZONTAL/VERTICAL) =    0.00
    BASEWIDTH(FEET) =    70.00
    CONSTANT CHANNEL SLOPE(FEET/FEET) = 0.010000
    UNIFORM FLOW(CFS) =        6.10
    MANNINGS FRICTION FACTOR = 0.0150
==========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    >>>>> NORMAL DEPTH(FEET) =   0.06
    FLOW TOP-WIDTH(FEET) =      70.00
    FLOW AREA(SQUARE FEET) =           4.14
    HYDRAULIC DEPTH(FEET) =     0.06
    FLOW AVERAGE VELOCITY(FEET/SEC.) =     1.47
    UNIFORM FROUDE NUMBER =    1.068
    PRESSURE + MOMENTUM(POUNDS) =           25.06
    AVERAGED VELOCITY HEAD(FEET) =      0.034
    SPECIFIC ENERGY(FEET) =      0.093
==========================================================================
    CRITICAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    CRITICAL FLOW TOP-WIDTH(FEET) =        70.00
    CRITICAL FLOW AREA(SQUARE FEET) =           4.26
    CRITICAL FLOW HYDRAULIC DEPTH(FEET) =     0.06
    CRITICAL FLOW AVERAGE VELOCITY(FEET/SEC.) =     1.43
    CRITICAL DEPTH(FEET) =     0.06
    CRITICAL FLOW PRESSURE + MOMENTUM(POUNDS) =           25.02
```

```
    AVERAGED CRITICAL FLOW VELOCITY HEAD(FEET) =      0.032
    CRITICAL FLOW SPECIFIC ENERGY(FEET) =      0.093
================================================================================
```

Appendix B:

Air Quality and Greenhouse Gas Analysis

ALBERT A. WEBB ASSOCIATES

Technical Memorandum

To: Joe Broadhead, Principal Water Resources Specialist

From: Eliza Laws, Senior Environmental Analyst
Noemi Avila, Assistant Environmental Analyst

Date: May 12, 2020

Re: Air Quality/Greenhouse Gas Analysis for the Belle Terre Water Storage Tank, Located Within Belle Terre Specific Plan No. 382, Unincorporated Riverside County Community of French Valley

The following air quality assessment was prepared to evaluate whether the expected criteria air pollutant emissions generated as a result of construction and operation of the proposed Project would cause exceedances of the South Coast Air Quality Management District's (SCAQMD) thresholds for air quality in the Project area. The greenhouse gas (GHG) assessment was prepared to evaluate whether the expected criteria GHG emissions generated as a result of construction and operation of the proposed Project would exceed the SCAQMD draft screening significance thresholds. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000 et seq.). The methodology follows the *CEQA Air Quality Handbook* prepared by the SCAQMD for quantification of emissions and evaluation of potential impacts to air resources. As recommended by SCAQMD staff, the **Cal**ifornia **E**missions **E**stimator **Mod**el® version 2016.3.2 (CalEEMod) was used to quantify Project-related emissions.

The proposed Project includes construction of a 1.79 million-gallon (MG) potable water storage tank and associated infrastructure that will provide potable water service to the Belle Terre community as planned by the Belle Terre Specific Plan No. 382 (SP382). The Project site is approximately 4.7 acres located on a knoll north of Fields Drive, east of the San Diego Canal, and west of Glen Gibson Court within Planning Area 24 of SP382 in unincorporated Riverside County. The nominal tank diameter is 86-feet and the nominal height is 40-feet. An 18-inch diameter water pipeline will be constructed to connect the proposed tank to the nearest point of connection in Fields Drive for a length of approximately 1,100-feet. An 18-inch diameter overflow pipeline will also be provided to drain overflow tank water to a proposed detention basin located at the entrance of the proposed access road.

▪ Regional Significance Thresholds

The thresholds contained in the *SCAQMD CEQA Air Quality Handbook*[1] (SCAQMD 1993) are considered regional thresholds and are shown in **Table 1 – SCAQMD CEQA Daily Regional Significance Thresholds**, below. These regional thresholds were developed based on the SCAQMD's treatment of a major stationary source.

Table 1 – SCAQMD CEQA Daily Regional Significance Thresholds

Emission Threshold	Units	VOC	NO_x	CO	SO_x	PM-10	PM-2.5
Construction	lbs/day	75	100	550	150	150	55
Operation	lbs/day	55	55	550	150	150	55

Air quality impacts can be described in a short- and long-term perspective. Short-term impacts occur during site grading and Project construction and consist of fugitive dust and other particulate matter, as well as exhaust emissions generated by construction-related vehicles. Long-term air quality impacts occur once the Project is in operation. The additional facilities constructed are not anticipated to increase the frequency of ongoing maintenance activities. Operational emissions would primarily be from infrequent visits by vehicles driven by maintenance personnel and are considered negligible; therefore, only short-term impacts were quantified.

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 the application of water or chemical stabilizers to disturbed soils, reducing 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 or more acres or more of soil, or move 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 this Project's disturbance area (4.7 acres), a Fugitive Dust Control Plan or a Large Operation Notification Form would not be required.

Short-Term Analysis

Short-term emissions from Project construction were evaluated using the CalEEMod version 2016.3.2. program. The estimated construction period for the proposed Project is approximately twelve months, beginning no sooner than November 2020. The default parameters within CalEEMod were used, except as identified below, and these default values generally reflect a worst-case scenario, which means that Project emissions are expected to be equal to or less than the estimated emissions. In addition to the default values used, assumptions for each component of the Project relevant to model inputs for short-term construction emission estimates used are:

- Construction is anticipated to begin November 2020 with Grading and end with Paving:

Construction Activity	Start Date	End Date	Total Working Days
Soil Hauling	November 01, 2020	November 20, 2020	15 days
Grading	November 01, 2020	January 01, 2021	45 days
Tank Construction	January 04, 2021	June 18, 2021	120 days
Tank Coating	June 21, 2021	August 20, 2021	45 days
Pipe Work (Trenching)	August 23, 2021	October 01, 2021	30 days
Paving	October 04, 2021	October 08, 2021	5 days

[1] South Coast Air Quality Management District, *CEQA Air Quality Handbook*, November 1993. (Available at SCAQMD.)

- The off-road equipment to be used for each activity is shown below and is based on engineering estimates and CalEEMod defaults:

Construction Activity	Off-Road Equipment	Unit Amount	Hours/Day
Grading/Soil Hauling[1]	Crushing/Proc equipment	1	8
	Rubber Tired Dozers	1	8
	Tractors/Loaders/Backhoes	2	8
Tank Construction	Crane[2]	1	8
	Forklift	1	8
	Tractors/Loaders/Backhoes	1	8
	Welder	1	8
Tank Coating	Air Compressor	1	8
	Pumps (Dehumidifier)[3]	1	24
Pipe work (Trenching)	Tractors/Loaders/Backhoe	1	8
Paving	Pavers	1	8
	Rollers	1	8
	Tractors/Loaders/Backhoes	1	8

[1] No off-road equipment was modeled during Soil Hauling. Soil hauling will occur during site grading operations and was set as a separate phase to isolate the daily truck trip frequency.

[2] The Crane is only required for a single day during Tank Construction. For modeling purposes, this equipment was assumed to operate the entire duration of each activity, which provides a worst-case scenario.

[3] The CalEEMod equipment list does not include a dehumidifier. The Pump was used as a proxy for the dehumidifier because it most closely resembles the dehumidifier. While the precise specifications for the dehumidifier are currently unknown, it is anticipated to be an industrial sized piece of equipment that is diesel fueled. The dehumidifier will only be required for a single day, but will run for 24 hours. For modeling purposes, this equipment was assumed to operate the entire duration of this activity, which provides a worst-case scenario.

- To evaluate Project compliance with SCAQMD Rule 403 for fugitive dust control, the Project utilized the mitigation option of watering the Project site three times daily which achieves a control efficiency of 61 percent for PM-10 and PM-2.5 emissions. Two (2) one-way vendor truck trips per day were added to the grading and paving activities to account for water truck trips.

- Four (4) vendor truck trips per day were added for material delivery and removal during tank construction, tank coating, and pipe work activities.

- Approximately 53,778 cubic yards (cy) of soil will be exported during the soil hauling phase that is concurrent with grading operations. It is anticipated that up to 3,500 cy could be exported per day. Thus, the soil hauling could be completed in approximately 15 days. Truck capacity in CalEEMod is assumed to be 16 cubic yards, resulting in approximately 3,361 truckloads of export over the 15-day soil hauling period, or approximately 224 truckloads per day. The soil will be stockpiled in Planning Areas 9 and 28 of SP382. Planning Area 9 is adjacent to Planning Area 28, but is located farther from the tank site and was used to present a conservative analysis. The stockpile site in Planning Area 9 is located approximately one mile away. Therefore, the hauling trip length of one mile per trip was assumed.

- Architectural coating includes the interior and exterior of the new 1.79 MG tank being constructed. The surface area to be coated for both the interior and exterior tank surfaces was calculated and entered into CalEEMod to estimate the emissions from these activities.

The results of this analysis are summarized below. The results are provided for each phase of the Project.

Table 2 – Unmitigated Estimated Maximum Daily Construction Emissions

Activity	Peak Daily Emissions (lb/day)					
	VOC	NO_X	CO	SO_2	PM-10	PM-2.5
SCAQMD Daily Construction Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Soil Hauling	1.08	**51.73**	**6.70**	**0.08**	**0.62**	**0.17**
Grading 2020	2.11	**19.58**	**13.41**	**0.02**	**3.57**	**2.33**
Grading 2021	1.99	18.47	13.30	0.02	3.48	2.23
Tank Construction	1.53	13.18	10.94	0.03	1.68	0.77
Tank Coating	**6.81**	12.08	14.34	0.03	0.88	0.72
Pipe Work (Trenching)	0.22	2.46	2.47	0.00	0.19	0.12
Paving	1.03	6.62	7.37	0.01	0.46	0.35
Maximum[1]	**6.81**	**71.31**	**20.11**	**0.10**	**4.19**	**2.50**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Note: [1] Maximum emissions are the greater of either the sum of soil hauling and grading 2020 since these phases overlap, or grading 2021, tank construction, tank coating, pipe work, or paving alone since these activities do not overlap. Maximum emissions are shown in bold.

As shown in **Table 2**, above, the emissions from construction of the Project are below the SCAQMD daily construction thresholds for all the criteria pollutants.

Long-Term Analysis

Long-term air quality impacts occur once the Project is in operation.

Operational emissions related to the tank and appurtenances would be primarily from the infrequent visits by vehicles driven by maintenance personnel and are considered negligible. Operation of the Project requires the limited use of electricity for control panels and mechanical demands, therefore electricity use will be nominal. The proposed tank will be served by an existing pump station that does not require modifications or expansions.

▪ Localized Significance Threshold Analysis

Background

As part of the SCAQMD's environmental justice program, attention has been focused on localized effects of air quality. Staff at SCAQMD has developed localized significance threshold (LST) methodology[2] that can be used by public agencies to determine whether or not a project may generate significant adverse localized air quality impacts (both short- and long-term). LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA). The Project is located in SRA 26.

Short-Term Analysis

According to the LST methodology, only on-site emissions need to be analyzed. Emissions associated with vendor and worker trips are mobile source emissions that occur off site. The emissions analyzed under the LST methodology are NO_2, CO, PM-10, and PM-2.5. SCAQMD has provided LST lookup tables[3] to allow users to readily determine if the daily emissions for proposed construction or operational activities could result in significant localized air quality impacts for projects five acres or smaller. The LST

[2] South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, Revised July 2008. (Available at http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds, accessed May 2020.)

[3] http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds

tables can be used as a screening tool to determine if dispersion modeling would be necessary. If project-related emissions are below the LST table emissions, no further analysis is necessary. The Project site is approximately 4.7 acres. According to the CalEEMod Guidance[4], the Project will disturb approximately 0.5 acres per day. The LST for one-acre site was utilized because it is the nearest LST presented in the LST lookup tables.

The LST are estimated using the maximum daily disturbed area (in acres) and the distance of the Project to the nearest sensitive receptors (in meters). The closest sensitive receptors to the Project site are existing residential uses along Glen Gibson Ct approximately 67 feet (20 meters) east of the tank site. According to LST methodology, projects with boundaries closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters. Therefore, a receptor distance of 25 meters (82 feet) was used to ensure a conservative analysis.

Table 3 – Unmitigated LST Results for Daily Construction Emissions

Pollutant	Peak Daily Emissions (lb/day)			
	NO_X	CO	PM-10	PM-2.5
LST Threshold for 1-acre at 25 meters	**162**	**750**	**4**	**3**
Soil Hauling	**0.00**	0.00	**0.18**	**0.03**
Grading 2020	**19.34**	13.04	**3.45**	**2.29**
Grading 2021	18.26	12.90	3.35	2.20
Tank Construction	9.43	7.13	0.47	0.44
Tank Coating	11.67	**13.65**	0.66	0.66
Pipe Work (Trenching)	1.90	2.26	0.11	0.10
Paving	6.42	7.05	0.35	0.33
Maximum[1]	**19.34**	**13.65**	**3.63**	**2.32**
Exceeds Threshold?	**No**	**No**	**No**	**No**

Note: [1] Maximum emissions are the greater of either the sum of soil hauling and grading 2020 since these phases overlap, or grading 2021, tank construction, tank coating, pipe work, or paving alone since these activities do not overlap. Maximum emissions are shown in bold.

Therefore, as shown in **Table 3,** emissions from construction of the Project will be below the LST established by SCAQMD for the Project.

Long-Term Analysis

The Project involves the construction of a potable water tank and appurtenances. The long-term emissions from the tank, as discussed previously, are primarily in the form of mobile source emissions from maintenance vehicles, with no stationary sources of emissions present. Operation of the Project requires the limited use of electricity for control panels and mechanical demands, therefore electricity use will be nominal. The proposed tank will be served by an existing pump station that does not require modifications or expansions. According to the LST methodology, LSTs only apply to the operational phase if a project includes stationary sources or on-site mobile equipment generating on-site emissions. The proposed Project does not include such uses. Therefore, no long-term LST analysis is needed.

▪ Greenhouse Gas Analysis

Greenhouse gases (GHG) are not presented in lbs/day like criteria pollutants; they are typically evaluated on an annual basis using the metric system. Several agencies, at various levels, have proposed draft GHG significance thresholds for use in CEQA documents. SCAQMD has been working on GHG thresholds for development projects. In December 2008, the SCAQMD adopted a threshold of 10,000 metric tonnes per year of carbon dioxide equivalents ($MTCO_2E/yr$) for stationary source projects where

[4] http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2

SCAQMD is the lead agency. The most recent draft proposal was in September 2010[5] and included screening significance thresholds for residential, commercial, and mixed-use projects at 3,500, 1,400, and 3,000 $MTCO_2E$/yr, respectively. Alternatively, a lead agency has the option to use 3,000 $MTCO_2E$/yr as a threshold for all non-industrial projects. Although both options are recommended by SCAQMD, a lead agency is advised to use only one option and to use it consistently. The SCAQMD significance thresholds also evaluate construction emissions by amortizing them over an expected project life of 30 years. If emissions are above the screening level threshold, additional analysis may be required. The analysis herein uses the threshold of 3,000 $MTCO_2E$/yr.

Short-Term Analysis

Construction-Related Emissions

The CalEEMod model calculates GHG emissions from fuel usage by construction equipment and construction-related activities, like construction worker trips, for the Project. The CalEEMod estimate does not analyze emissions from construction-related electricity or natural gas. Construction-related electricity and natural gas emissions vary based on the amount of electric power used during construction and other unknown factors which make them too speculative to quantify. The CalEEMod output results for construction-related GHG emissions provide for CO_2, methane (CH_4), nitrous oxide (N_2O), and CO_2E[6] as shown on **Table 7**.

Table 7 – Project Construction Equipment GHG Emissions

Year	Metric Tons per year (MT/yr)			
	Total CO_2	Total CH_4	Total N_2O	Total CO_2E
2020	99.91	0.02	0.00	100.44
2021	229.34	0.03	0.00	230.08
Total	**329.25**	**0.05**	**0.00**	**330.52**
			Amortized[1]	**11.02**

Note: [1]Construction emissions were amortized over a 30-year period, as recommended by SCAQMD.

Results indicate that an estimated 330.52 $MTCO_2E$ will occur from Project construction equipment over the course of the estimated approximately 12-month construction period. The draft SCAQMD GHG threshold guidance document released in October 2008[7] recommends that construction emissions be amortized for a project lifetime of 30 years to ensure that GHG reduction measures address construction GHG emissions as part of the operational reduction strategies.

The proposed Project does not fit into the categories provided (industrial, commercial, and residential) in the draft thresholds from SCAQMD. The Project's emissions were compared to the 3,000 $MTCO_2E$/yr threshold for non-industrial projects. Since the draft SCAQMD GHG threshold guidance document released in October 2008 (SCAQMD 2008b, p. 3-8) recommends that construction emissions be amortized for a project lifetime of 30 years to, the total GHG emissions from Project construction were amortized and are below the SCAQMD recommended screening level of 3,000 $MTCO_2E$/yr. Due to the estimated amount of emissions from Project construction and negligible operational emissions from infrequent maintenance vehicles related to the tank and appurtenances, the proposed Project will not generate GHG emissions that exceed the screening threshold.

[5] http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-main-presentation.pdf?sfvrsn=2

[6] CO_2E is the sum of CO_2 emissions estimated plus the sum of CH_4 and N_2O emissions estimated multiplied by their respective global warming potential (GWP).

[7] http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-6/ghg-meeting-6-guidance-document-discussion.pdf?sfvrsn=2

▪ Recommended Mitigation Measures

All construction emissions were below thresholds; therefore, no mitigation measures are required.

▪ Conclusion

The conclusion of this analysis indicates that construction of the proposed Project will not exceed criteria pollutant thresholds established by SCAQMD on a regional or localized level. In addition, the Project's GHG emissions will not exceed the SCAQMD interim threshold of 3,000 $MTCO_2E$/yr.

Should you have any questions, please contact me at (951) 686-1070.

CALEEMOD OUTPUT FILES

CalEEMod Version: CalEEMod.2016.3.2

Date: 5/7/2020 9:03 PM

EMWD Water Tank - Belle Terre - Riverside-South Coast County, Summer

EMWD Water Tank - Belle Terre

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.70	Acre	0.70	30,492.00	0
Other Non-Asphalt Surfaces	4.00	Acre	4.00	174,240.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per Grading Plan

Construction Phase - Per Engineer

Off-road Equipment - Per Engineer

Off-road Equipment - Per Engineer

Off-road Equipment - Per Engineer

Off-road Equipment - No equipment required/modeled

Off-road Equipment - Per Engineer

Off-road Equipment - Per Engineers

Trips and VMT - 2 water truck trips/day added to grading and paving phases. 4 vendor trips added to tank construction, coating and pipewor for material delivery and removal. 1 mile truck trip length for soild hauling.

Grading - Per Grading Plans

Architectural Coating - Per Site Plan

Construction Off-road Equipment Mitigation - Per Rule 403

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	0.00	16,607.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	0.00	22,413.00
tblConstructionPhase	NumDays	8.00	15.00
tblConstructionPhase	NumDays	8.00	45.00
tblConstructionPhase	NumDays	230.00	120.00
tblConstructionPhase	NumDays	18.00	45.00
tblConstructionPhase	NumDays	18.00	5.00
tblGrading	AcresOfGrading	0.00	4.00
tblGrading	MaterialExported	0.00	53,777.52
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00

tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	34.00	38.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.0715	71.3051	17.8987	0.1034	7.0960	1.0970	8.1929	3.5332	1.0297	4.5630	0.0000	10,725.6713	10,725.6713	2.0621	0.0000	10,777.2247
2021	6.8074	18.4701	14.3398	0.0320	6.2409	0.9652	7.2061	3.3537	0.9046	4.2583	0.0000	3,169.1871	3,169.1871	0.5143	0.0000	3,180.4129
Maximum	**6.8074**	**71.3051**	**17.8987**	**0.1034**	**7.0960**	**1.0970**	**8.1929**	**3.5332**	**1.0297**	**4.5630**	**0.0000**	**10,725.6713**	**10,725.6713**	**2.0621**	**0.0000**	**10,777.2247**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.0715	71.3051	17.8987	0.1034	3.0881	1.0970	4.1850	1.4658	1.0297	2.4956	0.0000	10,725.6713	10,725.6713	2.0621	0.0000	10,777.2247
2021	6.8074	18.4701	14.3398	0.0320	2.5100	0.9652	3.4751	1.3283	0.9046	2.2329	0.0000	3,169.1871	3,169.1871	0.5143	0.0000	3,180.4129
Maximum	**6.8074**	**71.3051**	**17.8987**	**0.1034**	**3.0881**	**1.0970**	**4.1850**	**1.4658**	**1.0297**	**2.4956**	**0.0000**	**10,725.6713**	**10,725.6713**	**2.0621**	**0.0000**	**10,777.2247**

	ROG	NOx	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**	**58.03**	**0.00**	**50.26**	**59.43**	**0.00**	**46.40**	**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	Soil Hauling	Grading	11/1/2020	11/20/2020	5	15	
2	Grading	Grading	11/1/2020	1/1/2021	5	45	
3	Tank Construction	Building Construction	1/4/2021	6/18/2021	5	120	
4	Tank Coating	Architectural Coating	6/21/2021	8/20/2021	5	45	
5	Pipe Work (Trenching)	Trenching	8/23/2021	10/1/2021	5	30	
6	Paving	Paving	10/4/2021	10/8/2021	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 4.7

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 22,413; Non-Residential Outdoor: 16,607; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Soil Hauling	Excavators	0	8.00	158	0.38
Soil Hauling	Graders	0	8.00	187	0.41
Soil Hauling	Rubber Tired Dozers	0	8.00	247	0.40
Soil Hauling	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crushing/Proc. Equipment	1	8.00	85	0.78
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Tank Construction	Cranes	1	8.00	231	0.29
Tank Construction	Forklifts	1	8.00	89	0.20

Tank Construction	Generator Sets	0	8.00	84	0.74
Tank Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Tank Construction	Welders	1	8.00	46	0.45
Tank Coating	Air Compressors	1	8.00	78	0.48
Tank Coating	Pumps	1	24.00	84	0.74
Pipe Work (Trenching)	Cement and Mortar Mixers	0	6.00	9	0.56
Pipe Work (Trenching)	Pavers	0	8.00	130	0.42
Pipe Work (Trenching)	Paving Equipment	0	6.00	132	0.36
Pipe Work (Trenching)	Rollers	0	6.00	80	0.38
Pipe Work (Trenching)	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	0	6.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Soil Hauling	0	0.00	0.00	6,722.00	14.70	6.90	1.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Tank Construction	4	86.00	38.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Tank Coating	2	17.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Pipe Work (Trenching)	1	3.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Soil Hauling - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4540	0.0000	0.4540	0.0688	0.0000	0.0688			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4540**	**0.0000**	**0.4540**	**0.0688**	**0.0000**	**0.0688**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.9635	51.7275	4.4145	0.0800	0.4010	0.0330	0.4341	0.1107	0.0316	0.1423		8,467.0240	8,467.0240	1.5439		8,505.6226
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.9635**	**51.7275**	**4.4145**	**0.0800**	**0.4010**	**0.0330**	**0.4341**	**0.1107**	**0.0316**	**0.1423**		**8,467.0240**	**8,467.0240**	**1.5439**		**8,505.6226**

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					0.1771	0.0000	0.1771	0.0268	0.0000	0.0268			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1771**	**0.0000**	**0.1771**	**0.0268**	**0.0000**	**0.0268**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.9635	51.7275	4.4145	0.0800	0.4010	0.0330	0.4341	0.1107	0.0316	0.1423		8,467.0240	8,467.0240	1.5439		8,505.6226
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.9635**	**51.7275**	**4.4145**	**0.0800**	**0.4010**	**0.0330**	**0.4341**	**0.1107**	**0.0316**	**0.1423**		**8,467.0240**	**8,467.0240**	**1.5439**		**8,505.6226**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1164	0.0000	6.1164	3.3204	0.0000	3.3204			0.0000			0.0000
Off-Road	2.0516	19.3417	13.0433	0.0218		1.0621	1.0621		0.9964	0.9964		2,093.4096	2,093.4096	0.5112		2,106.1907
Total	**2.0516**	**19.3417**	**13.0433**	**0.0218**	**6.1164**	**1.0621**	**7.1785**	**3.3204**	**0.9964**	**4.3168**		**2,093.4096**	**2,093.4096**	**0.5112**		**2,106.1907**

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	5.5700e-003	0.2058	0.0377	5.2000e-004	0.0128	1.1700e-003	0.0140	3.6900e-003	1.1200e-003	4.8100e-003		55.0782	55.0782	4.1300e-003		55.1815
Worker	0.0509	0.0301	0.4032	1.1100e-003	0.1118	6.8000e-004	0.1125	0.0296	6.2000e-004	0.0303		110.1595	110.1595	2.8200e-003		110.2301
Total	**0.0565**	**0.2359**	**0.4409**	**1.6300e-003**	**0.1246**	**1.8500e-003**	**0.1264**	**0.0333**	**1.7400e-003**	**0.0351**		**165.2376**	**165.2376**	**6.9500e-003**		**165.4115**

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					2.3854	0.0000	2.3854	1.2950	0.0000	1.2950			0.0000			0.0000
Off-Road	2.0516	19.3417	13.0433	0.0218		1.0621	1.0621		0.9964	0.9964	0.0000	2,093.4096	2,093.4096	0.5112		2,106.1907
Total	**2.0516**	**19.3417**	**13.0433**	**0.0218**	**2.3854**	**1.0621**	**3.4475**	**1.2950**	**0.9964**	**2.2914**	**0.0000**	**2,093.4096**	**2,093.4096**	**0.5112**		**2,106.1907**

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	5.5700e-003	0.2058	0.0377	5.2000e-004	0.0128	1.1700e-003	0.0140	3.6900e-003	1.1200e-003	4.8100e-003		55.0782	55.0782	4.1300e-003		55.1815
Worker	0.0509	0.0301	0.4032	1.1100e-003	0.1118	6.8000e-004	0.1125	0.0296	6.2000e-004	0.0303		110.1595	110.1595	2.8200e-003		110.2301
Total	**0.0565**	**0.2359**	**0.4409**	**1.6300e-003**	**0.1246**	**1.8500e-003**	**0.1264**	**0.0333**	**1.7400e-003**	**0.0351**		**165.2376**	**165.2376**	**6.9500e-003**		**165.4115**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1164	0.0000	6.1164	3.3204	0.0000	3.3204			0.0000			0.0000
Off-Road	1.9331	18.2580	12.8976	0.0218		0.9641	0.9641		0.9037	0.9037		2,093.6825	2,093.6825	0.5078		2,106.3780
Total	**1.9331**	**18.2580**	**12.8976**	**0.0218**	**6.1164**	**0.9641**	**7.0805**	**3.3204**	**0.9037**	**4.2241**		**2,093.6825**	**2,093.6825**	**0.5078**		**2,106.3780**

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	4.6700e-003	0.1851	0.0330	5.2000e-004	0.0128	3.5000e-004	0.0132	3.6900e-003	3.4000e-004	4.0200e-003		54.6502	54.6502	3.9100e-003		54.7480
Worker	0.0474	0.0270	0.3697	1.0700e-003	0.1118	6.6000e-004	0.1124	0.0296	6.1000e-004	0.0303		106.4751	106.4751	2.5400e-003		106.5386
Total	**0.0521**	**0.2121**	**0.4027**	**1.5900e-003**	**0.1246**	**1.0100e-003**	**0.1256**	**0.0333**	**9.5000e-004**	**0.0343**		**161.1253**	**161.1253**	**6.4500e-003**		**161.2865**

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					2.3854	0.0000	2.3854	1.2950	0.0000	1.2950			0.0000			0.0000
Off-Road	1.9331	18.2580	12.8976	0.0218		0.9641	0.9641		0.9037	0.9037	0.0000	2,093.6825	2,093.6825	0.5078		2,106.3780
Total	**1.9331**	**18.2580**	**12.8976**	**0.0218**	**2.3854**	**0.9641**	**3.3495**	**1.2950**	**0.9037**	**2.1986**	**0.0000**	**2,093.6825**	**2,093.6825**	**0.5078**		**2,106.3780**

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	4.6700e-003	0.1851	0.0330	5.2000e-004	0.0128	3.5000e-004	0.0132	3.6900e-003	3.4000e-004	4.0200e-003		54.6502	54.6502	3.9100e-003		54.7480
Worker	0.0474	0.0270	0.3697	1.0700e-003	0.1118	6.6000e-004	0.1124	0.0296	6.1000e-004	0.0303		106.4751	106.4751	2.5400e-003		106.5386
Total	**0.0521**	**0.2121**	**0.4027**	**1.5900e-003**	**0.1246**	**1.0100e-003**	**0.1256**	**0.0333**	**9.5000e-004**	**0.0343**		**161.1253**	**161.1253**	**6.4500e-003**		**161.2865**

3.4 Tank Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0322	9.4332	7.1298	0.0130		0.4665	0.4665		0.4351	0.4351		1,215.1474	1,215.1474	0.3529		1,223.9703
Total	**1.0322**	**9.4332**	**7.1298**	**0.0130**		**0.4665**	**0.4665**		**0.4351**	**0.4351**		**1,215.1474**	**1,215.1474**	**0.3529**		**1,223.9703**

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	0.0887	3.5165	0.6274	9.8500e-003	0.2433	6.6900e-003	0.2500	0.0701	6.4000e-003	0.0765		1,038.3539	1,038.3539	0.0743		1,040.2110
Worker	0.4077	0.2323	3.1795	9.1900e-003	0.9613	5.6600e-003	0.9669	0.2549	5.2200e-003	0.2602		915.6858	915.6858	0.0218		916.2316
Total	**0.4964**	**3.7488**	**3.8069**	**0.0190**	**1.2046**	**0.0124**	**1.2170**	**0.3250**	**0.0116**	**0.3366**		**1,954.0397**	**1,954.0397**	**0.0961**		**1,956.4426**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0322	9.4332	7.1298	0.0130		0.4665	0.4665		0.4351	0.4351	0.0000	1,215.1474	1,215.1474	0.3529		1,223.9703
Total	**1.0322**	**9.4332**	**7.1298**	**0.0130**		**0.4665**	**0.4665**		**0.4351**	**0.4351**	**0.0000**	**1,215.1474**	**1,215.1474**	**0.3529**		**1,223.9703**

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	0.0887	3.5165	0.6274	9.8500e-003	0.2433	6.6900e-003	0.2500	0.0701	6.4000e-003	0.0765		1,038.3539	1,038.3539	0.0743		1,040.2110
Worker	0.4077	0.2323	3.1795	9.1900e-003	0.9613	5.6600e-003	0.9669	0.2549	5.2200e-003	0.2602		915.6858	915.6858	0.0218		916.2316
Total	**0.4964**	**3.7488**	**3.8069**	**0.0190**	**1.2046**	**0.0124**	**1.2170**	**0.3250**	**0.0116**	**0.3366**		**1,954.0397**	**1,954.0397**	**0.0961**		**1,956.4426**

3.5 Tank Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.2843					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.4331	11.6658	13.6453	0.0237		0.6583	0.6583		0.6583	0.6583		2,244.3711	2,244.3711	0.1277		2,247.5638
Total	**6.7174**	**11.6658**	**13.6453**	**0.0237**		**0.6583**	**0.6583**		**0.6583**	**0.6583**		**2,244.3711**	**2,244.3711**	**0.1277**		**2,247.5638**

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	9.3400e-003	0.3702	0.0660	1.0400e-003	0.0256	7.0000e-004	0.0263	7.3700e-003	6.7000e-004	8.0500e-003		109.3004	109.3004	7.8200e-003		109.4959
Worker	0.0806	0.0459	0.6285	1.8200e-003	0.1900	1.1200e-003	0.1911	0.0504	1.0300e-003	0.0514		181.0077	181.0077	4.3200e-003		181.1156
Total	**0.0899**	**0.4161**	**0.6946**	**2.8600e-003**	**0.2156**	**1.8200e-003**	**0.2175**	**0.0578**	**1.7000e-003**	**0.0595**		**290.3081**	**290.3081**	**0.0121**		**290.6114**

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	5.2843					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.4331	11.6658	13.6453	0.0237		0.6583	0.6583		0.6583	0.6583	0.0000	2,244.3711	2,244.3711	0.1277		2,247.5638
Total	**6.7174**	**11.6658**	**13.6453**	**0.0237**		**0.6583**	**0.6583**		**0.6583**	**0.6583**	**0.0000**	**2,244.3711**	**2,244.3711**	**0.1277**		**2,247.5638**

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	9.3400e-003	0.3702	0.0660	1.0400e-003	0.0256	7.0000e-004	0.0263	7.3700e-003	6.7000e-004	8.0500e-003		109.3004	109.3004	7.8200e-003		109.4959
Worker	0.0806	0.0459	0.6285	1.8200e-003	0.1900	1.1200e-003	0.1911	0.0504	1.0300e-003	0.0514		181.0077	181.0077	4.3200e-003		181.1156
Total	**0.0899**	**0.4161**	**0.6946**	**2.8600e-003**	**0.2156**	**1.8200e-003**	**0.2175**	**0.0578**	**1.7000e-003**	**0.0595**		**290.3081**	**290.3081**	**0.0121**		**290.6114**

3.6 Pipe Work (Trenching) - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1873	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**		**0.1118**	**0.1118**		**0.1028**	**0.1028**		**300.9001**	**300.9001**	**0.0973**		**303.3330**

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	0.0140	0.5552	0.0991	1.5500e-003	0.0384	1.0600e-003	0.0395	0.0111	1.0100e-003	0.0121		163.9506	163.9506	0.0117		164.2438
Worker	0.0142	8.1000e-003	0.1109	3.2000e-004	0.0335	2.0000e-004	0.0337	8.8900e-003	1.8000e-004	9.0800e-003		31.9425	31.9425	7.6000e-004		31.9616
Total	**0.0282**	**0.5633**	**0.2100**	**1.8700e-003**	**0.0720**	**1.2600e-003**	**0.0732**	**0.0200**	**1.1900e-003**	**0.0212**		**195.8931**	**195.8931**	**0.0125**		**196.2054**

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	0.1873	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**		**0.1118**	**0.1118**		**0.1028**	**0.1028**	**0.0000**	**300.9001**	**300.9001**	**0.0973**		**303.3330**

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	0.0140	0.5552	0.0991	1.5500e-003	0.0384	1.0600e-003	0.0395	0.0111	1.0100e-003	0.0121		163.9506	163.9506	0.0117		164.2438
Worker	0.0142	8.1000e-003	0.1109	3.2000e-004	0.0335	2.0000e-004	0.0337	8.8900e-003	1.8000e-004	9.0800e-003		31.9425	31.9425	7.6000e-004		31.9616
Total	**0.0282**	**0.5633**	**0.2100**	**1.8700e-003**	**0.0720**	**1.2600e-003**	**0.0732**	**0.0200**	**1.1900e-003**	**0.0212**		**195.8931**	**195.8931**	**0.0125**		**196.2054**

3.7 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6230	6.4151	7.0455	0.0104		0.3548	0.3548		0.3264	0.3264		1,010.0498	1,010.0498	0.3267		1,018.2166
Paving	0.3668					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9898**	**6.4151**	**7.0455**	**0.0104**		**0.3548**	**0.3548**		**0.3264**	**0.3264**		**1,010.0498**	**1,010.0498**	**0.3267**		**1,018.2166**

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	4.6700e-003	0.1851	0.0330	5.2000e-004	0.0128	3.5000e-004	0.0132	3.6900e-003	3.4000e-004	4.0200e-003		54.6502	54.6502	3.9100e-003		54.7480
Worker	0.0379	0.0216	0.2958	8.5000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		85.1801	85.1801	2.0300e-003		85.2309
Total	**0.0426**	**0.2067**	**0.3288**	**1.3700e-003**	**0.1022**	**8.8000e-004**	**0.1031**	**0.0274**	**8.3000e-004**	**0.0282**		**139.8303**	**139.8303**	**5.9400e-003**		**139.9788**

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	0.6230	6.4151	7.0455	0.0104		0.3548	0.3548		0.3264	0.3264	0.0000	1,010.0498	1,010.0498	0.3267		1,018.2166
Paving	0.3668					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9898**	**6.4151**	**7.0455**	**0.0104**		**0.3548**	**0.3548**		**0.3264**	**0.3264**	**0.0000**	**1,010.0498**	**1,010.0498**	**0.3267**		**1,018.2166**

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	4.6700e-003	0.1851	0.0330	5.2000e-004	0.0128	3.5000e-004	0.0132	3.6900e-003	3.4000e-004	4.0200e-003		54.6502	54.6502	3.9100e-003		54.7480
Worker	0.0379	0.0216	0.2958	8.5000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		85.1801	85.1801	2.0300e-003		85.2309
Total	**0.0426**	**0.2067**	**0.3288**	**1.3700e-003**	**0.1022**	**8.8000e-004**	**0.1031**	**0.0274**	**8.3000e-004**	**0.0282**		**139.8303**	**139.8303**	**5.9400e-003**		**139.9788**

CalEEMod Version: CalEEMod.2016.3.2

Date: 5/7/2020 9:02 PM

EMWD Water Tank - Belle Terre - Riverside-South Coast County, Winter

EMWD Water Tank - Belle Terre

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.70	Acre	0.70	30,492.00	0
Other Non-Asphalt Surfaces	4.00	Acre	4.00	174,240.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per Grading Plan

Construction Phase - Per Engineer

Off-road Equipment - Per Engineer

Off-road Equipment - Per Engineer

Off-road Equipment - Per Engineer

Off-road Equipment - No equipment required/modeled

Off-road Equipment - Per Engineer

Off-road Equipment - Per Engineers

Trips and VMT - 2 water truck trips/day added to grading and paving phases. 4 vendor trips added to tank construction, coating and pipewor for material delivery and removal. 1 mile truck trip length for soild hauling.

Grading - Per Grading Plans

Architectural Coating - Per Site Plan

Construction Off-road Equipment Mitigation - Per Rule 403

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	0.00	16,607.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	0.00	22,413.00
tblConstructionPhase	NumDays	8.00	15.00
tblConstructionPhase	NumDays	8.00	45.00
tblConstructionPhase	NumDays	230.00	120.00
tblConstructionPhase	NumDays	18.00	45.00
tblConstructionPhase	NumDays	18.00	5.00
tblGrading	AcresOfGrading	0.00	4.00
tblGrading	MaterialExported	0.00	53,777.52
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	34.00	38.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.1909	69.3893	20.1101	0.0947	7.0960	1.1018	8.1977	3.5332	1.0344	4.5676	0.0000	9,806.6130	9,806.6130	2.2665	0.0000	9,863.2762
2021	6.8065	18.4695	14.2307	0.0307	6.2409	0.9652	7.2061	3.3537	0.9046	4.2584	0.0000	3,035.9121	3,035.9121	0.5144	0.0000	3,047.2788
Maximum	**6.8065**	**69.3893**	**20.1101**	**0.0947**	**7.0960**	**1.1018**	**8.1977**	**3.5332**	**1.0344**	**4.5676**	**0.0000**	**9,806.6130**	**9,806.6130**	**2.2665**	**0.0000**	**9,863.2762**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.1909	69.3893	20.1101	0.0947	3.0881	1.1018	4.1898	1.4658	1.0344	2.5002	0.0000	9,806.6130	9,806.6130	2.2665	0.0000	9,863.2762
2021	6.8065	18.4695	14.2307	0.0307	2.5100	0.9652	3.4751	1.3283	0.9046	2.2329	0.0000	3,035.9121	3,035.9121	0.5144	0.0000	3,047.2788
Maximum	**6.8065**	**69.3893**	**20.1101**	**0.0947**	**3.0881**	**1.1018**	**4.1898**	**1.4658**	**1.0344**	**2.5002**	**0.0000**	**9,806.6130**	**9,806.6130**	**2.2665**	**0.0000**	**9,863.2762**

	ROG	NOx	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**	**58.03**	**0.00**	**50.24**	**59.43**	**0.00**	**46.37**	**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	Soil Hauling	Grading	11/1/2020	11/20/2020	5	15	
2	Grading	Grading	11/1/2020	1/1/2021	5	45	
3	Tank Construction	Building Construction	1/4/2021	6/18/2021	5	120	
4	Tank Coating	Architectural Coating	6/21/2021	8/20/2021	5	45	
5	Pipe Work (Trenching)	Trenching	8/23/2021	10/1/2021	5	30	
6	Paving	Paving	10/4/2021	10/8/2021	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 4.7

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 22,413; Non-Residential Outdoor: 16,607; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Soil Hauling	Excavators	0	8.00	158	0.38
Soil Hauling	Graders	0	8.00	187	0.41
Soil Hauling	Rubber Tired Dozers	0	8.00	247	0.40
Soil Hauling	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crushing/Proc. Equipment	1	8.00	85	0.78
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Tank Construction	Cranes	1	8.00	231	0.29
Tank Construction	Forklifts	1	8.00	89	0.20
Tank Construction	Generator Sets	0	8.00	84	0.74

Tank Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Tank Construction	Welders	1	8.00	46	0.45
Tank Coating	Air Compressors	1	8.00	78	0.48
Tank Coating	Pumps	1	24.00	84	0.74
Pipe Work (Trenching)	Cement and Mortar Mixers	0	6.00	9	0.56
Pipe Work (Trenching)	Pavers	0	8.00	130	0.42
Pipe Work (Trenching)	Paving Equipment	0	6.00	132	0.36
Pipe Work (Trenching)	Rollers	0	6.00	80	0.38
Pipe Work (Trenching)	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	0	6.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Soil Hauling	0	0.00	0.00	6,722.00	14.70	6.90	1.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Tank Construction	4	86.00	38.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Tank Coating	2	17.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Pipe Work (Trenching)	1	3.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Soil Hauling - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4540	0.0000	0.4540	0.0688	0.0000	0.0688			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4540**	**0.0000**	**0.4540**	**0.0688**	**0.0000**	**0.0688**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	1.0836	49.8118	6.6966	0.0715	0.4010	0.0378	0.4389	0.1107	0.0362	0.1469		7,561.3712	7,561.3712	1.7482		7,605.0771
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0836**	**49.8118**	**6.6966**	**0.0715**	**0.4010**	**0.0378**	**0.4389**	**0.1107**	**0.0362**	**0.1469**		**7,561.3712**	**7,561.3712**	**1.7482**		**7,605.0771**

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					0.1771	0.0000	0.1771	0.0268	0.0000	0.0268			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1771**	**0.0000**	**0.1771**	**0.0268**	**0.0000**	**0.0268**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	1.0836	49.8118	6.6966	0.0715	0.4010	0.0378	0.4389	0.1107	0.0362	0.1469		7,561.3712	7,561.3712	1.7482		7,605.0771
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0836**	**49.8118**	**6.6966**	**0.0715**	**0.4010**	**0.0378**	**0.4389**	**0.1107**	**0.0362**	**0.1469**		**7,561.3712**	**7,561.3712**	**1.7482**		**7,605.0771**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1164	0.0000	6.1164	3.3204	0.0000	3.3204			0.0000			0.0000
Off-Road	2.0516	19.3417	13.0433	0.0218		1.0621	1.0621		0.9964	0.9964		2,093.4096	2,093.4096	0.5112		2,106.1907
Total	**2.0516**	**19.3417**	**13.0433**	**0.0218**	**6.1164**	**1.0621**	**7.1785**	**3.3204**	**0.9964**	**4.3168**		**2,093.4096**	**2,093.4096**	**0.5112**		**2,106.1907**

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	5.8800e-003	0.2047	0.0441	5.0000e-004	0.0128	1.1800e-003	0.0140	3.6900e-003	1.1300e-003	4.8200e-003		53.0086	53.0086	4.6000e-003		53.1235
Worker	0.0498	0.0311	0.3262	9.9000e-004	0.1118	6.8000e-004	0.1125	0.0296	6.2000e-004	0.0303		98.8236	98.8236	2.4500e-003		98.8849
Total	**0.0557**	**0.2358**	**0.3703**	**1.4900e-003**	**0.1246**	**1.8600e-003**	**0.1264**	**0.0333**	**1.7500e-003**	**0.0351**		**151.8321**	**151.8321**	**7.0500e-003**		**152.0084**

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					2.3854	0.0000	2.3854	1.2950	0.0000	1.2950			0.0000			0.0000
Off-Road	2.0516	19.3417	13.0433	0.0218		1.0621	1.0621		0.9964	0.9964	0.0000	2,093.4096	2,093.4096	0.5112		2,106.1907
Total	**2.0516**	**19.3417**	**13.0433**	**0.0218**	**2.3854**	**1.0621**	**3.4475**	**1.2950**	**0.9964**	**2.2914**	**0.0000**	**2,093.4096**	**2,093.4096**	**0.5112**		**2,106.1907**

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	5.8800e-003	0.2047	0.0441	5.0000e-004	0.0128	1.1800e-003	0.0140	3.6900e-003	1.1300e-003	4.8200e-003		53.0086	53.0086	4.6000e-003		53.1235
Worker	0.0498	0.0311	0.3262	9.9000e-004	0.1118	6.8000e-004	0.1125	0.0296	6.2000e-004	0.0303		98.8236	98.8236	2.4500e-003		98.8849
Total	**0.0557**	**0.2358**	**0.3703**	**1.4900e-003**	**0.1246**	**1.8600e-003**	**0.1264**	**0.0333**	**1.7500e-003**	**0.0351**		**151.8321**	**151.8321**	**7.0500e-003**		**152.0084**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1164	0.0000	6.1164	3.3204	0.0000	3.3204			0.0000			0.0000
Off-Road	1.9331	18.2580	12.8976	0.0218		0.9641	0.9641		0.9037	0.9037		2,093.6825	2,093.6825	0.5078		2,106.3780
Total	**1.9331**	**18.2580**	**12.8976**	**0.0218**	**6.1164**	**0.9641**	**7.0805**	**3.3204**	**0.9037**	**4.2241**		**2,093.6825**	**2,093.6825**	**0.5078**		**2,106.3780**

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	4.9600e-003	0.1835	0.0391	5.0000e-004	0.0128	3.6000e-004	0.0132	3.6900e-003	3.5000e-004	4.0300e-003		52.5946	52.5946	4.3600e-003		52.7036
Worker	0.0465	0.0279	0.2984	9.6000e-004	0.1118	6.6000e-004	0.1124	0.0296	6.1000e-004	0.0303		95.5194	95.5194	2.2100e-003		95.5745
Total	**0.0515**	**0.2114**	**0.3375**	**1.4600e-003**	**0.1246**	**1.0200e-003**	**0.1256**	**0.0333**	**9.6000e-004**	**0.0343**		**148.1140**	**148.1140**	**6.5700e-003**		**148.2781**

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					2.3854	0.0000	2.3854	1.2950	0.0000	1.2950			0.0000			0.0000
Off-Road	1.9331	18.2580	12.8976	0.0218		0.9641	0.9641		0.9037	0.9037	0.0000	2,093.6825	2,093.6825	0.5078		2,106.3780
Total	**1.9331**	**18.2580**	**12.8976**	**0.0218**	**2.3854**	**0.9641**	**3.3495**	**1.2950**	**0.9037**	**2.1986**	**0.0000**	**2,093.6825**	**2,093.6825**	**0.5078**		**2,106.3780**

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	4.9600e-003	0.1835	0.0391	5.0000e-004	0.0128	3.6000e-004	0.0132	3.6900e-003	3.5000e-004	4.0300e-003		52.5946	52.5946	4.3600e-003		52.7036
Worker	0.0465	0.0279	0.2984	9.6000e-004	0.1118	6.6000e-004	0.1124	0.0296	6.1000e-004	0.0303		95.5194	95.5194	2.2100e-003		95.5745
Total	**0.0515**	**0.2114**	**0.3375**	**1.4600e-003**	**0.1246**	**1.0200e-003**	**0.1256**	**0.0333**	**9.6000e-004**	**0.0343**		**148.1140**	**148.1140**	**6.5700e-003**		**148.2781**

3.4 Tank Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0322	9.4332	7.1298	0.0130		0.4665	0.4665		0.4351	0.4351		1,215.1474	1,215.1474	0.3529		1,223.9703
Total	**1.0322**	**9.4332**	**7.1298**	**0.0130**		**0.4665**	**0.4665**		**0.4351**	**0.4351**		**1,215.1474**	**1,215.1474**	**0.3529**		**1,223.9703**

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	0.0942	3.4862	0.7422	9.4800e-003	0.2433	6.8900e-003	0.2502	0.0701	6.5900e-003	0.0767		999.2982	999.2982	0.0828		1,001.3675
Worker	0.4001	0.2402	2.5665	8.2400e-003	0.9613	5.6600e-003	0.9669	0.2549	5.2200e-003	0.2602		821.4665	821.4665	0.0190		821.9410
Total	**0.4943**	**3.7264**	**3.3087**	**0.0177**	**1.2046**	**0.0126**	**1.2172**	**0.3250**	**0.0118**	**0.3368**		**1,820.7647**	**1,820.7647**	**0.1018**		**1,823.3085**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0322	9.4332	7.1298	0.0130		0.4665	0.4665		0.4351	0.4351	0.0000	1,215.1474	1,215.1474	0.3529		1,223.9703
Total	**1.0322**	**9.4332**	**7.1298**	**0.0130**		**0.4665**	**0.4665**		**0.4351**	**0.4351**	**0.0000**	**1,215.1474**	**1,215.1474**	**0.3529**		**1,223.9703**

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	0.0942	3.4862	0.7422	9.4800e-003	0.2433	6.8900e-003	0.2502	0.0701	6.5900e-003	0.0767		999.2982	999.2982	0.0828		1,001.3675
Worker	0.4001	0.2402	2.5665	8.2400e-003	0.9613	5.6600e-003	0.9669	0.2549	5.2200e-003	0.2602		821.4665	821.4665	0.0190		821.9410
Total	**0.4943**	**3.7264**	**3.3087**	**0.0177**	**1.2046**	**0.0126**	**1.2172**	**0.3250**	**0.0118**	**0.3368**		**1,820.7647**	**1,820.7647**	**0.1018**		**1,823.3085**

3.5 Tank Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.2843					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.4331	11.6658	13.6453	0.0237		0.6583	0.6583		0.6583	0.6583		2,244.3711	2,244.3711	0.1277		2,247.5638
Total	**6.7174**	**11.6658**	**13.6453**	**0.0237**		**0.6583**	**0.6583**		**0.6583**	**0.6583**		**2,244.3711**	**2,244.3711**	**0.1277**		**2,247.5638**

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	9.9200e-003	0.3670	0.0781	1.0000e-003	0.0256	7.3000e-004	0.0263	7.3700e-003	6.9000e-004	8.0700e-003		105.1893	105.1893	8.7100e-003		105.4071
Worker	0.0791	0.0475	0.5073	1.6300e-003	0.1900	1.1200e-003	0.1911	0.0504	1.0300e-003	0.0514		162.3829	162.3829	3.7500e-003		162.4767
Total	**0.0890**	**0.4145**	**0.5855**	**2.6300e-003**	**0.2156**	**1.8500e-003**	**0.2175**	**0.0578**	**1.7200e-003**	**0.0595**		**267.5722**	**267.5722**	**0.0125**		**267.8838**

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	5.2843					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.4331	11.6658	13.6453	0.0237		0.6583	0.6583		0.6583	0.6583	0.0000	2,244.3711	2,244.3711	0.1277		2,247.5638
Total	**6.7174**	**11.6658**	**13.6453**	**0.0237**		**0.6583**	**0.6583**		**0.6583**	**0.6583**	**0.0000**	**2,244.3711**	**2,244.3711**	**0.1277**		**2,247.5638**

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	9.9200e-003	0.3670	0.0781	1.0000e-003	0.0256	7.3000e-004	0.0263	7.3700e-003	6.9000e-004	8.0700e-003		105.1893	105.1893	8.7100e-003		105.4071
Worker	0.0791	0.0475	0.5073	1.6300e-003	0.1900	1.1200e-003	0.1911	0.0504	1.0300e-003	0.0514		162.3829	162.3829	3.7500e-003		162.4767
Total	**0.0890**	**0.4145**	**0.5855**	**2.6300e-003**	**0.2156**	**1.8500e-003**	**0.2175**	**0.0578**	**1.7200e-003**	**0.0595**		**267.5722**	**267.5722**	**0.0125**		**267.8838**

3.6 Pipe Work (Trenching) - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1873	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**		**0.1118**	**0.1118**		**0.1028**	**0.1028**		**300.9001**	**300.9001**	**0.0973**		**303.3330**

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	0.0149	0.5505	0.1172	1.5000e-003	0.0384	1.0900e-003	0.0395	0.0111	1.0400e-003	0.0121		157.7839	157.7839	0.0131		158.1107
Worker	0.0140	8.3800e-003	0.0895	2.9000e-004	0.0335	2.0000e-004	0.0337	8.8900e-003	1.8000e-004	9.0800e-003		28.6558	28.6558	6.6000e-004		28.6724
Total	**0.0288**	**0.5588**	**0.2067**	**1.7900e-003**	**0.0720**	**1.2900e-003**	**0.0732**	**0.0200**	**1.2200e-003**	**0.0212**		**186.4397**	**186.4397**	**0.0137**		**186.7830**

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	0.1873	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**		**0.1118**	**0.1118**		**0.1028**	**0.1028**	**0.0000**	**300.9001**	**300.9001**	**0.0973**		**303.3330**

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	0.0149	0.5505	0.1172	1.5000e-003	0.0384	1.0900e-003	0.0395	0.0111	1.0400e-003	0.0121		157.7839	157.7839	0.0131		158.1107
Worker	0.0140	8.3800e-003	0.0895	2.9000e-004	0.0335	2.0000e-004	0.0337	8.8900e-003	1.8000e-004	9.0800e-003		28.6558	28.6558	6.6000e-004		28.6724
Total	**0.0288**	**0.5588**	**0.2067**	**1.7900e-003**	**0.0720**	**1.2900e-003**	**0.0732**	**0.0200**	**1.2200e-003**	**0.0212**		**186.4397**	**186.4397**	**0.0137**		**186.7830**

3.7 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6230	6.4151	7.0455	0.0104		0.3548	0.3548		0.3264	0.3264		1,010.0498	1,010.0498	0.3267		1,018.2166
Paving	0.3668					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9898**	**6.4151**	**7.0455**	**0.0104**		**0.3548**	**0.3548**		**0.3264**	**0.3264**		**1,010.0498**	**1,010.0498**	**0.3267**		**1,018.2166**

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	4.9600e-003	0.1835	0.0391	5.0000e-004	0.0128	3.6000e-004	0.0132	3.6900e-003	3.5000e-004	4.0300e-003		52.5946	52.5946	4.3600e-003		52.7036
Worker	0.0372	0.0224	0.2387	7.7000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		76.4155	76.4155	1.7700e-003		76.4596
Total	**0.0422**	**0.2058**	**0.2778**	**1.2700e-003**	**0.1022**	**8.9000e-004**	**0.1031**	**0.0274**	**8.4000e-004**	**0.0282**		**129.0101**	**129.0101**	**6.1300e-003**		**129.1632**

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	0.6230	6.4151	7.0455	0.0104		0.3548	0.3548		0.3264	0.3264	0.0000	1,010.0498	1,010.0498	0.3267		1,018.2166
Paving	0.3668					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9898**	**6.4151**	**7.0455**	**0.0104**		**0.3548**	**0.3548**		**0.3264**	**0.3264**	**0.0000**	**1,010.0498**	**1,010.0498**	**0.3267**		**1,018.2166**

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	4.9600e-003	0.1835	0.0391	5.0000e-004	0.0128	3.6000e-004	0.0132	3.6900e-003	3.5000e-004	4.0300e-003		52.5946	52.5946	4.3600e-003		52.7036
Worker	0.0372	0.0224	0.2387	7.7000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		76.4155	76.4155	1.7700e-003		76.4596
Total	**0.0422**	**0.2058**	**0.2778**	**1.2700e-003**	**0.1022**	**8.9000e-004**	**0.1031**	**0.0274**	**8.4000e-004**	**0.0282**		**129.0101**	**129.0101**	**6.1300e-003**		**129.1632**

CalEEMod Version: CalEEMod.2016.3.2

Date: 5/7/2020 8:59 PM

EMWD Water Tank - Belle Terre - Riverside-South Coast County, Annual

EMWD Water Tank - Belle Terre

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.70	Acre	0.70	30,492.00	0
Other Non-Asphalt Surfaces	4.00	Acre	4.00	174,240.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per Grading Plan

Construction Phase - Per Engineer

Off-road Equipment - Per Engineer

Off-road Equipment - Per Engineer

Off-road Equipment - Per Engineer

Off-road Equipment - No equipment required/modeled

Off-road Equipment - Per Engineer

Off-road Equipment - Per Engineers

Trips and VMT - 2 water truck trips/day added to grading and paving phases. 4 vendor trips added to tank construction, coating and pipewor for material delivery and removal. 1 mile truck trip length for soild hauling.

Grading - Per Grading Plans

Architectural Coating - Per Site Plan

Construction Off-road Equipment Mitigation - Per Rule 403

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	0.00	16,607.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	0.00	22,413.00
tblConstructionPhase	NumDays	8.00	15.00
tblConstructionPhase	NumDays	8.00	45.00
tblConstructionPhase	NumDays	230.00	120.00
tblConstructionPhase	NumDays	18.00	45.00
tblConstructionPhase	NumDays	18.00	5.00
tblGrading	AcresOfGrading	0.00	4.00
tblGrading	MaterialExported	0.00	53,777.52
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	34.00	38.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0539	0.8136	0.3360	1.0900e-003	0.1437	0.0237	0.1673	0.0751	0.0222	0.0973	0.0000	99.9061	99.9061	0.0214	0.0000	100.4421
2021	0.2493	1.1282	1.0137	2.5700e-003	0.0824	0.0467	0.1291	0.0228	0.0445	0.0673	0.0000	229.3384	229.3384	0.0299	0.0000	230.0850
Maximum	**0.2493**	**1.1282**	**1.0137**	**2.5700e-003**	**0.1437**	**0.0467**	**0.1673**	**0.0751**	**0.0445**	**0.0973**	**0.0000**	**229.3384**	**229.3384**	**0.0299**	**0.0000**	**230.0850**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0539	0.8136	0.3360	1.0900e-003	0.0595	0.0237	0.0832	0.0302	0.0222	0.0525	0.0000	99.9060	99.9060	0.0214	0.0000	100.4421

2021	0.2493	1.1282	1.0137	2.5700e-003	0.0793	0.0467	0.1259	0.0216	0.0445	0.0661	0.0000	229.3383	229.3383	0.0299	0.0000	230.0849
Maximum	**0.2493**	**1.1282**	**1.0137**	**2.5700e-003**	**0.0793**	**0.0467**	**0.1259**	**0.0302**	**0.0445**	**0.0661**	**0.0000**	**229.3383**	**229.3383**	**0.0299**	**0.0000**	**230.0849**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**38.63**	**0.00**	**29.46**	**47.03**	**0.00**	**27.96**	**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	**11-1-2020**	**1-31-2021**	0.9901	0.9901
2	**2-1-2021**	**4-30-2021**	0.4671	0.4671
3	**5-1-2021**	**7-31-2021**	0.5340	0.5340
4	**8-1-2021**	**9-30-2021**	0.1722	0.1722
		Highest	0.9901	0.9901

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Soil Hauling	Grading	11/1/2020	11/20/2020	5	15	
2	Grading	Grading	11/1/2020	1/1/2021	5	45	
3	Tank Construction	Building Construction	1/4/2021	6/18/2021	5	120	
4	Tank Coating	Architectural Coating	6/21/2021	8/20/2021	5	45	
5	Pipe Work (Trenching)	Trenching	8/23/2021	10/1/2021	5	30	
6	Paving	Paving	10/4/2021	10/8/2021	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 4.7

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 22,413; Non-Residential Outdoor: 16,607; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Soil Hauling	Excavators	0	8.00	158	0.38
Soil Hauling	Graders	0	8.00	187	0.41
Soil Hauling	Rubber Tired Dozers	0	8.00	247	0.40
Soil Hauling	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crushing/Proc. Equipment	1	8.00	85	0.78
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Tank Construction	Cranes	1	8.00	231	0.29
Tank Construction	Forklifts	1	8.00	89	0.20
Tank Construction	Generator Sets	0	8.00	84	0.74
Tank Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Tank Construction	Welders	1	8.00	46	0.45
Tank Coating	Air Compressors	1	8.00	78	0.48
Tank Coating	Pumps	1	24.00	84	0.74
Pipe Work (Trenching)	Cement and Mortar Mixers	0	6.00	9	0.56
Pipe Work (Trenching)	Pavers	0	8.00	130	0.42
Pipe Work (Trenching)	Paving Equipment	0	6.00	132	0.36
Pipe Work (Trenching)	Rollers	0	6.00	80	0.38
Pipe Work (Trenching)	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	0	6.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Soil Hauling	0	0.00	0.00	6,722.00	14.70	6.90	1.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Tank Construction	4	86.00	38.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Tank Coating	2	17.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Pipe Work (Trenching)	1	3.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	8.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Soil Hauling - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.4100e-003	0.0000	3.4100e-003	5.2000e-004	0.0000	5.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.4100e-003**	**0.0000**	**3.4100e-003**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	7.6100e-003	0.3828	0.0406	5.7000e-004	2.9700e-003	2.6000e-004	3.2300e-003	8.2000e-004	2.5000e-004	1.0700e-003	0.0000	55.0206	55.0206	0.0111	0.0000	55.2982
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.6100e-003**	**0.3828**	**0.0406**	**5.7000e-004**	**2.9700e-003**	**2.6000e-004**	**3.2300e-003**	**8.2000e-004**	**2.5000e-004**	**1.0700e-003**	**0.0000**	**55.0206**	**55.0206**	**0.0111**	**0.0000**	**55.2982**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3300e-003	0.0000	1.3300e-003	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.3300e-003**	**0.0000**	**1.3300e-003**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	7.6100e-003	0.3828	0.0406	5.7000e-004	2.9700e-003	2.6000e-004	3.2300e-003	8.2000e-004	2.5000e-004	1.0700e-003	0.0000	55.0206	55.0206	0.0111	0.0000	55.2982
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.6100e-003**	**0.3828**	**0.0406**	**5.7000e-004**	**2.9700e-003**	**2.6000e-004**	**3.2300e-003**	**8.2000e-004**	**2.5000e-004**	**1.0700e-003**	**0.0000**	**55.0206**	**55.0206**	**0.0111**	**0.0000**	**55.2982**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1346	0.0000	0.1346	0.0731	0.0000	0.0731	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0451	0.4255	0.2870	4.8000e-004		0.0234	0.0234		0.0219	0.0219	0.0000	41.7804	41.7804	0.0102	0.0000	42.0355
Total	**0.0451**	**0.4255**	**0.2870**	**4.8000e-004**	**0.1346**	**0.0234**	**0.1580**	**0.0731**	**0.0219**	**0.0950**	**0.0000**	**41.7804**	**41.7804**	**0.0102**	**0.0000**	**42.0355**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3000e-004	4.5800e-003	9.0000e-004	1.0000e-005	2.8000e-004	3.0000e-005	3.0000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	1.0819	1.0819	9.0000e-005	0.0000	1.0841
Worker	1.0100e-003	7.1000e-004	7.5600e-003	2.0000e-005	2.4200e-003	1.0000e-005	2.4300e-003	6.4000e-004	1.0000e-005	6.6000e-004	0.0000	2.0231	2.0231	5.0000e-005	0.0000	2.0244
Total	**1.1400e-003**	**5.2900e-003**	**8.4600e-003**	**3.0000e-005**	**2.7000e-003**	**4.0000e-005**	**2.7300e-003**	**7.2000e-004**	**3.0000e-005**	**7.6000e-004**	**0.0000**	**3.1050**	**3.1050**	**1.4000e-004**	**0.0000**	**3.1084**

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					0.0525	0.0000	0.0525	0.0285	0.0000	0.0285	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0451	0.4255	0.2870	4.8000e-004		0.0234	0.0234		0.0219	0.0219	0.0000	41.7804	41.7804	0.0102	0.0000	42.0354
Total	**0.0451**	**0.4255**	**0.2870**	**4.8000e-004**	**0.0525**	**0.0234**	**0.0759**	**0.0285**	**0.0219**	**0.0504**	**0.0000**	**41.7804**	**41.7804**	**0.0102**	**0.0000**	**42.0354**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3000e-004	4.5800e-003	9.0000e-004	1.0000e-005	2.8000e-004	3.0000e-005	3.0000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	1.0819	1.0819	9.0000e-005	0.0000	1.0841
Worker	1.0100e-003	7.1000e-004	7.5600e-003	2.0000e-005	2.4200e-003	1.0000e-005	2.4300e-003	6.4000e-004	1.0000e-005	6.6000e-004	0.0000	2.0231	2.0231	5.0000e-005	0.0000	2.0244
Total	**1.1400e-003**	**5.2900e-003**	**8.4600e-003**	**3.0000e-005**	**2.7000e-003**	**4.0000e-005**	**2.7300e-003**	**7.2000e-004**	**3.0000e-005**	**7.6000e-004**	**0.0000**	**3.1050**	**3.1050**	**1.4000e-004**	**0.0000**	**3.1084**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.1300e-003	0.0000	5.1300e-003	1.8800e-003	0.0000	1.8800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7000e-004	9.1300e-003	6.4500e-003	1.0000e-005		4.8000e-004	4.8000e-004		4.5000e-004	4.5000e-004	0.0000	0.9497	0.9497	2.3000e-004	0.0000	0.9554
Total	**9.7000e-004**	**9.1300e-003**	**6.4500e-003**	**1.0000e-005**	**5.1300e-003**	**4.8000e-004**	**5.6100e-003**	**1.8800e-003**	**4.5000e-004**	**2.3300e-003**	**0.0000**	**0.9497**	**0.9497**	**2.3000e-004**	**0.0000**	**0.9554**

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	9.0000e-005	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0244	0.0244	0.0000	0.0000	0.0244
Worker	2.0000e-005	1.0000e-005	1.6000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0444	0.0444	0.0000	0.0000	0.0445
Total	**2.0000e-005**	**1.0000e-004**	**1.8000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**7.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**0.0000**	**0.0689**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0000e-003	0.0000	2.0000e-003	7.3000e-004	0.0000	7.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7000e-004	9.1300e-003	6.4500e-003	1.0000e-005		4.8000e-004	4.8000e-004		4.5000e-004	4.5000e-004	0.0000	0.9497	0.9497	2.3000e-004	0.0000	0.9554
Total	**9.7000e-004**	**9.1300e-003**	**6.4500e-003**	**1.0000e-005**	**2.0000e-003**	**4.8000e-004**	**2.4800e-003**	**7.3000e-004**	**4.5000e-004**	**1.1800e-003**	**0.0000**	**0.9497**	**0.9497**	**2.3000e-004**	**0.0000**	**0.9554**

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	9.0000e-005	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0244	0.0244	0.0000	0.0000	0.0244
Worker	2.0000e-005	1.0000e-005	1.6000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0444	0.0444	0.0000	0.0000	0.0445
Total	**2.0000e-005**	**1.0000e-004**	**1.8000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**7.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**0.0000**	**0.0689**

3.4 Tank Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0619	0.5660	0.4278	7.8000e-004		0.0280	0.0280		0.0261	0.0261	0.0000	66.1418	66.1418	0.0192	0.0000	66.6220
Total	**0.0619**	**0.5660**	**0.4278**	**7.8000e-004**		**0.0280**	**0.0280**		**0.0261**	**0.0261**	**0.0000**	**66.1418**	**66.1418**	**0.0192**	**0.0000**	**66.6220**

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	5.4400e-003	0.2126	0.0409	5.8000e-004	0.0144	4.1000e-004	0.0148	4.1500e-003	3.9000e-004	4.5400e-003	0.0000	55.6259	55.6259	4.2400e-003	0.0000	55.7320
Worker	0.0221	0.0149	0.1624	5.1000e-004	0.0567	3.4000e-004	0.0571	0.0151	3.1000e-004	0.0154	0.0000	45.8645	45.8645	1.0700e-003	0.0000	45.8912
Total	**0.0276**	**0.2275**	**0.2033**	**1.0900e-003**	**0.0711**	**7.5000e-004**	**0.0719**	**0.0192**	**7.0000e-004**	**0.0199**	**0.0000**	**101.4904**	**101.4904**	**5.3100e-003**	**0.0000**	**101.6232**

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	0.0619	0.5660	0.4278	7.8000e-004		0.0280	0.0280		0.0261	0.0261	0.0000	66.1417	66.1417	0.0192	0.0000	66.6220
Total	**0.0619**	**0.5660**	**0.4278**	**7.8000e-004**		**0.0280**	**0.0280**		**0.0261**	**0.0261**	**0.0000**	**66.1417**	**66.1417**	**0.0192**	**0.0000**	**66.6220**

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	5.4400e-003	0.2126	0.0409	5.8000e-004	0.0144	4.1000e-004	0.0148	4.1500e-003	3.9000e-004	4.5400e-003	0.0000	55.6259	55.6259	4.2400e-003	0.0000	55.7320
Worker	0.0221	0.0149	0.1624	5.1000e-004	0.0567	3.4000e-004	0.0571	0.0151	3.1000e-004	0.0154	0.0000	45.8645	45.8645	1.0700e-003	0.0000	45.8912
Total	**0.0276**	**0.2275**	**0.2033**	**1.0900e-003**	**0.0711**	**7.5000e-004**	**0.0719**	**0.0192**	**7.0000e-004**	**0.0199**	**0.0000**	**101.4904**	**101.4904**	**5.3100e-003**	**0.0000**	**101.6232**

3.5 Tank Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1189					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0323	0.2625	0.3070	5.3000e-004		0.0148	0.0148		0.0148	0.0148	0.0000	45.8113	45.8113	2.6100e-003	0.0000	45.8765
Total	**0.1512**	**0.2625**	**0.3070**	**5.3000e-004**		**0.0148**	**0.0148**		**0.0148**	**0.0148**	**0.0000**	**45.8113**	**45.8113**	**2.6100e-003**	**0.0000**	**45.8765**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-004	8.3900e-003	1.6100e-003	2.0000e-005	5.7000e-004	2.0000e-005	5.8000e-004	1.6000e-004	2.0000e-005	1.8000e-004	0.0000	2.1958	2.1958	1.7000e-004	0.0000	2.2000
Worker	1.6400e-003	1.1100e-003	0.0120	4.0000e-005	4.2000e-003	3.0000e-005	4.2300e-003	1.1200e-003	2.0000e-005	1.1400e-003	0.0000	3.3998	3.3998	8.0000e-005	0.0000	3.4018
Total	**1.8500e-003**	**9.5000e-003**	**0.0137**	**6.0000e-005**	**4.7700e-003**	**5.0000e-005**	**4.8100e-003**	**1.2800e-003**	**4.0000e-005**	**1.3200e-003**	**0.0000**	**5.5956**	**5.5956**	**2.5000e-004**	**0.0000**	**5.6018**

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	0.1189					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0323	0.2625	0.3070	5.3000e-004		0.0148	0.0148		0.0148	0.0148	0.0000	45.8113	45.8113	2.6100e-003	0.0000	45.8765
Total	**0.1512**	**0.2625**	**0.3070**	**5.3000e-004**		**0.0148**	**0.0148**		**0.0148**	**0.0148**	**0.0000**	**45.8113**	**45.8113**	**2.6100e-003**	**0.0000**	**45.8765**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-004	8.3900e-003	1.6100e-003	2.0000e-005	5.7000e-004	2.0000e-005	5.8000e-004	1.6000e-004	2.0000e-005	1.8000e-004	0.0000	2.1958	2.1958	1.7000e-004	0.0000	2.2000
Worker	1.6400e-003	1.1100e-003	0.0120	4.0000e-005	4.2000e-003	3.0000e-005	4.2300e-003	1.1200e-003	2.0000e-005	1.1400e-003	0.0000	3.3998	3.3998	8.0000e-005	0.0000	3.4018
Total	**1.8500e-003**	**9.5000e-003**	**0.0137**	**6.0000e-005**	**4.7700e-003**	**5.0000e-005**	**4.8100e-003**	**1.2800e-003**	**4.0000e-005**	**1.3200e-003**	**0.0000**	**5.5956**	**5.5956**	**2.5000e-004**	**0.0000**	**5.6018**

3.6 Pipe Work (Trenching) - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8100e-003	0.0284	0.0339	5.0000e-005		1.6800e-003	1.6800e-003		1.5400e-003	1.5400e-003	0.0000	4.0946	4.0946	1.3200e-003	0.0000	4.1277
Total	**2.8100e-003**	**0.0284**	**0.0339**	**5.0000e-005**		**1.6800e-003**	**1.6800e-003**		**1.5400e-003**	**1.5400e-003**	**0.0000**	**4.0946**	**4.0946**	**1.3200e-003**	**0.0000**	**4.1277**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-004	8.3900e-003	1.6100e-003	2.0000e-005	5.7000e-004	2.0000e-005	5.8000e-004	1.6000e-004	2.0000e-005	1.8000e-004	0.0000	2.1958	2.1958	1.7000e-004	0.0000	2.2000
Worker	1.9000e-004	1.3000e-004	1.4200e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4000	0.4000	1.0000e-005	0.0000	0.4002
Total	**4.0000e-004**	**8.5200e-003**	**3.0300e-003**	**2.0000e-005**	**1.0600e-003**	**2.0000e-005**	**1.0800e-003**	**2.9000e-004**	**2.0000e-005**	**3.1000e-004**	**0.0000**	**2.5957**	**2.5957**	**1.8000e-004**	**0.0000**	**2.6002**

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	2.8100e-003	0.0284	0.0339	5.0000e-005		1.6800e-003	1.6800e-003		1.5400e-003	1.5400e-003	0.0000	4.0946	4.0946	1.3200e-003	0.0000	4.1277
Total	**2.8100e-003**	**0.0284**	**0.0339**	**5.0000e-005**		**1.6800e-003**	**1.6800e-003**		**1.5400e-003**	**1.5400e-003**	**0.0000**	**4.0946**	**4.0946**	**1.3200e-003**	**0.0000**	**4.1277**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-004	8.3900e-003	1.6100e-003	2.0000e-005	5.7000e-004	2.0000e-005	5.8000e-004	1.6000e-004	2.0000e-005	1.8000e-004	0.0000	2.1958	2.1958	1.7000e-004	0.0000	2.2000
Worker	1.9000e-004	1.3000e-004	1.4200e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4000	0.4000	1.0000e-005	0.0000	0.4002
Total	**4.0000e-004**	**8.5200e-003**	**3.0300e-003**	**2.0000e-005**	**1.0600e-003**	**2.0000e-005**	**1.0800e-003**	**2.9000e-004**	**2.0000e-005**	**3.1000e-004**	**0.0000**	**2.5957**	**2.5957**	**1.8000e-004**	**0.0000**	**2.6002**

3.7 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5600e-003	0.0160	0.0176	3.0000e-005		8.9000e-004	8.9000e-004		8.2000e-004	8.2000e-004	0.0000	2.2908	2.2908	7.4000e-004	0.0000	2.3093
Paving	9.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.4800e-003**	**0.0160**	**0.0176**	**3.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.2908**	**2.2908**	**7.4000e-004**	**0.0000**	**2.3093**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.7000e-004	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1220	0.1220	1.0000e-005	0.0000	0.1222
Worker	9.0000e-005	6.0000e-005	6.3000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1778	0.1778	0.0000	0.0000	0.1779
Total	**1.0000e-004**	**5.3000e-004**	**7.2000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**2.5000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2998**	**0.2998**	**1.0000e-005**	**0.0000**	**0.3001**

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	1.5600e-003	0.0160	0.0176	3.0000e-005		8.9000e-004	8.9000e-004		8.2000e-004	8.2000e-004	0.0000	2.2908	2.2908	7.4000e-004	0.0000	2.3093
Paving	9.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.4800e-003**	**0.0160**	**0.0176**	**3.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.2908**	**2.2908**	**7.4000e-004**	**0.0000**	**2.3093**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.7000e-004	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1220	0.1220	1.0000e-005	0.0000	0.1222
Worker	9.0000e-005	6.0000e-005	6.3000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1778	0.1778	0.0000	0.0000	0.1779
Total	**1.0000e-004**	**5.3000e-004**	**7.2000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**2.5000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2998**	**0.2998**	**1.0000e-005**	**0.0000**	**0.3001**

Appendix C:

Biological Resource Assessment

Biological Resources Assessment Report

EMWD - Belle Terre SP No. 382, PA24 Water Tank Project Site
Unincorporated Riverside County, California

Final Report

Prepared for:

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September 2020

CADRE Environmental

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INTRODUCTION

The following biological resources report describes a detailed assessment of potential sensitive natural resources located within and immediately adjacent to the Eastern Municipal Water District (EMWD) Belle Terre Specific Plan No. 382, Planning Area 24 Water Tank Project Site. Specifically, the report has been prepared to support the development and adoption of a California Environmental Quality Act (CEQA) Mitigated Negative Declaration (MND). As discussed below, the assessment includes a thorough literature review, site reconnaissance characterizing baseline conditions (including floral and faunal and dominant vegetation communities), focused sensitive species surveys, impact analysis, and proposed mitigation measures.

PROJECT LOCATION/DESCRIPTION

The proposed 4.70-acre Project Site is located north of Fields Drive and east of the San Diego Canal in the community of French Valley in unincorporated Riverside County, California. The Project Site is specifically located within Planning Area 24 of the Belle Terre Specific Plan No. 382 Substantial Conformance No. 1 (SP382S1) approved by the County of Riverside Board of Supervisors in December 2019. The Project Site is located within a portion of existing assessor parcel number (APN) 472-170-021 (73.0-acres); specifically Parcel 24 (4.7-acres) of Tentative Parcel Map No. 37592 (TPM 37592), and within Section 27, Township 6 South, Range 2 West of the San Bernardino Baseline Meridian Map as shown in Figure 1, *Regional Location Map*, and Figure 2, *Project Site Map*. TPM 37592 was also approved by the Riverside County Board of Supervisors in December 2019 which subdivides APN 472-170-021, creating two separate parcels; Parcel 24 (4.7-acres) and Parcel 17 (68.3-acres).

The proposed 3.02-acre action (impact area) within the Project Site includes construction of a 1.79 million gallon (MG) potable water storage tank and associated infrastructure that will provide potable water service to the Belle Terre community as planned by SP382S1, The proposed tank will have an effective tank storage volume of 1.47 MG and sit at an elevation of 1,590 feet above mean sea level with a nominal tank diameter of 86 feet, nominal height of 40 feet, and the highest point on the tank roof will be 46 feet from the ground. Additionally, a free-standing approximately 40-foot communication antenna tower will be constructed on the site just southwest of the tank.

An 18-inch diameter water pipeline will be constructed to connect the proposed tank to the nearest point of connection in Fields Drive for a length of approximately 1,070 feet. That point of connection will be installed by other implementing projects of SP382S1. An 18-inch diameter overflow pipeline will be provided to drain overflow tank water to a proposed detention basin located at the entrance of the proposed access road. Both pipelines will be located underneath the proposed access road.

The Project also includes a detention basin that will capture the stormwater runoff generated from the paved areas of the site, as well as overflows from the tank. The basin will have a holding capacity of approximately 3,700 cubic feet (CF). The detention basin will also provide water quality treatment to the onsite runoff through the mechanisms of infiltration and evapo-transpiration. The basin will be equipped with a restrictive outlet that will release flow slowly over a rip-rap apron to sheet flow over

Fields Drive. An emergency concrete spillway will also be included. Any runoff beyond the capacity of the basin will sheet flow over Fields Drive into the existing natural wash south of Fields Drive, which is outside the Project area. The Project will also include a concrete-lined flat bottom ditch along the cut slope to collect runoff from the cut slope to drain to Fields Drive and flow via sheet flow to the natural wash. Fields Drive will be concrete-capped where runoff will flow.

PROJECT BACKGROUND

The proposed action within Planning Area 24 was reviewed concurrently with the Belle Terre Specific Plan No. 382 for consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) by the following agencies:

- Riverside County Environmental Programs Division – HANS 2082.
- MSHCP Regional Conservation Authority (RCA) – JPR 14-02-06-01.
- Wildlife Agencies, United States Fish and Wildlife Service and California Department of Fish and Wildlife.

A consistency determination was issued by the RCA for the Belle Terre Specific Plan No. 382 Project Site including the proposed Planning Area 24 action (water tank development) on May 12th, 2014. As outlined in the MSHCP consistency determination, a total of 106.85-acre (including 68.30 acres within APN 472-170-021) will be dedicated as conservation land to the Regional Conservation Authority. Therefore, the following report is based solely on the following documents including an updated site visit conducted on September 9th, 2020:

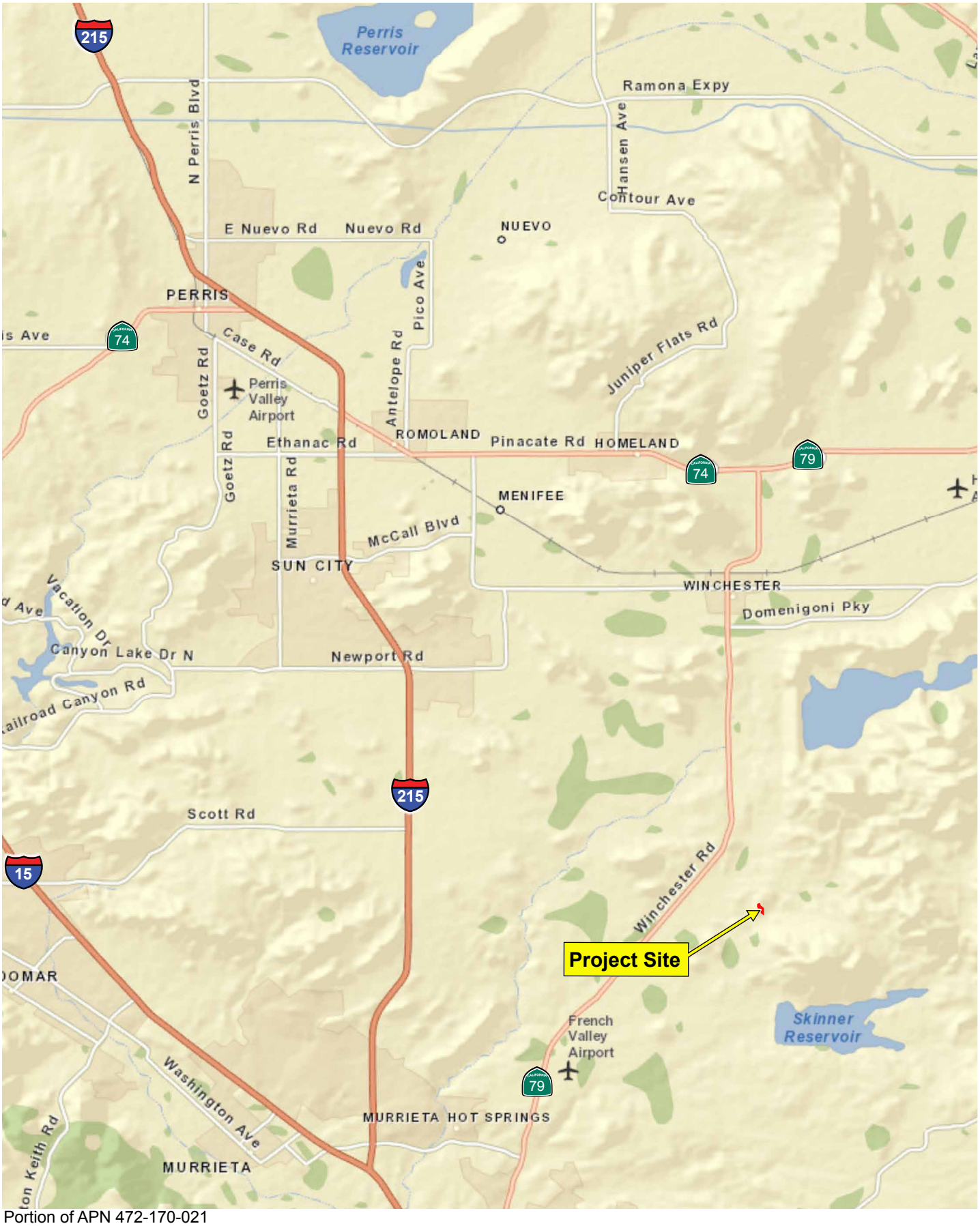
- Biological Resources Technical Report, Belle Terre Project Site, Unincorporated Riverside Count California (Cadre Environmental 2014).

- MSHCP Determination of Biologically Equivalent or Superior Preservation/Consistency Analysis, Belle Terre Project Site, Unincorporated Riverside California (Cadre Environmental 2014).

- Addendum to General MSHCP Habitat Assessment and Regulatory Constraints Analysis for the 341.07-Acre Belle Terre Project Site, Unincorporated Western Riverside County, California Prepared by Cadre Environmental (Cadre Environmental 2013)

- RCA Joint Project Review (JPR) – Consistency Conclusion "The project is consistent with both the Criteria and other Plan requirements" (RCA May 12th, 2014).

- Biological Resources Technical Report, Belle Terre Project Site – Updated Report – Substantial Conformance to Belle Terre Specific Plan No 382, EIR No. 531 (Cadre Environmental 2019).



Portion of APN 472-170-021

Figure 1 - Regional Location Map

Biological Resources Assessment Report
EMWD Belle Terre SP No. 382, PA24 Water Tank Project

CADRE Environmental

not to scale

Cell 5170
Group S
SU4 - Cactus Valley/
SWRC-MSR/Johnson Ranch

Cell 5172
Group S
SU4 - Cactus Valley/
SWRC-MSR/Johnson Ranch

MWD's San Diego Canal

APN 472-170-021

APN Boundary

Cell 5278
Group S
SU4 - Cactus Valley/
SWRC-MSR/Johnson Ranch

Cell 5274
Group S
SU4 - Cactus Valley/
SWRC-MSR/Johnson Ranch

Project Site

4

3

1

2

Fields Drive

Fields Drive

French Channel

Cell 5373
Group S
SU4 - Cactus Valley/
SWRC-MSR/Johnson Ranch

Cell 5379
Group S
SU4 - Cactus Valley/
SWRC-MSR/Johnson Ranch

APN 472-170-021 (73.0 Acres)

Project Site - MSHCP HANS 2082, JPR 14-02-06-01 "Available for Development" (4.7 Acres)

MSHCP HANS 2082, JPR 14-02-06-01 "Proposed Conservation" (68.3 Acres)

Photo Point & Direction

Figure 2 - Project Site Map
Biological Resources Assessment Report
EMWD Belle Terre SP No. 382, PA24 Water Tank Project

CADRE Environmental

N

1 inch = 300 feet

LITERATURE REVIEW

Existing biological resource conditions within and adjacent to the Project Site were initially investigated through review of pertinent scientific literature. Federal register listings, protocols, and species data provided by the United States Fish and Wildlife Service (USFWS) were also reviewed in conjunction with anticipated federally listed species potentially occurring within the region of the Project Site. The California Natural Diversity Database (CNDDB) (CDFW 2019a), a California Department of Fish and Wildlife (CDFW) Natural Heritage Division species account database, was also reviewed for all pertinent information regarding the locations of known occurrences of sensitive species in the vicinity of the property. In addition, numerous regional floral and faunal field guides were utilized in the identification of species and suitable habitats. Combined, the reviewed sources provided an excellent baseline from which to inventory the biological resources potentially occurring in the region. Other CDFW reports and publications consulted include the following:

- Special Animals (CDFW 2019b);
- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2019c);
- Endangered, Threatened, and Rare Plants of California (CDFW 2019d); and
- Special Vascular Plants and Bryophytes List (CDFW 2019e).

FIELD SURVEYS

An updated reconnaissance survey of the Project Site was conducted by Ruben Ramirez on September 9th, 2020 to ensure existing conditions have not changes since the initial RCA JPR consistency analysis was issued on May 12th, 2014 (Regional Conservation Authority 2014).

An initial reconnaissance survey of the Project Site was conducted by Ruben Ramirez (Cadre Environmental 2012a) during the spring of 2012 in order to characterize and identify potential sensitive plant and wildlife habitats, and to establish the accuracy of the data identified in the literature search. Geologic and soil maps were examined to identify local soil types that may support sensitive taxa. Aerial photograph, topographic maps, and vegetation and rare plant maps prepared for previous studies in the region were used to determine community types and other physical features that may support sensitive plants/wildlife, uncommon taxa, or rare communities that occur within the Project Site.

The MSHCP has determined that all of the sensitive species potentially occurring within the Project Site have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required for narrow endemic plant, criteria area, and specific wildlife species if suitable habitat is documented onsite and/or if the property is located within a predetermined “Survey Area” (MSHCP 2004). Based on the initial MSHCP review of predetermined Survey Areas and habitat assessments for target species, focused surveys were conducted for the following seventeen (17) species.

- Davidson's saltscale (*Atriplex davidsonii*)
- Parish's brittlescale (*Atriplex parishii*)
- thread-leaved brodiaea (*Brodiaea filifolia*)
- smooth tarplant (*Centromadia pungens* ssp. *laevis*)
- round-leaved filaree (*Erodium macrophyllum*)
- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)
- little mousetail (*Myosurus minimus* ssp. *apus*)
- Munz's onion (*Allium munzii*)
- San Diego ambrosia (*Ambrosia pumila*
- many-stemmed dudleya (*Dudleya multicaulis*)
- spreading navarretia (*Navarretia fossalis*)
- California Orcutt grass (*Orcuttia californica*)
- Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)
- burrowing owl (*Athene cunicularia*)
- least Bell's vireo (*Vireo bellii pusillus*)
- southwestern willow flycatcher (*Empidonax traillii extimus*)
- western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)

Vegetation Communities/Habitat Classification Mapping

Natural community names and hierarchical structure follows the CDFW "List of California Terrestrial Natural Communities" and/or Holland (1986) classification systems, which have been refined and augmented where appropriate to better characterize the habitat types observed onsite when not addressed by the MSHCP classification system.

Floristic Plant Inventory

A general plant survey was conducted throughout the Project Site during the initial reconnaissance in a collective effort to identify all species occurring onsite.

All plants observed during the survey efforts were either identified in the field or collected and later identified using taxonomic keys. Plant taxonomy follows Hickman (1993). Scientific nomenclature and common names used in this report generally follow Roberts et al. (2004) or Baldwin et al. (2012) for updated taxonomy. Scientific names are included only at the first mention of a species; thereafter, common names alone are used.

Wildlife Resources Inventory

All animals identified during the reconnaissance survey by sight, call, tracks, scat, or other characteristic sign were recorded onto a 1:200 scale orthorectified color aerial photograph or documented using a global positioning system (GPS). In addition to species actually detected, expected use of the site by other wildlife was derived from the analysis of habitats on the site, combined with known habitat preferences of regionally occurring wildlife species.

Vertebrate taxonomy followed in this report is according to the Center for North American Herpetology (2020 for amphibians and reptiles), the American Ornithologists' Union (1988 and supplemental) for birds, and Baker et al. (2003) for mammals. Both common and scientific names are used during the first mention of a species; common names only are used in the remainder of the text.

Regional Connectivity/Wildlife Movement Corridors

The analysis of wildlife movement corridors associated with the Project Site and immediate vicinity is based on information compiled from literature, analysis of the aerial photograph and Digital Orthophoto Quarter Quads (DOQQ) data, and direct observations made in the field during the reconnaissance site visit.

A literature review was conducted that includes documents on island biogeography (studies of fragmented and isolated habitat "islands"), reports on wildlife home range sizes and migration patterns, and studies on wildlife dispersal. Wildlife movement studies conducted in southern California were also reviewed. Use of field-verified digital DOQQ data, in conjunction with the Geographic Information System (GIS) database, allowed proper identification of regional vegetation communities and drainage features. This information was crucial to assessing the relationship of the Project Site to large open space areas in the immediate vicinity and was also evaluated in terms of connectivity and habitat linkages. Relative to corridor issues, the discussions in this report are intended to focus on wildlife movement associated within the Project Site and the immediate vicinity.

MSHCP Criteria Area and Narrow Endemic Plant Surveys

The Project Site occurs partially within a predetermined MSHCP Survey Area for thirteen (13) criteria area and narrow endemic plant species (RCA GIS Data Downloads 2020). According to the MSHCP guidelines, focused surveys are required during the appropriate flowering season to document the presence/absence of these species if suitable habitat is present and if the property is located within a predetermined Survey Area (MSHCP 2004). Potential habitat is present on or immediately adjacent to the Project Site for several of these species in Riversidean sage scrub habitats. Habitat assessments and focused surveys were conducted for all thirteen (13) species which includes:

Criteria Area Plant Species:

- Davidson's saltscale (*Atriplex davidsonii*) [California Rare Plant Rank[1]-CRPR 1B.2];
- Parish's brittlescale (*Atriplex parishii*) [CRPR 1B.1];
- thread-leaved brodiaea (*Brodiaea filifolia*) [Federal threatened, State endangered, CRPR 1B.1];

[1] In the spring of 2011, the California Native Plant Society (CNPS) officially changed the name "CNPS List" to "California Rare Plant Rank (CRPR)" (CNPS 2012), which is reflected in this report. However, the definitions of the ranks and the ranking system have not changed.

- smooth tarplant (*Centromadia pungens* ssp. *laevis*) [CRPR 1B.1];
- round-leaved filaree (*Erodium macrophyllum*) [CRPR 1B.1];
- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) [CRPR 1B.1]; and
- little mousetail (*Myosurus minimus* ssp. *apus*) [CRPR 3.1].

Narrow Endemic Plant Species:

- Munz's onion (*Allium munzii*) [Federal endangered, State threatened, CRPR 1B.1];
- San Diego ambrosia (*Ambrosia pumila*) [Federal endangered, CRPR 1B.1];
- many-stemmed dudleya (*Dudleya multicaulis*) [CRPR 1B.2];
- spreading navarretia (*Navarretia fossalis*) [Federal threatened, CRPR 1B.1];
- California Orcutt grass (*Orcuttia californica*) [Federal endangered/State endangered, CRPR 1B.1]; and
- Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*) [CRPR 2.1].

Focused surveys for MSHCP criteria area and narrow endemic plants were conducted for all suitable habitat areas within and immediately adjacent to the Sensitive Plant Survey Areas. Each focused survey was conducted on foot according to MSHCP protocols and the USFWS, California Native Plant Society (CNPS), and CDFW survey guidelines. The project surveys were coordinated with the blooming periods of several reference populations to aid detection of rare plants in 2012.

Many annual and geophyte (corm or bulb-forming) perennial plant species may fail to germinate, grow, and/or bloom during sub-optimal rainfall years. Accordingly, plant surveys conducted during adverse weather conditions may not accurately document the presence/absence of special-status annual or geophyte-species that occur on a site. Therefore, it is important to review rainfall data for the time period when the focused surveys were conducted in order to show that the results of these surveys were not constrained by low precipitation for a region in any given year.

A site-specific survey program was developed to achieve the following goals: (1) characterize the vegetation associations; (2) prepare a detailed floristic compendium; (3) conduct focused surveys to document the distribution and abundance, or absence, of MSHCP criteria area or narrow endemic plant species at the site; and 4) prepare botanical resource maps showing the distribution of sensitive vegetation communities and the location of the MSHCP target species or other special-status plants observed onsite.

The project surveys also proposed to document other CNPS sensitive plants or species of local concern onsite, if present. The methodology and focus of the program is consistent with the MSHCP guidelines, but also conforms to scientific and technical standards listed by USFWS (1996), CNPS (2001), and California Department of Fish and Game (CDFG: 2009) for sensitive plant species surveys. Field surveys were coordinated with the blooming periods of many reference populations in order to determine whether the target species were identifiable at the time of the survey and therefore aid detection onsite.

Prior to conducting fieldwork, a thorough archival review was conducted using the following baseline resources:

- California Native Plant Society Inventory 8th Inventory Online (March 2012);
- California Natural Diversity Data Base for the USGS 7.5' Bachelor Mountain and Winchester Quadrangles (CNDDB 2012);
- Consortium of California Herbaria (2012);
- Soil Survey of Western Riverside Area (Knecht 1971);
- Vegetation Alliances of Western Riverside County, California (Klein and Evens 2005);
- Distribution of Vernal Pools in Southern California and the San Jacinto Valley, and vernal alkali plains (Ferren et al. 1996a, 1996b, 1996c; Bauder and McMilian 1998; Keeler-Wolf et al. 1998, and others);
- U.S. Fish and Wildlife Service proposed rules, reports, and comment letters (USFWS 1994a, 1994b, 1995, 1996, 1998, 2004a, 2004b, 2005a, 2005b, 2006, 2009a, 2009b, 2011, 2012, and others);
- Vascular Flora of Western Riverside County (Roberts et al. 2004);
- Reports prepared by the RCA, Western Riverside County;
- Local consultant reports, including previous studies conducted for the Project Site and the immediate area (PSBS 2002, 2003; Helix 2005, 2007), and the immediate region (Caltrans 2007); and
- Articles in botanical journals such as *Madroño*, *Aliso*, *Fremontia*, and *Crossosoma*.

Floristic and focused plant surveys were conducted in order to identify all species occurring within and adjacent to the MSHCP criteria area and narrow endemic plant species survey area located within the Project Site. The project survey program is designed to locate, census, and map the target MSHCP plants, or other sensitive species, if present, observed onsite. Several reference populations were identified and visited in order to ensure detection during the time of the surveys. Additionally, an aerial photograph was inspected to help identify habitats that could be easily overlooked in the field. Physical features such as clay soil inclusions, rock outcrops, and saline-alkali soils were targeted in order to identify specific criteria area and narrow endemic rare plant habitats onsite.

Field notes were taken daily. These notes recorded the date, location, plant species observed, and general habitat characteristics of each area of the project and habitats examined that day. All plant species encountered during the field surveys were identified and recorded in the field notes, including any additional special status or sensitive plants occurring within or in close proximity to the Survey Area. Surveys were also performed in a manner consistent with the MSHCP and other applicable survey protocol requirements as outlined by USFWS (1996), CNPS (2001), Tibor (2001), and CDFG (2009).

Fieldwork was coordinated throughout the spring and summer blooming periods of local reference populations, site-specific habitat conditions, and vegetation-soil associations of the target species. Accordingly, six (6) focused surveys were conducted onsite, including March 31st, April 30th, May 27th, June 23rd, July 23rd, and August 24th, 2012. Also, several reference populations were visited in order to determine whether the

target species were identifiable at the time of the survey. The location of the reference population and date of visit are provided, where appropriate, in the species discussions listed below.

All portions of the Survey Area and adjacent lands were surveyed on foot by walking slowly and methodically across each habitat type. Scientific nomenclature and common names used in this report generally follow Roberts et al. (2004).

Fairy Shrimp

The Project Site was assessed to determine the presence/absence and extent of MSHCP vernal pool resources in accordance with the RCIP definition (Section 6.1.2, Volume I, Final MSHCP) in March 2012 (Cadre Environmental 2012a).

No evidence of vernal pools, seasonal depressions, seasonally inundated road ruts or other wetland features were recorded on the Project Site. Vernal pools are depressions in areas where a hard-underground layer prevents rainwater from draining downward into the subsoils. When rain fills the pools in the winter and spring, the water collects and remains in the depressions. In the springtime, the water gradually evaporates away, until the pools became completely dry in the summer and fall. Vernal pools tend to have an impermeable layer that results in ponded water. The soil texture (the amount of sand, silt, and clay particles) typically contains higher amounts of fine silts and clays with lower percolation rates. Pools that retain water for a sufficient length of time will develop hydric cells. Hydric cells form when the soil is saturated from flooding for extended periods of time and anaerobic conditions (lacking oxygen or air) develop.

Consistent with conditions documented onsite and as previously stated, the Project Site is characterized as Cajalco rocky fine sandy loam, Lodo rocky loam, and Yokohl loam, all types possessing well drained substrates (drainage class). No indication of clay substrates or hydric soils were documented within the Project Site.

A review of historic aerials was conducted to determine if inundated features were present during years of high rainfall when features would certainly be documented. Historic aerials taken in 2011 represent an ideal baseline during which know (previously documented) inundated vernal pools, seasonal depressions and road ruts can easily be seen. No sign or indication of inundation was documented within the Project Site during a review of historic aerials.

In summary, none of the conditions (i.e., no inundated depressions including road ruts, hydric soils, historic inundation, etc.) were observed on documented within the Project Site. No features are present that would support fairy shrimp. No standing water or other sign of areas that pond water was recorded.

MSHCP Burrowing Owl Surveys

In accordance with the MSHCP Burrowing Owl Survey Instructions (County of Riverside 2006), survey protocol consists of two steps, Step I – Habitat Assessment and Step II – Locating Burrows and Burrowing Owls. Step II is comprised of two parts, Part A: Focused Burrow Surveys and Part B: Focused Burrowing Owl Surveys. In addition to

complying with MSHCP survey guidelines, the protocol was augmented to ensure compliance with the CDFW updated Staff Report on Burrowing Owl Mitigation breeding season survey guidelines (CDFG 2012). Specifically, the guidelines incorporated into the MSHCP survey protocol included:

- Four (4) surveys with at least one (1) conducted between February 15th and April 15th, and a minimum of three (3) surveys spaced 3 weeks apart conducted between April 15th and July 15th, with at least one (1) survey after June 15th; and
- Survey transects spaced between 7 to 20 meters apart.

Each step is briefly outlined below, followed by the methodology and results of each survey conducted within the Project Site. All initial habitat assessment and focused surveys were conducted by Ruben Ramirez, Cadre Environmental.

Surveys were conducted during weather that is conducive to observing owls outside their burrows and detecting burrowing owl sign. Surveys were not conducted during rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F. None of the surveys were conducted within five (5) days of measurable precipitation.

In addition to the MSHCP guidelines, field notes were taken daily. These notes recorded the date, location, animal species observed, and general habitat characteristics of each area and habitat examined that day.

Step I – Habitat Assessment

Step 1 of the MSHCP habitat assessment for burrowing owl consists of a walking survey to determine if suitable habitat is present onsite. Cadre Environmental (2012b) conducted the initial habitat assessment of the Belle Terre Specific Plan No. 382 study area on April 5th and 9th, 2012. Upon arrival at the site, and prior to initiating the assessment survey, Cadre Environmental used binoculars to scan all suitable habitats on and adjacent to the property, including perch locations, to ascertain owl presence.

All suitable areas of the Project Site were surveyed on foot by walking slowly and methodically while recording/mapping areas that may represent suitable owl habitat onsite. Primary indicators of suitable burrowing owl habitat in western Riverside County include, but are not limited to, native and non-native grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover, golf courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas. Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels (*Otospermophilus beecheyi*) or badgers (*Taxidea taxus*), but they often utilize man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles, or openings beneath cement or asphalt pavement. Burrowing owls are often found within, under, or in close proximity to man-made structures.

According to the MSHCP guidelines, if suitable habitat is present the biologist should also walk the perimeter of the property, which consists of a 150-meter (approximately 500 feet) buffer zone around the Project Site boundary. If permission to access the

buffer area cannot be obtained, the biologist shall not trespass, but visually inspect adjacent habitats with binoculars.

Results from the habitat assessment indicate that suitable foraging habitat and burrows were documented primarily within ephemeral drainages and isolated rock outcrops within the Belle Terre Specific Plan No. 382 survey area. Accordingly, if suitable habitat is documented onsite, both Step II surveys and the 30-day pre-construction surveys are required in order to comply with the MSHCP guidelines.

Step II – Locating Burrows and Burrowing Owls

A focused burrow survey that includes documentation of appropriately sized natural burrows or suitable man-made structures that may be utilized by burrowing owl was conducted as part of the MSHCP protocol, which is described below under Part A: Focused Burrow Survey. The MSHCP protocol indicates that no more than 100 acres should be surveyed per day/per biologist. Therefore, the Belle Terre Specific Plan No. 382 project was divided into four (4) survey areas including the Project Site.

Part A: Focused Burrow Survey

A systematic survey for burrows, including burrowing owl sign, was conducted by walking across all suitable habitats mapped within and adjacent to the Belle Terre Specific Plan No. 382 survey area. Pedestrian survey transects were spaced to allow 100% visual coverage of the ground surface. The distances between transect centerlines were no more than 20 meters (approximately 66 feet.) apart, and owing to the terrain, often much smaller. Transect routes were also adjusted to account for ridge lines and in general ground surface visibility.

All observations of suitable burrows or dens, natural or man-made, or sightings of burrowing owl, were recorded and mapped during the survey. As previously stated, burrows sufficiently sized to support burrowing owl were found scattered throughout the Project Site.

Since natural conditions that could potentially support burrowing owl were documented within the Burrowing Owl Survey Areas, then focused visual surveys were implemented as prescribed in Part B: Focused Burrowing Owl Surveys of the MSHCP guidelines throughout the property and buffer habitat.

Part B: Focused Burrowing Owl Surveys

Four (4) focused burrowing owl surveys (the first was conducted as part of the focused burrow survey – Step II, Part A) were conducted between April and June 2012 from one hour before sunrise to two hours after sunrise. During each visual survey, all potentially suitable burrow or structure entrances were investigated for signs of owl occupation, such as feathers, tracks, or pellets, and carefully observed to determine if burrowing owls utilize these features. All burrows were monitored at a short distance from the entrance, and at a location that would not interfere with potential owl behavior. In addition to monitoring potential burrow locations, all suitable habitats in each survey

area were walked along transects averaging 20 meters (approximately 66 feet) between centerlines. Weather conditions were conducive to a high level of bird activity onsite.

Also, all artificial owl structures located adjacent to the Colorado River Aqueduct (located offsite) were surveyed.

MSHCP Riparian/Riverine/Vernal Pool Resources

The Project Site was assessed to determine the presence/absence and extent of MSHCP riparian, riverine and vernal pool resources in accordance with the RCIP definition (Section 6.1.2, Volume I, Final MSHCP) in March 2012 (Cadre Environmental 2012a). No MSHCP Section 6.1.2 riparian, riverine or vernal pool resources are located within or adjacent to the Project Site as shown in Figure 3, Vegetation Communities Map.

MSHCP Riparian Bird Species

The Project Site was assessed to determine the presence/absence and extent of suitable habitat for MSHCP riparian bird species. No riparian scrub forest or woodland habitat representing suitable habitat for the least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*) or western yellow-billed cuckoo (*Coccyzus americanus*) was documented within or adjacent to the Project Site as shown in Figure 3, Vegetation Communities Map.

Jurisdictional Delineation

The Project Site was assessed to determine the presence/absence of jurisdictional features regulated by the United States Army Corps of Engineers, California Department of Fish and Wildlife, and Santa Ana Regional Water Quality Control Board. No jurisdictional features are located within the Project Site as shown in Figure 3, Vegetation Communities Map.

SURROUNDING LAND USES/TOPOGRAPHY/SOILS

The 4.70-acre Project Site is dominated by Riversidean sage scrub which is described in this report and illustrated in Figure 3, *Vegetation Communities Map*, and Figures 4 and 5, *Project Site Photographs*.

Soils mapped by the Soil Conservation Service (SCS)[2] within the Project Site consist primarily of sandy and loam substrates (Knecht 1971, NRCS 1971, NRCS 1992). The Soil Survey of Western Riverside Area (Soil Survey Staff 2013) has the following soils mapped within the boundary of the property as illustrated in Figure 6, *Soils Association Map*.:

- Cajalco rocky fine sandy loam (CbF2), 15 to 50 percent slopes, eroded
- Lodo rocky loam (LpF2), 25 to 50 percent slopes, eroded
- Yokohl loam (YbD2)

As stated by GLA:

> ***Cajalco Rocky Fine Sandy Loam, 15 to 50 Percent Slopes, Eroded (CbF2)***
>
> *The Cajalco series consists of well-drained soils developed in decomposing gabbro and other basic igneous rocks. These soils occur on uplands and elevations range from 900 to 2,700 feet. In a typical profile, the surface layer is yellowish-brown fine sandy loam at a depth of 18 to 24 inches before reaching partly weathered rock. Rock outcrops cover 2 to 10 percent of the surface. Runoff is rapid on this soil, and the hazard of erosion is high. The available water holding capacity is 2.0 to 3.0 inches. The root zone is 18 to 24 inches deep. Natural fertility is low. This soil is used for dry land pasture and range.*
>
> ***Lodo Rocky Loam, 25 to 50 Percent Slopes, Eroded (LpF2)***
>
> *The Lodo series consists of somewhat excessively drained upland soils on slopes of 8 to 50 percent. These soils developed on metamorphosed fine-grained sandstone. Elevations range from 700 to 2,500 feet and the average annual rainfall ranges from 10 to 14 inches. Vegetation primarily consists of annual grasses, forbs, and chaparral. In a typical profile, the surface layer is brown gravelly loam averaging 8 inches thick. The underlying layer consists of brown shattered and weathered fine-grained metamorphosed sandstone. Depth to this sandstone varies from 8 to 15 inches. Rock outcrops typically occupy 10 to 20 percent of the soil surface. The Lodo soil has moderate permeability, while runoff is rapid and the hazard of erosion is high. Natural fertility is very low, as this soil is most often used for range.*

[2] SCS is now known as the National Resource Conservation Service (NRCS).

Yokohl Loam, 8 to 15 Percent Slopes, Eroded (YbD2)

The Yokohl series consists of well-drained soils on old alluvial fans and terraces. These soils have slopes ranging from 2 to 25 percent and the soils developed in alluvium of predominantly igneous materials and underlain by a hardpan. Elevations range from 1,000 to 3,000 feet and the average annual rainfall ranges from 10 to 14 inches. The vegetation primarily consists of annual grasses, forbs, chamise, and salvia. In a typical profile, the surface layer is reddish-brown loam averaging 10 inches thick. This soil is typically used for dryland grain and pasture, and if irrigated, for citrus.

None of the soils within the project area are identified as hydric in the SCS's publication, Hydric Soils of the United States[3]; nor are any of these soils listed as hydric in the Soil Survey for Western Riverside County, California; however, inclusions supporting ponded areas associated with the Yokohl Series may be considered hydric if the soils are frequently ponded for a long duration, or very long duration, during the growing season, or if they are associated with depressions and are seasonally flooded or ponded. It is important to note that under the Arid West Supplement, the presence of mapped hydric soils is no longer dispositive for the presence of hydric soils. Rather, the presence of hydric soils must now be confirmed in the field." (GLA Associates 2013a)

VEGETATION COMMUNITIES

Natural community names and hierarchical structure follows the CDFW "List of California Terrestrial Natural Communities" and/or Holland (1986) classification systems, which have been refined and augmented where appropriate to better characterize the habitat types observed onsite when not addressed by the MSHCP classification system.

Riversidean Sage Scrub and Riversidean Sage Scrub/Non-Native Grassland

The majority of the Project Site is dominated by Riversidean sage scrub habitat as illustrated in Figure 3, *Vegetation Communities Map*. Dominant species documented within these habitat types include California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), California matchweed (*Gutierrezia californica*), brittlebush (*Encelia farinosa*), California wishbone bush (*Mirabilis californica*), California everlasting (*Pseudognaphalium californicum*), and a scattered understory of non-native grasses including Mediterranean schismus (*Schismus barbatus*), wild oat grass (*Avena fatua*), slender wild oat (*Avena barbata*), ripgut grass (*Bromus diandrus*), and foxtail chess (*Bromus madritensis* ssp. *rubens*).

[3] United States Department of Agriculture, Soil Conservation Service. 1991. Hydric Soils of the United States, 3rd Edition, Miscellaneous Publication Number 1491. (In cooperation with the National Technical Committee for Hydric Soils.)

Cell 5170
Group S
SU4 - Cactus Valley/
SWRC-MSR/Johnson Ranch

Cell 5172
Group S
SU4 - Cactus Valley/
SWRC-MSR/Johnson Ranch

MWD's San Diego Canal

APN 472-170-021

APN Boundary

Cell 5278
Group S
SU4 - Cactus Valley/
SWRC-MSR/Johnson Ranch

Cell 5274
Group S
SU4 - Cactus Valley/
SWRC-MSR/Johnson Ranch

RSS
R-NNG
DIS
RSS
Project Site
DIS
RSS

Fields Drive

Fields Drive

French Channel

Cell 5379
Group S
SU4 - Cactus Valley/
SWRC-MSR/Johnson Ranch

RSS	Riversidean Sage Scrub
R-NNG	Riversidean Sage Scrub-Non Native Grassland
DIS	Disturbed

	APN 472-170-021 (73.0 Acres)
	Project Site - MSHCP HANS 2082, JPR 14-02-06-01 "Available for Development" (4.7 Acres)
	MSHCP HANS 2082, JPR 14-02-06-01 "Proposed Conservation" (68.3 Acres)

Figure 3 - Vegetation Communities Map
Biological Resources Assessment Report
EMWD Belle Terre SP No. 382, PA24 Water Tank Project

CADRE Environmental

N

1 inch = 300 feet

PHOTOGRAPH 1

PHOTOGRAPH 2

Refer to Figure 2 for Photographic Key

Figure 4 - Project Site Photographs

Biological Resources Assessment Report
EMWD Belle Terre SP No. 382, PA24 Water Tank Project

CADRE Environmental

PHOTOGRAPH 3

PHOTOGRAPH 4

Refer to Figure 2 for Photographic Key

Figure 5 - Project Site Photographs

Biological Resources Assessment Report
EMWD Belle Terre SP No. 382, PA24 Water Tank Project

CADRE Environmental

Cell 5170
Group S
SU4 - Cactus Valley/
SWRC-MSR/Johnson Ranch

Cell 5172
Group S
SU4 - Cactus Valley/
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MWD's San Diego Canal

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Cell 5274
Group S
SU4 - Cactus Valley/
SWRC-MSR/Johnson Ranch

LpF2

CbF2

CbF2

YbD2

Fields Drive

Fields Drive

French Channel

Cell 5379
Group S
SU4 - Cactus Valley/
SWRC-MSR/Johnson Ranch

CbF2	*Cajalco rocky fine sandy loam, 15 to 50 percent, eroded*
LpF2	*Lodo rocky loam, 25 to 50 percent slopes, eroded*
YbD2	*Yokohl loam*

Source: NRCS 2020

APN 472-170-021 (73.0 Acres)

Project Site - MSHCP HANS 2082, JPR 14-02-06-01 "Available for Development" (4.7 Acres)

MSHCP HANS 2082, JPR 14-02-06-01 "Proposed Conservation" (68.3 Acres)

Figure 6 - Soils Association Map
Biological Resources Assessment Report
EMWD Belle Terre SP No. 382, PA24 Water Tank Project

CADRE Environmental

N

1 inch = 300 feet

Disturbed

Disturbed habitats include those regions of the Project Site generally devoid of vegetation and represented by the existing dirt access road.

Table 1 - Vegetation Communities Acreages

Vegetation Community	Project Site (ac)
Riversidean Sage Scrub	4.47
Disturbed (Existing Dirt Road)	0.21
Riversidean Sage Scrub/Non-Native Grassland	0.02
TOTAL	**4.70**

Source: Cadre Environmental 2020.

GENERAL PLANT & WILDLIFE SPECIES

A complete list of common plant and wildlife species documented onsite is included in Appendix A–Floral/Faunal Compendia.

JURISDICTIONAL RESOURCES

The Project Site was assessed to determine the presence/absence of jurisdictional features regulated by the United States Army Corps of Engineers, California Department of Fish and Wildlife, and Santa Ana Regional Water Quality Control Board. No jurisdictional features are located within the Project Site.

The Project Site was assessed to determine the presence/absence and extent of MSHCP riparian, riverine and vernal pool resources in accordance with the RCIP definition (Section 6.1.2, Volume I, Final MSHCP) in March 2012 (Cadre Environmental 2012a). No MSHCP Section 6.1.2 riparian, riverine or vernal pool resources are located within or adjacent to the Project Site.

The following discussion describes the plant and wildlife species present, or potentially present within the property boundaries, that have been afforded special recognition by federal, state, or local resource conservation agencies and organizations, principally due to the species' declining or limited population sizes, usually resulting from habitat loss. Also discussed are habitats that are unique, of relatively limited distribution, or of particular value to wildlife. Protected sensitive species are classified by state and/or federal resource management agencies, or both, as threatened or endangered, under provisions of the state and federal endangered species act. Vulnerable or "at-risk" species that are proposed for listing as threatened or endangered (and thereby for protected status) are categorized administratively as "candidates" by the USFWS. CDFW uses various terminology and classifications to describe vulnerable species. There are additional sensitive species classifications applicable in California. These are described below.

Sensitive biological resources are habitats or individual species that have special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, or rare. The CDFW, USFWS, and special groups like the CNPS maintain watch lists of such resources. For the purpose of this assessment sources used to determine the sensitive status of biological resources are:

Plants: USFWS (2019), CNDDB (CDFW 2019a), CDFW (2019b), CNPS (2020), and Skinner and Pavlik (1994),

Wildlife: California Wildlife Habitat Relationships (2008), USFWS (2019), CNDDB (CDFW 2019a), and CDFW (2019b).

Habitats: CNDDB (CDFW 2019a).

FEDERAL PROTECTION AND CLASSIFICATIONS

The Federal Endangered Species Act of 1973 (FESA) defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range..." Threatened species are defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined as follows in Section 3(18) of the FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification as forms of a "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants. Recently, the USFWS instituted changes in the listing status of former candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing.

Former C2 species (for which the USFWS had insufficient evidence to warrant listing at this time) and C3 species (either extinct, no longer a valid taxon or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected. However, some USFWS field offices have issued memoranda stating that former C2 species are henceforth to be considered Federal Species of Concern. This term is employed in this document, but carries no official protections. All references to federally protected species in this report (whether listed, proposed for listing or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS.

For purposes of this assessment, the following acronyms are used for federal status species:

FE	Federal Endangered
FT	Federal Threatened
FPE	Federal Proposed Endangered
FPT	Federal Proposed Threatened
FC	Federal Candidate for Listing

The designation of critical habitat can also have a significant impact on the development of land designated as "*critical habitat*." The FESA prohibits federal agencies from taking any action that will "*adversely modify or destroy*" critical habitat (16 U.S.C. § 1536(a)(2)). This provision of the FESA applies to the issuance of permits by federal agencies. Before approving an action affecting critical habitat, the federal agency is required to consult with the USFWS who then issues a biological opinion evaluating whether the action will "*adversely modify"* critical habitat. Thus, the designation of critical habitat effectively gives the USFWS extensive regulatory control over the development of land designated as critical habitat.

The Migratory Bird Treaty Act of 1918 (MBTA) makes it unlawful to "*take*" any migratory bird or part, nest, or egg of such bird listed in wildlife protection treaties between the United States and Great Britain, the Republic of Mexico, Japan, and the Union of Soviet States. For purposes of the MBTA, "*take*" is defined as to pursue, hunt, capture, kill, or possess or attempt to do the same.

The Bald Eagle and Golden Eagle Protection Act explicitly protects the bald eagle and golden eagle and imposes its own prohibition on any taking of these species. As defined in this act, take means to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, or molest or disturb. Current USFWS policy is not to refer the incidental take of bald eagles for prosecution under the Bald Eagle and Golden Eagle Protection Act (16 U.S.C. 668-668d).

STATE PROTECTION AND CLASSIFICATIONS

California's Endangered Species Act (CESA) defines an endangered species as "...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which

is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The State defines a threatened species as "...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species." Candidate species are defined as "...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike FESA, CESA does not include listing provisions for invertebrate species.

Article 3, Sections 2080 through 2085, of CESA addresses the taking of threatened or endangered species by stating "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided..." Under CESA, "take" is defined as "...hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require "...permits or memorandums of understanding..." and can be authorized for "...endangered species, threatened species, or candidate species for scientific, educational, or management purposes." Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

Additionally, some sensitive mammals and birds are protected by the State as Fully Protected Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. CSC ("special" animals and plants) listings include special status species, including all state and federal protected and candidate taxa, Bureau of Land Management (BLM) and US Forest Service (USFS) sensitive species, species considered to be declining or rare by the CNPS or National Audubon Society, and a selection of species which are considered to be under population stress but are not formally proposed for listing. This list is primarily a working document for the CDFW's CNDDB project. Informally listed taxa are not protected per se, but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites. For the purposes of this assessment, the following acronyms are used for State status species:

SE	State Endangered
ST	State Threatened
SCE	State Candidate Endangered
SCT	State Candidate Threatened
SFP	State Fully Protected

SP	State Protected
SR	State Rare
CSC	California Species of Special Concern
CWL	California Watch List

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in the State. This organization has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of rare, threatened, or endangered vascular plant species of California (Tibor 2001). The list serves as the candidate list for listing as threatened and endangered by CDFW. The CNPS has developed five categories of rarity (CRPR):

CRPR 1A	Presumed extinct in California
CRPR 1B	Rare, threatened, or endangered in California and elsewhere
CRPR 2A	Plants presumed extirpated in California but common elsewhere
CRPR 2B	Plants rare, threatened, or endangered in California but more common elsewhere
CRPR 3	Plants about which we need more information – a review list
CRPR 4	Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat

As stated by the CNPS:

> "*Threat Rank is an extension added onto the California Rare Plant Rank and designates the level of endangerment by a 1 to 3 ranking with 1 being the most endangered and 3 being the least endangered. A Threat Rank is present for all California Rare Plant Rank 1B's, 2's, 4's, and the majority of California Rare Plant Rank 3's. California Rare Plant Rank 4 plants are seldom assigned a Threat Rank of 0.1, as they generally have large enough populations to not have significant threats to their continued existence in California; however, certain conditions exist to make the plant a species of concern and hence be assigned a California Rare Plant Rank. In addition, all California Rare Plant Rank 1A (presumed extinct in California), and some California Rare Plant Rank 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension." (CNPS 2010)*

0.1	Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2	Fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3	Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

SENSITIVE HABITATS

As stated by CDFW:

> "*One purpose of the vegetation classification is to assist in determining the level of rarity and imperilment of vegetation types. Ranking of alliances according to their degree of imperilment (as measured by rarity, trends, and threats) follows NatureServe's Heritage Methodology, in which all alliances are listed with a G (global) and S (state) rank. For alliances with State ranks of S1-S3, all associations within them are also considered to be highly imperiled*" (CDFW 2010)

No sensitive vegetation communities were documented within or adjacent to the Project Site.

SENSITIVE PLANTS

None of the thirteen (13) MSHCP criteria area or narrow endemic plant species were detected and/or are not expected to occur onsite due to a lack of suitable habitat (Rick Riefner Associates 2012).

No MSHCP covered, narrow endemic, or criteria area species were detected on or adjacent to the Project Site as listed in Table 2, *Sensitive Plant Species with Potential to Occur Onsite* (Cadre 2012b, Rick Riefner Associates 2012).

Table 2 - Sensitive Plant Species with Potential to Occur Onsite.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Munz's onion (*Allium munzii*) FE/ST CRPR List 1B.1 MSHCP NEPSA CA Endemic	Munz's onion is restricted to mesic clay soils in western Riverside County, California. It blooms from March to May. This species is found in southern needlegrass grassland, annual grassland, open coastal sage scrub, or occasionally, in cismontane juniper woodlands.	Munz's onion was not observed during focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
San Diego ambrosia (*Ambrosia pumila*) FE CRPR List 1B.1 MSHCP NEPSA	San Diego ambrosia is known from Baja California, Mexico, and San Diego and Riverside counties in the United States. It blooms May to September. San Diego ambrosia occurs primarily on upper terraces of rivers and drainages as well as in open grasslands,	San Diego ambrosia was not observed onsite during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
	openings in coastal sage scrub, and occasionally in areas adjacent to vernal pools.	
Parish's brittlebush (*Atriplex parishii*) CRPR List 1B.1 MSHCP CAPSA	Parish's brittlescale is a small prostrate to decumbent annual, white scaly, and is often much less than eight inches in length. It blooms May to October. This species occurs on alkali or saline flats, alkali meadows, and in or along the margins of vernal pools or playa depressions.	Parish's brittlescale was not observed onsite during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
Davidson's saltscale (*Atriplex serenana* var. *davidsonii*) CRPR List 1B.2 MSHCP CAPSA	Davidson's saltscale is a decumbent to ascending annual that is sparsely scaly. It blooms April to October. It grows on coastal bluffs and alkaline alluvial terraces, and on alkali or saline flats in interior areas such as western Riverside County.	Davidson's saltscale was not observed on site during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
Thread-leaved brodiaea (*Brodiaea filifolia*) FT/SE CRPR List 1B.1 MSHCP CAPSA CA Endemic	Thread-leaved brodiaea is a geophyte, which produces leaves and flower stalks that sprout from corms (underground bulb-like storage stems). Thread-leaved brodiaea blooms March to June. Thread-leaved brodiaea typically occurs on gentle hillsides, valleys, and floodplains in semi-alkaline flats of riparian areas, vernal pools, mesic southern needlegrass grassland, mixed native-annual grassland, and alkali grassland plant communities in association with clay, clay loam, or alkaline silty-clay soils.	Thread-leaved brodiaea was not observed on site during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
Smooth Tarplant (*Centromadia pungens ssp. laevis*) CRPR 1B.1 MSHCP CAPSA	Smooth tarplant is an annual member of the sunflower family (Asteraceae) that occurs in vernal pools, alkali playas and scrub, alkali grasslands, riparian areas,	Smooth tarplant was not observed on site during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
	along watercourses and disturbed sites. It blooms April to September.	
Multi-stemmed dudleya (*Dudleya multicaulis*) CRPR List 1B.2 MSHCP NEPSA	Many-stemmed dudleya is a succulent perennial in the stonecrop family. It blooms April to July. This species is known from several southern California counties, and typically occurs in dry, stony places on heavy soils in scrub and grassland habitats below 2,000 feet elevation. Many-stemmed dudleya is most often associated with clay soils in barren, rocky places, or thinly vegetated openings in chaparral, coastal sage scrub, and southern needlegrass grasslands.	Many-stemmed dudleya was not observed during focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
Round-leaved filaree (*Erodium macrophyllum*) CRPR List 2.1 MSHCP CAPSA CA Endemic	Round-stemmed filaree habitats include open areas in cismontane woodland and valley and foothill grasslands, which are often associated with heavy clay soils below 3,600 feet elevation.	Round-leaved filaree was not observed during focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) CRPR List 1B.1 MSHCP CAPSA	Coulter's goldfields is associated with low-lying alkali and saline habitats along the coast and inland valleys. The majority of the populations are associated with coastal salt marsh. In Riverside County, Coulter's goldfields primarily grow in highly alkaline, silty clays associated with the Traver-Domino-Willows soils, and usually in the wet areas in the alkali vernal plain community.	Coulter's goldfields was not observed onsite during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
Little mousetail (*Myosurus minimus* ssp. *apus*) CRPR List 3.1 MSHCP CAPSA	Little mousetail is widespread in California. It occurs in alkaline vernal pools, and vernal alkali plains and grasslands, and blooms March to June.	Little mousetail was not observed onsite during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection and suitable habitat.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Spreading navarretia (*Navarretia fossalis*) FT/SE CRPR List 1B.1 MSHCP NEPSA	Spreading navarretia is a member of the phlox family, and is found in vernal pools, chenopod scrub, edge of marshes, and playas on saline-alkali soils. It occasionally grows in ditches and depressions associated with degraded habitat or old stock ponds (Consortium 2012). Spreading navarretia is a small prostrate to occasionally erect annual. Spreading navarretia blooms April to June.	Spreading navarretia was not observed onsite during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
California Orcutt grass (*Orcuttia californica*) FE/SE CRPR List 1B.1 MSHCP NEPSA	California Orcutt grass is a small, unique grass that occurs primarily in vernal pool habitats. In southern California, it is known from Orange (recently reported occurrence), Los Angeles, Riverside, Ventura, and San Diego Counties, and continues south into Baja California, Mexico. California Orcutt grass blooms April to August. In Riverside County, this species is found in southern basaltic claypan vernal pools at the Santa Rosa Plateau, and alkaline vernal pools such as Skunk Hollow, at Upper Salt Creek near Hemet, Menifee and elsewhere.	California Orcutt grass was not observed onsite during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection and suitable habitat.
Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*) CRPR List 2.1 MSHCP NEPSA	The historic known range of Wright's trichocoronis includes the Great Valley of central California, western Riverside County, and south Texas and adjacent northeast Mexico. This plant grows in meadows and seeps, marshes, riparian scrub, and vernal pools. Wright's trichocoronis blooms May to September.	Wright's trichocoronis was not observed onsite during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.

Source: Cadre Environmental 2013a, 2013b.

SENSITIVE WILDLIFE

Nine (9) target MSHCP planning species were detected within the region of the Project Site during the focused 2012 survey program as well as previous survey efforts as summarized below. The remaining eleven (11) MSHCP planning species were not detected onsite and are either expected to occur onsite based on the presence of suitable habitat or are not expected to occur onsite due to a lack of suitable habitat as presented in Table 3, *Sensitive Wildlife Species with Potential to Occur Onsite.*

The following discussion is presented in two (2) parts:

1. MSHCP Planning Species detected in the vicinity of the Project Site;
2. MSHCP and sensitive species that can be excluded from the Project Site based on the negative results of the 2012 surveys or may potentially occur onsite based on the presence of suitable habitat.

MSHCP Planning Species Documented within Vicinity of the Project Site

Bell's sage sparrow (*Amphispiza belli belli*) – CWL. Bell's sage sparrow is an uncommon to fairly common but localized resident breeder in dry chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and in the lower foothills of local mountains (MSHCP 2004). The species was documented within the Riversidean sage scrub habitat located within the vicinity of the Project Site. The species is expected to occur onsite.

Coastal California gnatcatcher (*Polioptila californica californica*) – FT, CSC. The coastal California gnatcatcher is a non-migratory bird species that primarily occurs within sage scrub habitats in coastal southern California dominated by California sagebrush (*Artemisia californica*), and California buckwheat (*Eriogonum fasciculatum*). Six (6) pair of coastal California gnatcatchers were detected within the vicinity of the Project Site during the 2012 survey efforts. The species is expected to occur onsite.

Grasshopper sparrow (*Ammodramus savannarum*) – CSC. The grasshopper sparrow generally prefers moderately open grasslands and prairies with patchy bare ground (MSHCP 2004). The species was documented within the Riversidean sage scrub habitat located within the vicinity of the Project Site. The species is expected to occur onsite.

Least Bell's vireo (*Vireo bellii pusillus*) FE/SE. Least Bell's vireo resides in riparian habitats with a well-defined understory including southern willow scrub, mule fat, and riparian forest/woodland habitats. Two (2) pair of least Bell's vireo and a single male were detected within the riparian forest located offsite within French Channel located south of the Project Site during the 2012 focused surveys. The species is not expected to occur onsite based on a lack of suitable riparian scrub, forest of woodland habitat within or immediately adjacent to the Project Site.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) – CWL. Southern California rufous-crowned sparrow is a non-migratory bird species that primarily occurs within sage scrub and grassland habitats and to a lesser extent

chaparral sub-associations (Unitt 2004). This species generally breeds on the ground within grassland and scrub communities in the western and central regions of California. The species was documented within the Riversidean sage scrub habitat located within the vicinity of the Project Site. The species is expected to occur onsite.

Tree Swallow (*Tachycineta bicolor*)-. Suitable habitat is provided for the tree swallow by the riparian forest and woodland up through the lodgepole pine belt for breeding habitats. It frequents valley foothill and montane riparian habitats below 2,700 meters (9,000 feet) for breeding within its range. (MSHCP 2004). The species was documented foraging within the riparian forest located within offsite French Channel located south of the Project Site during the 2012 focused surveys. The species is not expected to occur onsite based on a lack of suitable riparian scrub, forest of woodland habitat within or immediately adjacent to the Project Site.

Turkey vulture (*Cathartes aura*). The focus of this planning effort is on the nesting of the turkey vulture. There are two recorded nest sites within the Southwest Area Plan: Bernasconi Hills near Lake Perris and Rawson Canyon near Lake Skinner (MSHCP 2004). Although no nesting was documented onsite, the species was commonly observed within the vicinity of the Project Site and is expected to be present.

White-tailed kite (*Elanus leucurus*) – SFP. The white-tailed kite is found in riparian, oak woodlands adjacent to large open spaces including grasslands, wetlands, savannahs and agricultural fields. This non-migratory bird species occurs throughout the lower elevations of California and commonly nests in coast live oaks (Unitt 2004). The species was documented foraging onsite as well as perching within the riparian forest habitat located offsite within French Channel located south of the Project Site. The species may occasional forage onsite.

Bobcat (*Lynx rufus*). The bobcat requires large expanses of relatively undisturbed brushy and rocky habitats near springs or other perennial water sources. The species was uncommonly documented within the vicinity of the Project Site and is expected to occasionally forage onsite.

Additional MSHCP covered species documented within the vicinity of the Project Site during the 2012 survey efforts including previous surveys conducted by PSBS (2002):

- San Diego horned lizard (*Phrynosoma coronatum blainvilleii*) – CSC
- Belding's orange-throated whiptail (*Aspidoscelis hyperythra*) – CSC
- Coastal western whiptail (*Aspidoscelis tigris stejnegeri*)
- Loggerhead shrike (*Lanius ludovicianus*) – CSC
- Cooper's hawk (*Accipiter cooperi*) - CWL
- Downy woodpecker (*Picoides pubescens*)
- Yellow-breasted chat (*Icteria virens*) – CSC
- California horned lark (*Eremophila alpestris actia*) – CWL
- Yellow warbler (*Setophaga petechia*) – CSC
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) – CSC
- Coyote (*Canis latrans*)
- Long-tailed weasel (*Mustela frenata*)

As previously stated, The Western Riverside County MSHCP has determined that all of the sensitive species potentially occurring within the Project Site have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004).

A comprehensive assessment of sensitive species known to occur within the region and the potential for occurrence within the Project Site is presented in Table 3, *Sensitive Wildlife Species with Potential to Occur Onsite*.

Table 3 - Sensitive Wildlife Species with Potential to Occur Onsite

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
INVERTEBRATES		
Vernal pool fairy shrimp (*Branchinecta lynchi*) FT MSHCP Covered Species	Vernal pool fairy shrimp is restricted to seasonal vernal pools (Eng, Belk, and Eriksen 1990; USFWS 1994a). The vernal pool fairy shrimp prefers cool-water pools that have low to moderate dissolved solids, are unpredictable, and often short lived (Eriksen and Belk 1999, MSHCP 2004).	Not expected to occur onsite based on a lack of vernal pool, seasonal depression, and historic evidence of inundation within the Project Site.
Riverside fairy shrimp (*Streptocephalus woottoni*) FE MSHCP Covered Species	Riverside fairy shrimp is restricted to deep seasonal vernal pools, vernal pool like ephemeral ponds, and stock ponds and other human modified depressions (Eng, Belk, and Eriksen 1990,). Riverside fairy shrimp prefer warm-water pools that have low to moderate dissolved solids, are less predictable, and remained filled for extended periods of time (Eriksen and Belk 1999, MSHCP 2004).	Not expected to occur onsite based on a lack of vernal pool, seasonal depression, and historic evidence of inundation within the Project Site.
Quino checkerspot butterfly (*Euphydras editha quino*) FE MSHCP Covered Species	Quino checkerspot butterfly (QCB) is restricted to low elevation meadow habitats or clearings usually characterized by clay or cryptogamic deposits,	Not expected to occur onsite based on lack of detection during focused USFWS protocol surveys (PSBS 2003).

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
	inhabited by host plants including *Plantago erecta*, *Plantago patagonica*, *Castilleja exserta,* and *Cordylanthus rigidus*. Adult QCB often occur on open or sparsely vegetated rounded hilltops, ridgelines, and occasionally rocky outcrops. (MSHCP 2004)	
AMPHIBIANS		
Western spadefoot (*Spea hammondii*) CSC MSHCP Covered Species	The western spadefoot population is patchily but widely distributed throughout the Riverside Lowlands and San Jacinto Foothills Bioregions. Primary habitat for this species includes suitable breeding habitat below 1500 meters (i.e., vernal pools or other standing water that is free of exotic species) with secondary habitats including adjacent chaparral, sage scrub, grassland, and alluvial scrub habitats. (MSHCP 2004)	Suitable habitat for the western spadefoot was documented within the Riversidean sage scrub and non-native grasslands. This species has a moderate to low potential to occur onsite.
REPTILES		
Western pond turtle (*Actinemys marmorata*) CSC MSHCP Covered Species	The western pond turtle inhabits slow moving permanent or intermittent streams, small ponds, small lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and sewage treatment lagoons (Rathbun *et al*., 1992; Holland, 1994). Pools are the preferred habitat within streams (Bury, 1972, MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Red-diamond rattlesnake (*Crotalus ruber*) CSC MSHCP Covered Species	The northern red-diamond rattlesnake is often found in areas with dense vegetation especially chaparral and sage scrub up to 1,520 meters in elevation. (MSHCP 2004)	Suitable habitat for the Northern red-diamond rattlesnake was documented within the Riversidean sage scrub habitat. This species has a moderate to low potential to occur onsite.
Coast patch-nosed snake (*Salvadora hexalepis virgultea*) CSC MSHCP Covered Species	The coast patch-nosed snake prefers brushy coastal sage scrub/ chaparral habitats.	Suitable habitat for the coast patch-nosed snake was documented within the Riversidean sage scrub habitat. This species has a moderate to low potential to occur onsite.
Northern three-lined boa (coastal rosy boa) (*Lichanura orcutti*) MSHCP Covered Species	The northern three-lined boa prefers rocky habitats within coastal sage scrub and chaparral habitats.	No suitable habitat for the coastal rosy boa was documented within the Riversidean sage scrub habitat. This species is not expected to occur onsite.
BIRDS		
White-faced ibis (*Plegadis chihi*) CSC MSHCP Covered Species	The white-faced ibis is sparsely distributed throughout the Riverside Lowlands Bioregions of the MSHCP Plan Area within its suitable habitat. It occurs at some of the areas of freshwater marsh habitat but is only documented for breeding at two locations: Prado Basin and Mystic Lake/San Jacinto Wildlife Area. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.
Northern Harrier (*Circus cyaneus*) CSC MSHCP Covered Species	The northern harrier frequents open wetlands, wet and lightly grazed pastures, old fields, dry uplands, upland prairies, mesic grasslands, drained marshlands, croplands, shrub-steppe, meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands and is seldom found in wooded areas (Bent 1937;	Suitable foraging habitat for wintering birds is present throughout the Project Site. This species is expected to occasionally forage onsite.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
	MacWhirter and Bildstein 1996). It uses tall grasses and forbs in wetlands, or at wetland/field borders for cover; it roosts on the ground (Bent 1937, MSHCP 2004)	
Sharp-shinned hawk (*Accipiter striatus*) CWL MSHCP Covered Species	For the purpose of the conservation analysis, potential habitat for the sharp-shinned hawk includes montane coniferous forest for potential breeding areas (none have been documented) and riparian scrub, woodland, and forest habitat, oak woodland and forest, chaparral, coastal sage scrub, desert scrub, and Riversidean alluvial fan sage scrub for foraging. (MSHCP 2004)	Not expected to breed onsite. This species may infrequently forage onsite during migration.
Swainson's hawk (*Buteo swainsoni*) ST MSHCP Covered Species	This rare migrant no longer nests in southern California where it historically bred along riparian woodlands and foraged within adjacent grasslands (Unitt 2004).	This species may infrequently forage onsite during migration.
Ferruginous hawk (*Buteo regalis*) CSC MSHCP Covered Species	Range-wide, within California, ferruginous hawks winter in open terrain and grasslands of plains and foothills (Grinnell and Miller 1944). Within southern California, including the Plan Area, ferruginous hawks typically winter in open fields, grasslands, and agricultural areas (Garrett and Dunn 1981, MSHCP 2004)	This species may infrequently forage onsite during migration.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Golden eagle (*Aquila chrysaetos*) CWL, SFP MSHCP Covered Species	Within southern California, the species prefers grasslands, brushlands (coastal sage scrub and chaparral), deserts, oak savannas, open coniferous forests, and montane valleys (Garrett and Dunn 1981, MSHCP 2004)	This species may infrequently forage onsite.
Merlin (*Falco columbarius*) CWL MSHCP Covered Species	The merlin has a sparse and widespread distribution throughout the MSHCP Plan Area within almost every habitat that occurs within the Plan Area. It occurs within the Plan Area as a transient in the spring and fall and may occasionally winter within the area. It does not require specific conditions or locations for nesting because it does not nest in the region. (MSHCP 2004)	This species may infrequently forage onsite during migration.
Prairie falcon (*Falco mexicanus*) CWL MSHCP Covered Species	Habitat use of the prairie falcon includes annual grasslands to alpine meadows. The prairie falcon is associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields during the winter season, and desert scrub areas, all typically dry environments of western North American where there are cliffs or bluffs for nest sites (Brown and Amadon 1968, MSHCP 2004)	This species may infrequently forage within the Project Site.
American peregrine falcon (*Falco peregrinus anatum*) SFP MSHCP Covered Species	Throughout the species' range, peregrine falcons are found in a large variety of open habitats, including tundra, marshes, seacoasts, savannahs and high mountains (AOU 1998, MSHCP 2004)	This species may infrequently forage onsite.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) SE MSHCP Covered Species	Although the preferred habitat, riparian scrub and forest, is well distributed at scattered locations within the Plan Area in the Riverside Lowland Bioregions, the western yellow-billed cuckoo apparently no longer inhabits much of this habitat. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.
Mountain plover (wintering) (*Charadrius montanus*) FPT/CSC MSHCP Covered Species	The mountain plover is narrowly distributed at relatively few locations within the Plan Area in suitable habitat. The mountain plover uses playas and vernal pool, grassland, and some agriculture habitats during the winter in the Plan Area. Although playa and vernal pool habitat is well identified for the Plan Area, it encompasses a relatively small portion. The remaining habitats, grassland and agriculture land, are well distributed within the Plan Area but the mountain plover uses only a small portion of what is available. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.
Burrowing owl (*Athene cunicularia)* CSC MSHCP Covered Species	The burrowing owl uses predominantly open land, including grassland, agriculture (e.g., dry-land farming and grazing areas), playa, and sparse coastal sage scrub and desert scrub habitats. Some breeding burrowing owls are year-round residents and additional individuals from the north may winter throughout the MSHCP Area Plan. (MSHCP 2004)	Not expected to occur onsite based on lack of detection during focused surveys (Cadre Environmental 2012b).

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Southwestern willow flycatcher (*Empidonax traillii extimus*) FE/SE MSHCP Covered Species	The southwestern willow flycatcher is narrowly distributed at few locations within the Plan Area. Although the preferred habitat, riparian woodland and select other forests, is well distributed within all bioregions and spread over the entire Plan Area, few current locations for the willow flycatcher have been documented. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.
Cactus wren (*Campylorhynchus brunneicapillus*) CSC MSHCP Covered Species	The cactus wren is closely associated with three species of cacti and occurs almost exclusively in thickets of cholla (*Opuntia prolifera)* and prickly pear (*Opuntia littoralis* and *Opuntia oricola)* dominated stands of coastal sage scrub below 457 meters in elevation on mesas and lower slopes of the coast ranges (Proudfoot *et al.* 2000). (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.
MAMMALS		
Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) CSC MSHCP Covered Species	The Los Angeles pocket mouse appears to be limited to sparsely vegetated habitat areas in patches of fine sandy soils associated with washes or of aeolian (windblown) origin, such as dunes. (MSHCP 2004)	Low potential to occur onsite within the sparsely vegetated regions of Riversidean sage scrub where suitable soils have also been recorded.
Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) CSC MSHCP Covered Species	The northwestern San Diego pocket mouse occurs throughout the Plan Area in coastal sage scrub (including Diegan and Riversidean upland sage scrubs and alluvial fan sage scrub), sage scrub/grassland ecotones, chaparral, and desert	Moderate to low potential to occur onsite within the sparsely vegetated regions of Riversidean sage scrub where suitable soils have been recorded.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
	scrubs at all elevations up to 6,000 feet. (MSHCP 2004)	
Stephens' kangaroo rat (*Dipodomys stephensi*) FE/ST MSHCP Covered Species	The Stephens' kangaroo rat is found almost exclusively in open grasslands or sparse shrublands with cover of less than 50 percent during the summer (*e.g.*, Bleich 1973; Bleich and Schwartz 1974; Grinnell 1933; Lackey 1967; O'Farrell 1990; Thomas 1973). (MSHCP 2004)	Moderate to low potential to occur onsite within the sparsely vegetated regions of Riversidean sage scrub where suitable soils and kangaroo rat sign have been recorded (PSBS 2002).
Dulzura kangaroo rat (*Dipodomys simulans*) MSHCP Covered Species	The Dulzura kangaroo rat occurs throughout the Plan Area in coastal sage scrub (including Diegan and Riversidean upland sage scrubs and alluvial fan sage scrub), sage scrub/grassland ecotones, chaparral, and desert scrubs at all elevations up to 2,600 feet. (MSHCP 2004)	This species is expected to occur onsite based on the presence of both suitable habitat and detection of kangaroo rat burrows.
San Diego desert woodrat (*Neotoma lepida intermedia)* CSC MSHCP Covered Species	The San Diego desert woodrat is found throughout the Plan Area in sage scrub and chaparral wherever there are rock outcrops, boulders, cactus patches and dense undergrowth. (MSHCP 2004)	This species has a low potential of occurrence onsite based on the lack of rock outcrops and dense undergrowth in the Riversidean sage scrub habitats.
Mountain lion (*Puma concolor*) MSHCP Covered Species	Mountain lions use rocky areas, cliffs, and ledges that provide cover within open woodlands and chaparral, as well as riparian areas that provide protective habitat connections for movement between fragmented core habitats. (MSHCP 2004)	This species may infrequently utilize the Project Site for foraging.

Source: PSBS 2002, Cadre Environmental 2012b. 2020.

The USFWS has designated the Project Site as "Excluded Essential Habitat" for the coastal California gnatcatcher. The designated region is essential to the protection of the species but excluded from Critical Habitat designation based on the development of the Western Riverside County MSHCP. A total of 68.30 acres of APN 472-170-021 within which the 4.70-acre Project Site is located has been designated as "Proposed Conservation" – HANS 2082, JPR 14-02-06-01.

REGIONAL CONNECTIVITY/WILDLIFE MOVEMENT CORRIDORS

Overview

Wildlife corridors link areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information (MacArthur and Wilson 1967; Soule 1987; Harris and Gallager 1989; Bennett 1990). Corridors effectively act as links between different populations of a species. A group of smaller populations (termed "demes") linked together via a system of corridors is termed a "metapopulation." The long-term health of each deme within the metapopulation is dependent upon its size and the frequency of interchange of individuals (immigration vs. emigration). The smaller the deme, the more important immigration becomes, because prolonged inbreeding with the same individuals can reduce genetic variability. Immigrant individuals that move into the deme from adjoining demes mate with individuals and supply that deme with new genes and gene combinations that increases overall genetic diversity. An increase in a population's genetic variability is generally associated with an increase in a population's health.

Corridors mitigate the effects of habitat fragmentation by:

(1) allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity;

(2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and

(3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Noss 1983; Fahrig and Merriam 1985; Simberloff and Cox 1987; Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A number of terms have been used in various wildlife movement studies, such as "wildlife corridor", "travel route", "habitat linkage", and

"wildlife crossing" to refer to areas in which wildlife moves from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this study, these terms are defined as follows:

Travel Route: A landscape feature (such as a ridge line, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another; it contains adequate food, water, and/or cover while moving between habitat areas; and provides a relatively direct link between target habitat areas.

Wildlife Corridor: A piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat or landscape linkages") can provide both transitory and resident habitat for a variety of species.

Wildlife Crossing: A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These are often "choke points" along a movement corridor.

Wildlife Movement within Project Site

The Project Site is located north of MHSCP proposed constrained Linkage 18 and the proposed action would not adversely affect wildlife movement within French Valley Creek. Because the Project Site is almost completely surrounded by MSHCP "Proposed Conservation" lands, all Urban/Wildlands Interface guidelines presented in Section 6.1.4 will be implemented as discussed below.

The following section has been based on previous results of focused MSHCP surveys, jurisdictional delineation, project design and continued coordination with the County EPD, RCA and regulatory agencies on meeting all MSHCP and regulatory objectives for the respective MSHCP Criteria Areas and resources documented onsite.

LOCAL

Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis

The proposed Project Site is located completely within the MSHCP, which is a comprehensive multi-jurisdictional effort that includes western Riverside County and eighteen (18) cities. Rather than addressing sensitive species on an individual basis, the MSHCP focuses on conservation of 146 species, including those listed at the federal and state levels and those that could become listed in the future. The MSHCP proposed a reserve system of approximate 500,000 acres, of which 347,000 acres are currently within public ownership and 153,000 acres will need to be assembled from lands currently in private ownership. The MHSCP allows the County and other permittees to issue take permits for listed species so that applicants do not need to receive endangered species incidental take authorization from the USFWS and CDFW.

On June 7th, 2003, the County Board of Supervisors adopted the MSHCP, certified the Environmental Impact Report/Environmental Impact Statement, and authorized the Chairman to sign the Implementing Agreement with the respective wildlife agencies. The Incidental Take Permit was issued by the wildlife agencies on June 22nd, 2004.

MSHCP Reserve Design & Criteria Area Objectives

Regions of the MHSCP have been organized into Area Plans that generally coincide with logical political boundaries, including city limits or long-standing unincorporated communities. The Project Site is located within the Southwest Area Plan and partially within two (2) Criteria Area Cells. Specifically, the Project Site is located within Cell 5278 Group S, and 5373 Group S – SU4 Cactus Valley/SWRC-MSR/Johnson Ranch as shown in Figure 2, *Project Site Map*.

Southwest Area Plan - Cell Group S

As stated by the MSHCP, conservation within the Southwest Area Plan Cell Group S will contribute to the assembly of Proposed Extension of Existing Core 7, Proposed Constrained Linkage 17 and Proposed Constrained Linkage 18 including focus on the conservation on chaparral, coastal sage scrub, grassland, riparian scrub, woodland, and forest habitats. (MSHCP 2004). Conservation within the Cell Group S - SU4 Cactus Valley/SWRC-MSR/Johnson Ranch will range from 65% - 75% of the Cell Group focusing in the eastern portion of the Cell Group. As summarized below, the Project Site is located primarily (with the exception of 8.62 acres located within independent Cell 5279) within the extreme western region of Cell Group S where no conservation

goals have been established. The MSHCP has targeted conservation within Cell Group S to the eastern region.

Cell 5278 S - SU4 Cactus Valley/SWRC-MSR/Johnson Ranch

The proposed action was reviewed for consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) by the following agencies:

- Riverside County Environmental Programs Division – HANS 2082
- MSHCP Regional Conservation Authority (RCA) – JPR 14-02-06-01
- Wildlife Agencies, United States Fish and Wildlife Service and California Department of Fish and Wildlife

A consistency determination was issued by the RCA for the Belle Terre Specific Plan No. 382, Planning Area 24 project including the proposed action (water tank development) on May 12th, 2014. As outlined in the MSHCP consistency determination, a total of 106.85-acres (including 68.30 acres within APN 472-170-021) will be dedicated as conservation land to the Regional Conservation Authority.

Cell 5373 S - SU4 Cactus Valley/SWRC-MSR/Johnson Ranch

The proposed action was reviewed for consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) by the following agencies:

- Riverside County Environmental Programs Division – HANS 2082
- MSHCP Regional Conservation Authority (RCA) – JPR 14-02-06-01
- Wildlife Agencies, United States Fish and Wildlife Service and California Department of Fish and Wildlife

A consistency determination was issued by the RCA for the Belle Terre Specific Plan No. 382, Planning Area 24 project including the proposed action (water tank development) on May 12th, 2014. As outlined in the MSHCP consistency determination, a total of 106.85-acres (including 68.30 acres within APN 472-170-021) will be dedicated as conservation land to the Regional Conservation Authority.

MSHCP Sensitive Species Surveys

None of the thirteen (13) MSHCP criteria area or narrow endemic plant species were detected and/or are not expected to occur onsite due to a lack of suitable habitat (Rick Riefner Associates 2012). The project is consistent with MSHCP Section 6.3.2.

Portions of the Project Site occur within a predetermined Survey Area for the burrowing owl. Based on the presence of suitable habitat documented during the habitat assessment within and adjacent to the Project Site, focused surveys were conducted during the spring of 2012. No burrowing owls were detected within or adjacent to the Project Site. At a minimum, a 30-day preconstruction survey will be conducted immediately prior to the initiation of construction to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP. The project is consistent with MSHCP Section 6.3.2.

The Project Site is not located within an MSHCP Amphibian or Mammal Species Survey Area; therefore, no surveys were required (RCA GIS Data Downloads 2020). The project is consistent with MSHCP Section 6.3.2.

Regulated activities within inland streams, wetlands and riparian areas in Western Riverside County, California fall under the jurisdiction of the MSHCP. The MSHCP requires, among other things, assessments for riparian/riverine and vernal pool resources. As projects are proposed within the MSHCP Plan Area, an assessment of the potentially significant effects of those projects on riparian/riverine areas, and vernal pools are required, as currently mandated by CEQA, using available information augmented by project-specific mapping provided to and reviewed by the permittee's biologist(s). Riparian/riverine areas and vernal pools are defined for this section as follows in accordance with Section 6.1.2, Vol. I, of the Final MSHCP Plan:

> "*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*." (MSHCP 2004)

It is assumed the first part of the definition defines riparian habitat, and the second part defines riverine areas. Vernal pools are defined as:

> "…*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*". (MSHCP 2004)

The Project Site was assessed to determine the presence/absence and extent of MSHCP riparian, riverine and vernal pool resources in accordance with the RCIP definition (Section 6.1.2, Volume I, Final MSHCP) in March 2012 (Cadre Environmental 2012a). No MSHCP Section 6.1.2 riparian, riverine or vernal pool resources are located within or adjacent to the Project Site. The project is consistent with MSHCP Section 6.1.2.

The fuels management guidelines presented in Section 6.4 of the MSHCP are intended to address brush management activities around new development within or adjacent to MSHCP Conservation Areas. The final project design will ensure that no fuel modification will extend into adjacent or proposed open space conservation lands. The project is consistent with MSHCP Section 6.4.

Stephens' Kangaroo Rat Habitat Conservation Plan

The Project Site is located completely within the Stephens' Kangaroo Rat (SKR) Habitat Conservation Plan (HCP) Fee Area which is administered by the Riverside County Habitat Conservation Agency (RCHCA). The SKR Fee is established at $500 per acre.

County of Riverside General Plan – Open Space and Conservation

As outlined below, the County of Riverside General Plan Land Use Element (Chapter 3) and Multipurpose Open Space Element (Chapter 5) Goals and Polices for the preservation and protection of critical open space and natural resources have been incorporated into the project design and mitigation approach.

Land Use Element – Chapter 3

Open Space, Habitat & Natural Resource Preservation

"*LU 8.1 Provide for permanent preservation of open space lands that contain important natural resources, hazards, water features, watercourses, and scenic and recreational values.*

LU 8.2 Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the General Plan and Federal and State regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act.

LU 8.3 Incorporate open space, community greenbelt separators, and recreational amenities into Community Development areas in order to enhance recreational opportunities and community aesthetics and improve the quality of life.

LU 8.4 Allow development clustering and/or density transfers in order to preserve open space, natural resources, and/or biologically sensitive resources.

LU 8.5 In conjunction with the CEQA review process, evaluate the potential for residential projects not located within existing parks and recreation districts or County Service Areas (CSAs) that provide for neighborhood and community park development and maintenance to be annexed to such districts or CSAs, and require such annexation where appropriate and feasible."

Open Space Area Plan Land Use Designations

"*LU 18.1 Require that structures be designed to maintain the environmental character in which they are located.*

LU 18.2 Cooperate with the California Department of Fish and Game (CDFG), United States Fish and Wildlife Service (USFWS), and any other

appropriate agencies in establishing programs for the voluntary protection, and where feasible, voluntary restoration of significant environmental habitats."

Watercourse Overlay

"*LU 29.1 Require that proposed projects on properties containing the Watercourse Overlay be reviewed for compliance with habitat, endangered species, flood control, and applicable area plan-specific design standards*."

Multipurpose Open Space Element - Chapter 5

Floodplain and Riparian Area Management

"*OS 5.1 Substantially alter floodways or implement other channelization only as a last resort, and limit the alteration to: that necessary for the protection of public health and safety only after all other options are exhausted; essential public service projects where no other feasible construction method or alternative project location exists; or projects where the primary function is improvement of fish and wildlife habitat.*

OS 5.2 If substantial modification to a floodway is proposed, design it to reduce adverse environmental effects to the maximum extent feasible, considering the following factors: stream scour; erosion protection and sedimentation; wildlife habitat and linkages; groundwater recharge capability; adjacent property; and design (a natural effect, examples could include soft riparian bottoms and gentle bank slopes, wide and shallow floodways, minimization of visible use of concrete, and landscaping with native plants to the maximum extent possible). A site specific hydrologic study may be required.

OS 5.3 Based upon site, specific study, all development shall be set back from the floodway boundary a distance adequate to address the following issues: public safety; erosion; riparian or wetland buffer; wildlife movement corridor or linkage; and slopes.

OS 5.4 Consider designating floodway setbacks for greenways, trails, and recreation opportunities on a case-by-case basis.

OS 5.5 New development shall preserve and enhance existing native riparian habitat and prevent obstruction of natural watercourses. Incentives shall be utilized to the maximum extent possible.

OS 5.6 Identify and, to the maximum extent possible, conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critical to the feeding, hibernation, or nesting of wildlife species associated with these wetland and riparian areas.

OS 5.7 Where land is prohibited from development due to its retention as natural floodways, floodplains and water courses, incentives should be available to the owner of the land including density transfer and other mechanisms as may be adopted. These incentives will be provided for the purpose of encouraging the preservation of natural water courses without creating undue hardship on the owner of properties following these policies."

Wetlands

"*OS 6.1 During the development review process, ensure compliance with the Clean Water Acts Section 404 in terms of wetlands mitigation policies and policies concerning fill material in jurisdictional wetlands.*

OS 6.2 Preserve buffer zones around wetlands where feasible and biologically appropriate. (AI 61).

OS 6.3 Consider wetlands for use as natural water treatment areas that will result in improvement of water quality."

Western Riverside County MSHCP Program Description

"OS 17.1 Enforce the provisions of applicable MSHCP's, if adopted, when conducting review of development applications.

OS 17.2 Enforce the provisions of applicable MSHCP's, if adopted when developing transportation or other infrastructure projects that have been designated as covered activities in the applicable MSHCP

OS 17.3 Enforce the provisions of applicable MSHCP's, if adopted when conducting review of possible general plan amendments and/or zoning changes.

OS 17.4 Require the preparation of biological reports in compliance with Riverside County Planning Department Biological Report Guidelines for development related uses that require discretionary approval to assess the impacts of such development and provide mitigation for impacts to biological resources until such time as the CVAG MSHCP and/or Western Riverside County MSHCP are adopted or should one or both MSHCP's not be adopted.

OS 17.5 Establish baseline ratios for mitigating the impacts of development related uses to rare, threatened and endangered species and their associated habitats to be used until such time as the CVAG MSHCP and/or Western Riverside County MSHCP are adopted or should one or both MSHCP's not be adopted.

Environmentally Sensitive Lands

"OS 18.1 Preserve multi-species habitat resources in the County of Riverside through the enforcement of the provisions of applicable MSHCP's, if adopted.

OS 18.2 Provide incentives to landowners that will encourage the protection of significant resources in the County beyond the preservation and/or conservation required to mitigate project impacts."

Interagency meetings were conducted with the County of Riverside EPD, RCA, and wildlife/jurisdictional agencies to ensure that all project elements including proposed project elements and mitigation are consistent with the provisions and goals of the MSHCP and County of Riverside General Plan Update (RCIP 2008).

County of Riverside Municipal Code

Chapter 4.62, MSHCP Mitigation Fee

The County of Riverside's Municipal Code identifies land use categories, development standards, and other general provisions that ensure consistency between the County General Plan and proposed development projects. As stated by the County of Riverside, the following are provisions within the Counties Municipal Code that are relevant to the proposed project.

"*Sec. 4.62.070 – Western Riverside County Multiple Species Habitat Conservation Plan mitigation fee. In order to assist in providing revenue to acquire and conserve lands necessary to implement the MSHCP, the Western Riverside County Multiple Species Habitat Conservation Plan mitigation fee shall be paid for each residential unit, development project or portion thereof to be constructed. Five categories of the fee are defined and include: (1) residential units, density less than 8.0 dwelling units per acre; (2) residential units, density between 8.1 and 14.0 dwelling units per acre; (3) residential, density greater than 14.1 dwelling units per acre; (4) commercial acreage; and (5) industrial acreage. Because there can be mixed traditional commercial, industrial and residential uses within the same project, for fee assessment purposes only, the commercial or industrial acreage fee shall be applied to the whole project based upon the existing underlying zoning classification of the property at the time of issuance of a building permit. Subject to an adjustment of the fee as set forth in Section 4.62.160 of this chapter, the following fee shall be paid for each development project within the boundaries of the Western Riverside County Multiple Species Habitat Conservation Plan fee area:"*

1. *Residential, density less than 8.0 dwelling units per acre $1,651 per dwelling unit;*

2. *Residential, density between 8.1 and 14.0 dwelling units per acre $1.057 per dwelling unit;*
3. *Residential, density greater than 14.1 dwelling units per acre $859 per dwelling unit;*
4. *Commercial $5,620 per acre;*
5. *Industrial $5,620 per acre.*

Sec. 4.62.090 – Imposition of Fees. Notwithstanding any provision of Ordinance No. 457 to the contrary, no building permit shall be issued for any residential unit or development project except upon the condition that the Western Riverside County Multiple Species Habitat Conservation Plan fee required by this chapter be paid.

Sec. 4.62.100 Payment of Fees. The fee shall be paid as follows:

- *The fee shall be paid in full at the time a certificate of occupancy is issued for the residential unit or development project or upon final inspection, whichever occurs first. No final inspection shall be made, and no certificate of occupancy shall be issued, prior to full payment of the Western Riverside County MSHCP Fee. However, this section shall not be construed to prevent payment of the fee prior to the issuance of an occupancy permit or final inspection.*

- *A fee shall be assessed one time per lot or parcel except in cases of changes in land use. The fee required to be paid when there is a change in land use shall be reduced by the amount of any previously paid fee for that property. No refunds shall be provided for changes in land use to a lower fee category. It shall be the responsibility of the applicant to provide documentation of any previously paid fee.*

- *The fee for commercial and industrial development projects shall be paid in its entirety for the project area and shall not be prorated. The fee required to be paid shall be the fee in effect at the time of payment.*

- *There shall be no deferment of the fee beyond final inspection or issuance of certificate(s) of occupancy.*

- *Notwithstanding any other written requirements to the contrary, the fee shall be paid whether or not the development project is subject to city conditions of approval imposing the requirement to pay the fee.*

- *If all or part of the development project is sold prior to payment of the fee, the project shall continue to be subject to the requirement to pay the fee as provided herein.*

- *For development projects which the city does not require a final inspection or issuance of a certificate of occupancy, the fee shall be paid prior to any use or occupancy.*

- *For purposes of this chapter, congregate care residential facilities and recreational vehicle parks shall pay the commercial acreage fee*."

Chapter 4.64, Stephens' Kangaroo Rat Mitigation Fee

"*4.64.060 Stephens' Kangaroo Rat Mitigation fee. All applicants for development permits within the boundaries of the fee assessment area who cannot satisfy mitigation requirements through on-site mitigation as determined through the environmental review process shall pay a mitigation fee of five hundred dollars ($500.00) per gross acre of the parcels proposed for development. However, for single-family residential development, wherein all lots within the development are greater than one-half acre in size, a mitigation fee of two hundred twenty-five dollars ($250.00) per residential unit shall be paid; and for agricultural development which requires a development permit excluding the construction of single-family residences in connection with the agricultural development, a mitigation fee of one hundred dollars ($100.00) or one percent of the valuation of the buildings to be constructed whichever is greater shall be paid, provided that at no time shall such fee exceed the amount required to be paid if a fee of five hundred dollars ($500.00) per gross acre were applied to the parcel proposed for agricultural development. The determination of value or valuation of an agricultural building shall be made by the building official.***"**

"*4.64.070 Imposition of fee. No development permit for real property located within the boundaries of the fee assessment area shall be issued or approved except upon the condition that on-site mitigation will be provided as determined through the environmental review process or the mitigation fee required by this chapter be paid, and it is determined that the development will not jeopardize the implementation of a habitat conservation plan for the Stephens' Kangaroo Rat*."

"*4.64.080 Payment of fee. The mitigation fee shall be paid upon issuance of a grading permit or a certificate of occupancy or upon final inspection, whichever occurs first. Payment of the mitigation fee shall satisfy county conditions of approval previously placed on development permits with regard to impact mitigation for the Stephens' Kangaroo Rat which have not been previously satisfied and no further review and approval pursuant to the provisions of this chapter shall be required….. The total number of surface acres of land within each phase shall be determined through a physical survey prepared by a licensed surveyor or registered civil engineer*.**"**

FEDERAL

Federal Endangered Species Act

The MSHCP serves as an HCP pursuant to Section 10(a)(1)(B) of the FESA of 1973, allowing participating jurisdictions to authorize "*take*" of plant and wildlife species. The MSHCP has been issued under this Section and provides incidental take for all covered species.

STATE

California Endangered Species Act

The CESA is similar to FESA in that it contains a process for listing of species regulating potential impacts to listed species. Section 2081 of the CESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes. The MSHCP serves as an HCP pursuant the Natural Communities Conservation Plan (NCCP) under the NCCP Act of 2001, allowing participating jurisdictions to authorize "take" of plant and wildlife species.

As stated by CDFW:

> "*On June 22, 2004, the Department issued NCCP Approval and Take Authorization for the Western Riverside County MSCHP per Section 2800 et seq. of the California Fish and Game Code. The MSHCP establishes a multiple species conservation program to minimize and mitigate habitat loss and the incidental take of covered species in association with activities covered under the permit*." (CDFG 2004)

Native Plant Protection Act

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates collection, transport, and commerce in plants that are listed. The CESA follows the NPPA and covers both plants and wildlife determined to be threatened with extinction or endangered. Plants listed as rare under the NPPA are designated as threated under the CESA.

The following sections include an analysis of the direct impacts, indirect impacts, and cumulative effects of the proposed action on sensitive biological resources. This analysis characterizes the project related activities that are anticipated to adversely impact the species, and when feasible, quantifies such impacts. Direct effects are defined as actions that may cause an immediate effect on the species or its habitat, including the effects of interrelated actions and interdependent actions. Indirect effects are caused by or result from the proposed actions, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the area directly affected by the proposed action.

Cumulative impacts refer to incremental, individual environmental effects of two or more projects when considered together. These impacts taken individually may be minor but may be collectively significant. Cumulative effects include future tribal, local, or private actions that are reasonably certain to occur in the proposal vicinity considered in this report. A cumulative impact to biological resources may occur if a project has the potential to collectively degrade the quality of the environment, substantially reduce the habitat of wildlife species or cause a population to drop below self-sustaining levels, thereby threatening to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal species.

THRESHOLD OF SIGNIFICANCE

The environmental impacts relative to biological resources are assessed using impact significance criteria which mirror the policy statement contained in the CEQA at Section 21001 (c) of the Public Resources Code. This section reflects that the legislature has established it to be the policy of the state to:

> "*Prevent the elimination of fish and wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities*…"

The following definitions apply to the significance criteria for biological resources:

- "*Endangered*" means that the species is listed as endangered under state or federal law.

- "*Threatened*" means that the species is listed as threatened under state or federal law.

- "*Rare*" means that the species exists in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens.

- "*Region*" refers to the area within southern California that is within the range of the individual species.

- "*Sensitive habitat*" refers to habitat for plants and animals (1) which plays a special role in perpetuating species utilizing the habitat on the property, and (2) without which there would be substantial danger that the population of that species would drop below self-perpetuating levels.

- "*Substantial effect*" means significance loss or harm of a magnitude which, based on current scientific data and knowledge, (1) would cause a species or a native plant or animal community to drop below self-perpetuating levels on a statewide or regional basis or (2) would cause a species to become threatened or endangered.

Impacts to biological resources may result in a significant adverse impact if one or more of the following conditions would result from implementation of the proposed project.

- Have a substantial adverse effect, either directly or through habitat modification, on any endangered, or threatened species, as listed in Tittle 14 of the California Code of Regulations (Sections 670.2 or 670.5) or Title 50, Code of Federal Regulations (Sections 17.11 or 17.12).

- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS, and meets the definition of Section 15380 (b), (c), or (d) of the CEQA Guidelines.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS.

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

- Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident migratory wildlife corridors or impede the use of native nursery sites.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state conservation plan.

Also, the determination of impacts has been made according to the federal definition of "*take*". FESA prohibits the "*taking*" of a member of an endangered or threatened wildlife species or removing, damaging, or destroying a listed plant species by any person (including private individuals and private or government entities). FESA defines "*take*" as "*to harass, harm, pursue, hunt, shoot, would, kill, trap, capture or collect*" an endangered or threatened species, or to attempt to engage in these activities.

DIRECT IMPACTS

Vegetation Communities

A total of 3.02 acres of onsite vegetation communities will be directly impacted as a result of project implementation as summarized in Table 4, *Vegetation Community Impacts,* and illustrated on Figure 7*, Vegetation Communities Impact Map*. Direct impacts to disturbed habitats would not result in significant impacts. However, impacts to 2.89 acres of Riversidean sage scrub habitat associations would be considered a significant impact. Impacts to all vegetation communities located within the Project Site will be mitigated to a level of less than significant by implementing Biological Mitigation and Avoidance Measures (BIO-MM1, BIO-MM2, and BIO-MM5)

Table 4 - Vegetation Community Impacts

Vegetation Community	Permanent Impacts (ac)	Open Space (ac)	Project Site (ac)
Riversidean Sage Scrub	2.89	1.58	4.47
Disturbed (Existing Dirt Road)	0.13	0.08	0.21
Riversidean Sage Scrub/Non-Native Grassland	0.00	0.02	0.02
TOTAL	**3.02**	**1.68**	**4.70**

Source: Cadre Environmental 2020.

Jurisdictional Resources

The Project Site was assessed to determine the presence/absence of jurisdictional features regulated by the United States Army Corps of Engineers, CDFW, and Santa Ana Regional Water Quality Control Board. No jurisdictional features are located within the Project Site. No mitigation is proposed.

Sensitive Plants

The proposed project would not impact any federal/state threatened or endangered plant species. None of the thirteen (13) MSHCP criteria area or narrow endemic plant species were detected and/or are not expected to occur onsite due to a lack of detection and/or suitable habitat (Rick Riefner Associates 2012). No mitigation is proposed.

Sensitive Wildlife

Nine (9) target MSHCP planning species including the federally endangered (least Bell's vireo) and federally threatened (coastal California gnatcatcher) were detected within the vicinity of the Project Site during focused 2012 survey programs as well as previous survey efforts. The federally endangered Stephens' kangaroo rat is also infrequently expected to occur onsite as previously described and outlined below.

Bell's sage sparrow – CWL. This species is expected to occur within the onsite Riversidean sage scrub habitat. Approximately 3-acre of Riversidean sage scrub habitat associations will be impacted.

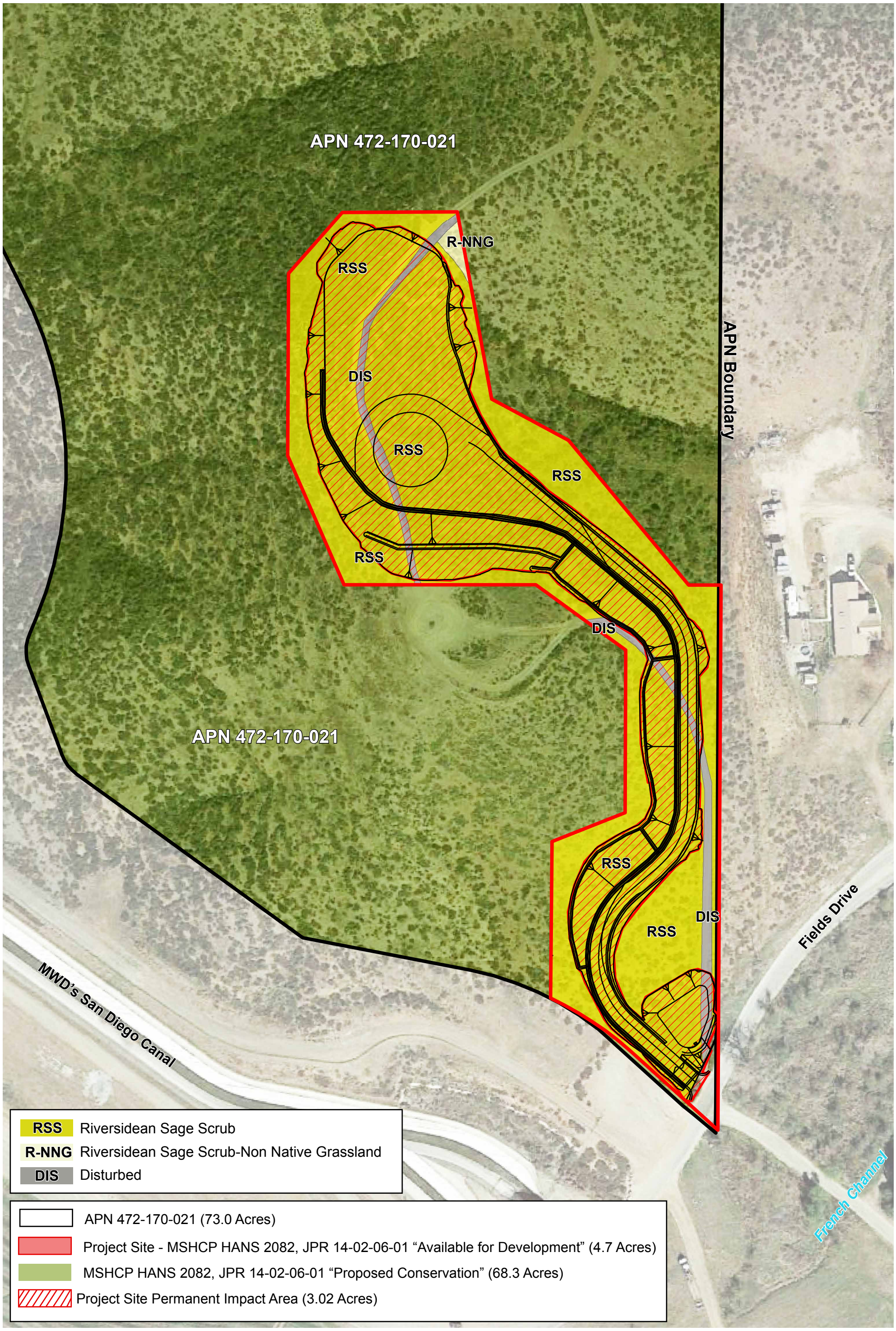

Figure 7 - Vegetation Communities Impact Map
Biological Resources Assessment Report
EMWD Belle Terre SP No. 382, PA24 Water Tank Project

CADRE Environmental

Coastal California gnatcatcher – FT, CSC. Six (6) pair of coastal California gnatcatchers were detected within the vicinity of the Project Site during the 2012 survey efforts. Approximately 3-acre of suitable habitat, Riversidean sage scrub will be impacted.

Grasshopper sparrow – CSC. This species is expected to occur within the onsite Riversidean sage scrub habitat. Approximately 3-acre of Riversidean sage scrub habitat associations will be impacted.

Least Bell's vireo FE/SE. Two (2) pairs of least Bell's vireo and a single male were detected within the riparian forest habitat (French Valley Creek) located south of the Project Site. The proposed action will not result in direct and/or indirect impacts to the species.

Southern California rufous-crowned sparrow – CWL. This species is expected to occur within the onsite Riversidean sage scrub habitat. Approximately 3-acre of Riversidean sage scrub habitat associations will be impacted.

Tree Swallow. This species was documented foraging within the riparian forest habitat located south of the Project Site within French Valley Creek. The proposed action will not result in direct and/or indirect impacts to the species.

Turkey vulture. Although no nesting was documented onsite, this species was commonly observed within the vicinity of the Project Site.

White-tailed kite – SFP. This species was documented foraging within the vicinity of the Project Site as well as perching within the riparian forest habitat that is located south of the Project Site. The proposed action will not result in direct and/or indirect impacts to the species.

Bobcat. This species was uncommonly documented within the vicinity of the Project Site and is expected to occasionally forage onsite. The proposed action will not result in direct and/or indirect impacts to the species.

Additional MSHCP covered species incidentally documented within the vicinity of the Project Site include:

- Western spadefoot - CSC
- Red-diamond rattlesnake – CSC
- Coast patch-nosed snake - CSC
- San Diego horned lizard – CSC
- Belding's orangethroat whiptail – CSC
- Coastal western whiptail – MSHCP Covered Species
- Loggerhead shrike – CSC
- Northern Harrier – CSC
- Sharp-shinned hawk - CWL
- Cooper's hawk - CWL
- Downy woodpecker

- Yellow-breasted chat – CSC
- California horned lark – CWL
- Yellow warbler – CSC
- San Diego black-tailed jackrabbit – CSC
- Coyote – MSHCP Covered Species
- Northwestern San Diego pocket mouse – CSC
- Stephens' kangaroo rat – FE/ST
  Dulzura kangaroo rat – MSHCP Covered Species
- San Diego desert woodrat - CSC
- Long-tailed weasel – MSHCP Covered Species
- Mountain lion – MSHCP Covered Species

Impacts to thirty-one (31) sensitive wildlife species (including three (3) federally listed species) documented or potentially expected to occur within the 2.89-acres of native vegetation communities modified as a result of project initiation represents a significant impact. Impacts to sensitive wildlife species would be reduced to less than significant with the implementation of Biological Mitigation and Avoidance Measures BIO-MM1 to BIO-MM5.

Implementation of the proposed project would not result in direct impacts to raptor nesting habitat. However, the Project Site possess vegetation expected to potentially provide nesting habitat for migratory birds protected under the CDFG Codes. Measures for potential direct/indirect impacts to common and sensitive nesting bird species will require compliance with the CDFG Code Section 3503. Construction outside the nesting season (between September 1st and February 15th) does not require preconstruction nesting bird surveys. However, if construction is proposed between February 16th and August 31st, a qualified biologist will conduct a preconstruction nesting bird survey(s) no more than three (3) days prior to initiation of grading to document the presence or absence of nesting birds within or directly adjacent (100 feet) to the Project Site. Loss of an active nest would be considered a potentially significant impact. Impacts to potential nesting birds would be reduced to less than significant with the implementation of Biological Mitigation and Avoidance Measure (BIO-MM4).

County of Riverside General Plan – Open Space and Conservation

Interagency meetings have been conducted with the County of Riverside EPD, RCA, and wildlife/jurisdictional agencies to ensure that all project elements including proposed project elements and mitigation are consistent with the provisions and goals of the MSHCP and County of Riverside General Plan Update (RCIP 2008).

County of Riverside Municipal Code

Implementation of the proposed project will be consistent with all provision of the County of Riverside Municipal Codes and objectives of the MSHCP and SKR Mitigation Fees following implementation of Biological Mitigation and Avoidance Measures BIO-MM1 and BIO-MM2.

Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis

As documented in the previous section, implementation of the proposed project will be consistent with all provisions, guidelines and objectives of the MSHCP following implementation of Biological Mitigation and Avoidance Measures BIO-MM1 to BIO-MM5.

INDIRECT IMPACTS

The Urban/Wildlands Interface guidelines presented in Section 6.1.4 of the MSHCP address indirect effects associated with locating residential developments in proximity to an MSHCP Conservation Area. Although the action does not propose "residential development", the Project Site is located adjacent to MSHCP "Proposed Conservation" land and Urban/Wildlands Interface guidelines will be implemented as Conditions of Approval for the 4.70-acre Project Site. Compliance with all the following MSHCP Urban/Wildlands Interface guidelines will ensure that the proposed project will not result in significant indirect impacts to downstream resources.

Water Quality/Hydrology

The project will comply with all applicable water quality regulations, including obtaining and complying with those conditions established in WDRs and a National Pollutant Discharge Elimination System (NPDES) permits. Both of these permits include the treatment of all surface runoff from paved and developed areas, the implementation of applicable Best Management Practices (BMPs) during construction activities and the installation and proper maintenance of structural BMPs to ensure adequate long-term treatment of water before entering into any stream course or offsite conservation areas.

Toxics

Storm water treatment systems will be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant material, or other elements that could degrade or harm downstream biological or aquatic resources. In order to mitigate for the potential effects of these toxics, the project will incorporate structural BMPs, as required in association with compliance with WDRs and the NPDES permit system, in order to reduce the level of toxins introduced into the drainage system and the surrounding areas.

The Project also includes a detention basin. This detention basin will capture the stormwater runoff generated from the paved areas of the site, as well as overflows from the tank. The basin will have a holding capacity of approximately 3,700 cubic feet (CF). The detention basin will provide water quality treatment to the onsite runoff through the mechanisms of infiltration and evapo-transpiration. The basin will be equipped with a restrictive outlet that will release flow slowly over a rip-rap apron to sheet flow over Fields Drive. An emergency concrete spillway will also be included. Any runoff beyond the capacity of the basin will sheet flow over Fields Drive into the existing natural wash south of Fields Drive, which is outside the Project area. The Project will also include a concrete-lined flat bottom ditch along the cut slope to collect runoff from the cut slope to

drain to Fields Drive and flow via sheet flow to the natural wash. Fields Drive will be concrete-capped where runoff will flow. no significant impacts are anticipated.

Lighting

Night lighting associated with the proposed development that is adjacent to existing or proposed Conservation Areas would be directed away to reduce potential indirect impacts to wildlife species. No significant impacts are anticipated.

Noise

Because the proposed project development will not result in noise levels that exceed residential, commercial or mixed use noise standards established for Riverside County, wildlife within proposed open space habitats will not be subject to noise that exceeds these established standards. Short-term construction-related noise impacts will be reduced by the implementation of the following:

- During all Project Site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project Site.

- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the Project Site during all project construction.

- The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours to be determined by Riverside County staff.

- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.

No significant impacts are anticipated.

Invasive Species

Any proposed landscape plan for the Project Site shall avoid the use of invasive species for the portions of the development adjacent to the open space areas. Invasive plants that should be avoided are included in Table 6-2 of the MSHCP, *Plants That Should Be Avoided Adjacent to the MSHCP Conservation Area*. No significant impacts are anticipated.

The above measures would serve to minimize adverse project effects on conservation configurations and would minimize management challenges that can arise during development located adjacent to open space and/or conservation habitat. The project

design and BMPs incorporated into the proposed project will address and minimize edge effects associated with the Urban/Wildlands interface.

All Urban/Wildlands Interface guidelines presented in Section 6.1.4 of the MSHCP are intended to address indirect effects associated with locating residential developments in proximity to an MSHCP Conservation Area will be implemented. Implementation of all Urban/Wildlands Interface guidelines will minimize adverse project indirect impacts and is consistent with MSHCP Section 6.1.4.

CUMULATIVE IMPACTS

The temporary direct and/or indirect impacts of the project would not result in significant cumulative impacts (CEQA Section 15310) to environmental resources within the region of the Project Site. Cumulative impacts refer to incremental effects of an individual project when assessed with the effects of past, current, and proposed projects. Although the project would result in the loss of 2.89 acres of scrub lands, the MSHCP was developed to address the comprehensive regional planning effort and anticipated growth in the County of Riverside. The proposed project has been designed and mitigated to remain in compliance with all MSHCP conservation goals and guidelines and therefore will not result in an adverse cumulative impact.

The following biological mitigation and avoidance measures address those adverse impacts determined to be potentially significant or are relevant to the protection of biological resources to the extent practicable as part of ensuring compliance and consistency with all MSHCP conservation goals and guidelines.

BIO-MM1 MSHCP Local Development Mitigation Fee

The project applicant shall pay MSHCP Local Development Mitigation Fees as established and implemented by the County of Riverside.

BIO-MM2 SKR Fee Area

The Project Site falls within the SKR Fee Area outlined in the Riverside County SKR HCP. The project applicant shall pay the fees pursuant to County Ordinance 663.10 for the SKR HCP Fee Assessment Area as established and implemented by the County of Riverside.

BIO-MM3 Burrowing Owl 30-Day Preconstruction Surveys

A 30-day burrowing owl preconstruction survey will be conducted immediately prior to the initiation of ground-disturbing construction to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP. The survey will be conducted in compliance with both MSHCP and CDFW guidelines (County of Riverside 2006, CDFG 2012). A report of the findings prepared by a qualified biologist shall be submitted to the County of Riverside prior to any permit or approval for ground disturbing activities.

If burrowing owls are detected onsite during the 30-day preconstruction survey, during the breeding season (February 1st to August 31st) then construction activities shall be limited to beyond 300 feet of the active burrows until a qualified biologist has confirmed that nesting efforts are complete or not initiated. In addition to monitoring breeding activity, if during the breeding season, a burrowing owl mitigation plan will be developed based on the County of Riverside Environmental Programs Division, CDFW and USFWS requirements for the active relocation of individuals to the Lake Mathews Preserve.

BIO-MM4 Nesting Bird CDFG Code Compliance

Potential direct/indirect impacts on common and MSHCP covered sensitive bird and raptor species will require compliance with CDFG Code Sections 3503, 3503.5, and 3513. Construction outside the nesting season (between September 16th and January 31st do not require pre-removal nesting bird surveys. If construction is proposed between February 1st and September 15th, a qualified biologist must conduct a nesting bird survey(s) no more than three (3) days prior to initiation of grading to document the presence or absence of nesting birds within or directly adjacent (100 feet) to the Project Site.

The survey(s) would focus on identifying any bird or raptor nests that would be directly or indirectly affected by construction activities. If active nests are documented, species-specific measures shall be prepared by a qualified biologist and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of a nest shall be deterred until the young birds have fledged. A minimum exclusion buffer of 100 feet shall be maintained during construction, depending on the species and location. The perimeter of the nest setback zone shall be fenced or adequately demarcated with stakes and flagging at 20-foot intervals, and construction personnel and activities restricted from the area. A survey report by a qualified biologist verifying that no active nests are present, or that the young have fledged, shall be submitted to the County of Riverside EPD for review and approval prior to initiation of grading in the nest-setback zone. The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur. Any nest permanently vacated for the season would not warrant protection pursuant to the CDFG Codes.

BIO-MM5 MSHCP Proposed Conservation Area (APN 472-170-021)

In the event the proposed action is initiated prior to issuance of a grading permit respective of the Belle Terre Specific Plan No. 382 project, the project applicant will provide the RCA with fee title/ownership and management responsibilities for 68.30-acres of MSHCP Proposed Conservation Area within APN 472-170-021 as illustrated in the updated proposed HANS 2082 designated by the County of Riverside EPD as illustrated on Figure 2, *Project Site Map*.

Implementation Biological Mitigation and Avoidance Measures BIO-MM1 through BIO-MM5 would reduce all potential significant unavoidable impacts on biological resources below a level of significance.

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Certification "*I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge.*

Author:  Date: September 22nd, 2020

APPENDIX A

BELLE TERRE PROJECT – 2012 FLORAL/FAUNAL COMPENDIUM

(*) asterisk indicates a non-native species

ANGIOSPERMAE - FLOWERING PLANTS
DICOTYLEDONES - DICOTS

AMARANTHACEAE - AMARANTH FAMILY
(including CHENOPODIACEAE - GOOSEFOOT FAMILY)

Amaranthus albus L. TUMBLING PIGWEED.
Amaranthus retroflexus L. ROUGH PIGWEED.
Atriplex semibaccata R. Br. AUSTRALIAN SALTBUSH.
Atriplex serenana Nelson var. ***serenana*** BRACTED SALTSCALE.
Atriplex suberecta I. Verd. SERRATE-LEAVED SALTBUSH.
Bassia hyssopifolia (Pallas) Kuntze FIVE-HOOK BASSIA.
Chenopodium album L. LAMB'S QUARTERS.
Chenopodium ambrosioides L. MEXICAN-TEA.
Chenopodium murale L. NETTLE-LEAVED GOOSEFOOT.
Salsola australis R. Br. SOUTHERN THISTLE.

ANACARDIACEAE - SUMAC FAMILY

Schinus molle L. PERUVIAN PEPPER TREE.

APIACEAE (UMBELLIFERAE) - CARROT FAMILY

Apium graveolens L. COMMON CELERY.
Lomatium utriculatum (Nutt.) J. Coulter & Rose. COMMON LOMATIUM.

ASTERACEAE (COMPOSITAE) - SUNFLOWER FAMILY

Ambrosia psilostachya DC. var. ***californica*** (Rydb.) Blake WESTERN RAGWEED.
Artemisia californica Less. COASTAL SAGEBRUSH.
Artemisia douglasiana Besser DOUGLAS' or CALIFORNIA MUGWORT.
Artemisia dracunculus L. DRAGON SAGEWORT or TARRAGON.
Aster subulatus Michx. var. ***ligulatus*** Shinners [*A. exilis* Ell.] SLENDER ASTER.
Baccharis pilularis DC. subsp. ***consanguinea*** (DC.) C.B. Wolf. COYOTE BRUSH or CHAPARRAL BROOM.
Baccharis emoryi A. Gray EMORY'S BACCHARIS.
Baccharis salicifolia (Ruiz Lopez & Pavon) Pers. [*B. glutinosa* Pers.] MULE FAT.
Centaurea melitensis L. TOCALOTE.
Chamomilla suaveolens (Pursh) Rydb. [*Matricaria matricarioides* (Less.) Porter] COMMON PINEAPPLE WEED.
Cirsium vulgare (Savi) Ten. BULL THISTLE.
Conyza canadensis (L.) Cronq. COMMON HORSEWEED.
Conyza floribunda Kunth. ASTHMAWEED.
Corethrogyne filaginifolia var. ***virgata*** (Benth.) A. Gray [*Lessingia f.* (Hook. & Arn.) M.A. Lane var. *filaginifolia*] VIRGATE SAND ASTER.

Deinandra fasciculata (DC.) E. Greene [*Hemizonia fasciculata* (DC.) Torr. & A. Gray, *H. ramosissima* Benth.] FASCICLED TARPLANT.
Deinandra paniculata (A. Gray) Davids. & Moxley [*Hemizonia p.* A. Gray] PANICULATE TARPLANT.
Ericameria palmeri (Hall) Hall var. ***pachylepis*** (Hall) Nesom [*Haplopappus palmeri* A. Gray subsp. *pachylepis* Hall] GRASSLAND GOLDENBUSH.
****Filago gallica*** L. NARROW-LEAVED FILAGO.
****Gnaphalium luteo-album*** L. WEEDY CUDWEED.
Gutierrezia californica (DC.) Torr. & A. Gray [*G. bracteata* Abrams] CALIFORNIA MATCHWEED.
Helianthus annuus L. [*H. a.* subsp. *lenticularis* (Douglas) Ckll.] WESTERN SUNFLOWER.
Heterotheca grandiflora Nutt. TELEGRAPH WEED.
****Hypochaeris glabra*** L. SMOOTH CAT'S EAR.
****Lactuca serriola*** L. PRICKLY or WILD LETTUCE.
Pluchea odorata (L.) Cass. [*P. purpurascens* (Sw.) DC.] SALT MARSH FLEABANE.
****Senecio vulgaris*** L. COMMON GROUNDSEL.
****Sonchus oleraceus*** L. COMMON SOW-THISTLE.
Stephanomeria exigua Nutt. subsp. ***deanei*** (Macbr.) Gottlieb [*S. e*. var. *deanei* Macbr.] DEAN'S WREATH-PLANT.
Stylocline gnaphaloides Nutt. EVERLASTING NEST-STRAW.
****Silybum marianum*** (L.) Gaertn. MILK THISTLE.
Xanthium strumarium L. var. ***canadense*** (Mill.) Torr. & A. Gray COCKLEBUR.

BORAGINACEAE - BORAGE FAMILY

Amsinckia menziesii (Lehm.) Nelson & J.F. Macbr. var. ***intermedia*** (Fischer & C. Meyer) Ganders [*A. intermedia* Fischer & C. Meyer] COMMON FIDDLENECK.
Heliotropium curassavicum L. subsp. ***oculatum*** (Heller) Thorne [*H. c.* var. *o.* (Heller) I.M. Johnston] SALT or ALKALI HELIOTROPE.

BRASSICACEAE (CRUCIFERAE) - MUSTARD FAMILY

****Capsella bursa-pastoris*** (L.) Medikus SHEPHERD'S PURSE.
****Coronopus didymus*** (L.) Smith [*Lepidium d.* (L.) Smith] LESSER WORT-CRESS.
****Hirschfeldia incana*** (L.) Lagr.-Fossat SHORTPOD or SUMMER MUSTARD.
****Lepidium latifolium*** L. BROAD-LEAVED PEPPERGRASS.
Lepidium nitidum Torr. & A. Gray var. ***nitidum*** SHINING PEPPERGRASS.
****Raphanus sativus*** L. WILD RADISH.
Rorippa nasturtium-aquaticum (L.) Hayek [*Nasturtium officinale* R. Br.] WHITE WATER-CRESS.
****Sisymbrium irio*** L. LONDON ROCKET.

CACTACEAE - CACTUS FAMILY

****Opuntia ficus-indica*** (L.) Miller INDIAN FIG.

CARYOPHYLLACEAE - PINK FAMILY

Polycarpon tetraphyllum (L.) L. FOUR-LEAVED POLYCARP.
Silene gallica L. WINDMILL PINK or COMMON CATCHFLY.
Spergularia bocconei (Scheele) Merino BOCCONE'S SAND SPURRY.

CONVOLVULACEAE - MORNING-GLORY FAMILY

Convolvulus arvensis L. FIELD BINDWEED.

CRASSULACEAE - STONECROP FAMILY

Crassula connata (Ruiz Lopez & Pavon) Berger [*C. erecta* (Hook. & Arn.) Berger] SAND PIGMY-STONECROP.
Dudleya lanceolata (Nutt.) Britton & Rose LANCE-LEAVED, COASTAL DUDLEYA or LIVE-FOREVER.

CUCURBITACEAE - GOURD FAMILY

Cucurbita foetidissima Kunth CALABAZILLA.

EUPHORBIACEAE - SPURGE FAMILY

Euphorbia albomarginata Torr. & A. Gray [*Chamaesyce a.* (Torr. & A. Gray) Small] RATTLESNAKE SPURGE.
Euphorbia polycarpa Benth. var. ***polycarpa*** [*Chamaesyce polycarpa* (Benth.) Millsp.] GOLONDRINA or SMALL-SEED SANDMAT.

FABACEAE (LEGUMINOSAE) - PEA FAMILY

Lotus scoparius (Nutt.) Ottley DEERWEED.
Lotus strigosus (Nutt.) E. Greene var. ***strigosus*** STRIGOSE LOTUS.
Lotus unifoliolatus (Hook.) Benth. [*L. purshianus* (Benth.) Clements & E.G. Clements var. *p.*] SPANISH CLOVER.
Lupinus succulentus Koch ARROYO LUPINE.
Medicago polymorpha L. BUR-CLOVER.
Melilotus alba Medikus [*M. a*. Desr. of auth.] WHITE SWEET-CLOVER.
Melilotus indica (L.) All. SOURCLOVER.
Trifolium hirtum All. ROSE CLOVER.

GERANIACEAE - GERANIUM FAMILY

Erodium brachycarpum (Godron) Thell. SHORT-FRUITED FILAREE
Erodium cicutarium (L.) L'Her. RED-STEMMED FILAREE.

LAMIACEAE (LABIATAE) - MINT FAMILY

Salvia apiana Jepson WHITE SAGE.
Salvia columbariae Benth. CHIA.
Stachys rigida subsp. ***rigida*** [*S. ajugoides* Benth. var. *rigida* Jepson & Hoover, in part] RIGID HEDGE-NETTLE.

MALVACEAE - MALLOW FAMILY

Malacothamnus densiflorus (S. Watson) E. Greene MANY-FLOWERED BUSHMALLOW.
****Malva parviflora*** L. CHEESEWEED.
Malvella leprosa (Ortega) Krapov. ALKALI-MALLOW.

MYRTACEAE - MYRTLE FAMILY

****Eucalyptus camaldulensis*** Dehnh. RIVER RED GUM.
****Eucalyptus* sp.** GUM.

NYCTAGINACEAE - FOUR-O'CLOCK FAMILY

Mirabilis laevis (Benth.) Curran [*M. californica* A. Gray] CALIFORNIA WISHBONE BUSH.

ONAGRACEAE - EVENING PRIMROSE FAMILY

Camissonia californica (Torr. & A. Gray) Raven CALIFORNIA FALSE-MUSTARD.
Clarkia purpurea (Curtis) Nelson & J.F. Macbr. subsp. ***quadrivulnera*** (Douglas) Harlan Lewis & M. Lewis FOUR-SPOT CLARKIA.
Epilobium ciliatum Raf. GREEN WILLOW-HERB.

PHRYMACEAE – HOPESEED AND MONKEYFLOWER FAMILY

Mimulus guttatus DC. SEEP MONKEY FLOWER.

PLANTAGINACEAE - PLANTAIN FAMILY
(including parts of SCROPHULARIACEAE - FIGWORT FAMILY)

Antirrhinum coulterianum Benth. WHITE SNAPDRAGON.
Plantago erecta E. Morris CALIFORNIA PLANTAIN.
****Plantago lanceolata*** L. ENGLISH PLANTAIN or RIB-GRASS.
Veronica peregrina L. subsp. ***xalapensis*** (Kunth) Pennell MEXICAN SPEEDWELL.

POLEMONIACEAE - PHLOX FAMILY

Gilia angelensis V. Grant LOS ANGELES GILIA.

POLYGONACEAE - BUCKWHEAT FAMILY

Eriogonum fasciculatum subsp. ***foliolosum*** (Nutt.) Stokes INTERIOR CALIFORNIA BUCKWHEAT.
****Polygonum arenastrum*** Boreau [incl. *P. aviculare* L., of Calif. refs.] COMMON KNOTWEED.
Polygonum lapathifolium L. WILLOW SMARTWEED.
****Rumex crispus*** L. CURLY DOCK.
Rumex maritimus L. GOLDEN DOCK.

PORTULACACEAE - PURSLANE FAMILY

Calandrinia ciliata (Ruiz Lopez & Pavon) DC. [Incl. *C. c.* var. *menziesii* (Hook.) J.F. Macbr.] RED MAIDS.
****Portulaca oleracea*** L. COMMON PURSLANE.

PRIMULACEAE - PRIMROSE FAMILY

Anagallis arvensis L. SCARLET PIMPERNEL.

PUNIACEAE – POMEGRANATE FAMILY

Punica granatum L. POMEGRANATE.

RANUNCULACEAE - CROWFOOT FAMILY

Delphinium parryi A. Gray subsp. ***parryi*** PARRY'S LARKSPUR.

RUBIACEAE - MADDER FAMILY

Galium angustifolium Nutt. subsp. ***angustifolium*** NARROW-LEAVED BEDSTRAW.

SALICACEAE - WILLOW FAMILY

Populus fremontii S. Watson subsp. ***fremontii*** WESTERN COTTONWOOD.
Salix laevigata Bebb RED WILLOW.
Salix lasiolepis Benth. var. ***lasiolepis*** ARROYO WILLOW.

SAURURACEAE - LIZARD-TAIL FAMILY

Anemopsis californica (Nutt.) Hook. & Arn. YERBA MANSA.

SAXIFRAGACEAE - SAXIFRAGE FAMILY

Jepsonia parryi (Torr.) Small COAST JEPSONIA.

SOLANACEAE - NIGHTSHADE FAMILY

Datura wrightii Regel [*D. meteloides* A. DC.] JIMSONWEED.
Nicotiana glauca Grah. TREE TOBACCO.
Solanum americanum Miller [*S. nodiflorum* Jacq.] WHITE NIGHTSHADE.

TAMARICACEAE - TAMARISK FAMILY

Tamarix ramosissima Ledeb. MEDITERRANEAN TAMARISK.

URTICACEAE - NETTLE FAMILY

Urtica dioica L. subsp. ***holosericea*** (Nutt.) Thorne [*U. holosericea* Nutt.] STINGING OR HOARY NETTLE.

VERBENACEAE - VERVAIN FAMILY

Verbena lasiostachys Link var. ***lasiostachys*** WESTERN VERBENA.

MONOCOTYLEDONES - MONOCOTS

CYPERACEAE - SEDGE FAMILY

Carex praegracilis W. Boott CLUSTERED FIELD SEDGE.
Cyperus eragrostis Lam. TALL UMBRELLA-SEDGE.
Eleocharis parishii Britton PARISH'S SPIKE-RUSH.
Scirpus maritimus L. ALKALI BULRUSH.

JUNCACEAE - RUSH FAMILY

Juncus arcticus var. ***mexicanus*** (Willd.) Traut. [*J. mexicanus* Willd.] MEXICAN RUSH.

Juncus bufonius L. var. ***bufonius*** COMMON TOAD RUSH.

POACEAE - GRASS FAMILY

****Avena fatua*** L. WILD OAT.

****Bromus hordeaceus*** L. [*B. mollis* L.] SOFT CHESS.

****Bromus diandrus*** Roth COMMON RIPGUT GRASS.

****Bromus madritensis*** subsp. ***rubens*** (L.) Husnot [*B. rubens* L.] FOXTAIL CHESS or RED BROME.

****Cynodon dactylon*** (L.) Pers. BERMUDA GRASS.

Distichlis spicata (L.) E. Greene [Incl. *D. s.* subsp. *stricta* (Torr.) Thorne] SALT GRASS.

Elymus triticoides Buckl. [*Leymus t.* (Buckl.) Pilger] BEARDLESS WILD-RYE.

****Hordeum murinum*** subsp. ***leporinum*** (Link) Arcangeli [*H. leporinum* Link] HARE BARLEY or FOXTAIL BARLEY.

****Hordeum vulgare*** L. [Incl. *H. v.* var. *trifurcatum* (Schltdl.) Alef.] CULTIVATED BARLEY.

****Lamarckia aurea*** (L.) Moench GOLDENTOP.

****Lolium perenne*** L. [*Lolium multiflorum* Lam.] ENGLISH or PERENNIAL RYEGRASS.

Melica frutescens Scribner TALL MELIC GRASS.

****Poa annua*** L. ANNUAL BLUEGRAS.

****Polypogon monspeliensis*** (L.) Desf. ANNUAL BEARD GRASS.

****Schismus barbatus*** (L.) Thell. MEDITERRANEAN SCHISMUS.

Stipa lepida A. Hitchc. [*Nassella l.* (A. Hitchc.) Barkworth] FOOTHILL NEEDLEGRASS.

Stipa pulchra A. Hitchc. [*Nassella p.* (A. Hitchc.) Barkworth] PURPLE NEEDLEGRASS.

****Vulpia myuros*** (L.) K.C. Gmelin FOXTAIL FESCUE.

THEMIDACEAE - BRODIAEA FAMILY

Bloomeria crocea (Torr.) Cov. COMMON GOLDENSTAR.

Dichelostemma pulchellum (Salisb.) A.A. Heller var. ***pulchellum*** [*D. capitatum* Alph. Wood subsp. *c*.] BLUE-DICKS.

TYPHACEAE - CATTAIL FAMILY

Typha domingensis Pers. SOUTHERN CATTAIL.

REPTILES

	Scientific Name	Common Name
	Iguanidae	**Iguanid Lizards**
	Sceloporus occidentalis biseriatus	Great Basin fence lizard
	Uta stansburiana	side-blotched lizard
	Colubridae	**Colubrid Snakes**
	Pituophis cantenifer annectens	San Diego gopher snake

BIRDS

	Scientific Name	Common Name
	Anatidae	**Waterfowl**
	Anas platyrhynchos	mallard
	Cathartidae	**New World Vultures**
	Cathartes aura	turkey vulture
	Accipitridae	**Hawks**
SFP	*Elanus leucurus*	white-tailed kite
CSC	*Accipiter cooperii*	Cooper's hawk
	Buteo lineatus	red-shouldered hawk
	Buteo jamaicensis	red-tailed hawk
	Falconidae	**Falcons**
	Falco sparverius	American kestrel
	Phasianidae	**Pheasants and Quails**
	Callipepla californica	California quail
	Charadriidae	**Plovers**
	Charadrius vociferus	killdeer

* = Non-native Species

O = Observed Onsite, P = Potentially Present

FE-Federally Endangered, FT-Federally Threatened

SE-State Endangered, ST-State Threatened,

CSC- California Species of Special Concern, SFP – State Fully Protected

BIRDS

	Scientific Name	Common Name
	Columbidae	**Pigeons and Doves**
	**Columba livia*	rock dove
	**Streptopelia decaocto*	Eurasian-collared dove
	Zenaida macroura	mourning dove
	Cuculidae	**Cuckoos and Roadrunners**
	Geococcyx californianus	greater roadrunner
	Tytonidae	**Barn Owls**
	Tyto alba	barn owl
	Strigidae	**True Owls**
	Bubo virginianus	great horned owl
	Trochilidae	**Hummingbirds**
	Archilochus alexandri	black-chinned hummingbird
	Calypte anna	Anna's hummingbird
	Calypte costae	Costa's hummingbird
	Selasphorus rufus	rufous hummingbird
	Selasphorus sasin	Allen's hummingbird
	Picidae	**Woodpeckers**
	Picoides nuttallii	Nuttall's woodpecker
	Picoides pubescens	downy woodpecker
	Colaptes auratus	northern flicker
	Tyrannidae	**Tyrant Flycatchers**
	Contopus sordidulus	western wood-pewee
FE/SE	*Empidonax traillii* ssp.	willow flycatcher
	Empidonax difficilis	Pacific-slope flycatcher

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BIRDS

	Scientific Name	**Common Name**
	Sayornis nigricans	black phoebe
	Sayornis saya	Say's phoebe
	Myiarchus cinerascens	ash-throated flycatcher
	Tyrannus vociferans	Cassin's kingbird
	Tyrannus verticalis	western kingbird
	Hirundinidae	**Swallows**
	Hirundo rustica	barn swallow
	Tachycineta bicolor	tree swallow
	Tachycineta thalassina	violet-green swallow
	Stelgidopteryx serripennis	northern rough-winged swallow
	Petrochelidon pyrrhonota	cliff swallow
	Corvidae	**Jays and Crows**
	Aphelocoma californica	western scrub-jay
	Corvus brachyrhynchos	American crow
	Corvus corax	common raven
	Aegithalidae	**Bushtits**
	Psaltriparus minimus	bushtit
	Troglodytidae	**Wrens**
	Thryomanes bewickii	Bewick's wren
	Troglodytes aedon	house wren
	Sylvidae	**Old World Warblers, Gnatcatchers**
	Polioptila caerulea	blue-gray gnatcatcher
FT CSC	*Polioptila californica californica*	coastal California gnatcatcher

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BIRDS

	Scientific Name	Common Name
	Turdidae	**Thrushes**
	Catharus guttatus	hermit thrush
	Sialia mexicana	western bluebird
	Muscicapidae	**Wrentits**
	Chamaea fasciata	wrentit
	Mimidae	**Thrashers**
	Mimus polyglottos	northern mockingbird
	Toxostoma redivivum	California thrasher
	Ptilogonatidae	**Silky Flycatchers**
	Phainopepla nitens	phainopepla
	Sturnidae	**Starlings**
	**Sturnus vulgaris*	European starling
	Vireonidae	**Vireos**
FE **SE**	*Vireo bellii pusillus*	least Bell's vireo
	Vireo gilvus	warbling vireo
	Porulidae	**Wood Warblers**
	Vermivora celata	orange-crowned warbler
CSC	*Setophaga petechia*	yellow warbler
	Dendroica coronata	yellow-rumped warbler
	Dendroica townsendi	Townsend's warbler
	Geothlypis trichas	common yellowthroat
	Wilsonia pusilla	Wilson's warbler
CSC	*Icteria virens*	yellow-breasted chat

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BIRDS

	Scientific Name	Common Name
	Cardinalidae	**Cardinals**
	Pheucticus melanocephalus	black-headed grosbeak
	Guiraca caerulea	blue grosbeak
	Emberizidae	**Emberizids**
	Pipilo crissalis	California towhee
	Pipilo maculatus	spotted towhee
CSC	*Aimophila ruficeps canescens*	Southern California rufous-crowned sparrow
	Spizella breweri	Brewer's sparrow
	Chondestes grammacus	lark sparrow
	Melospiza melodia	song sparrow
	Zonotrichia leucophrys	white-crowned sparrow
	Junco hyemalis	dark-eyed junco
	Icteridae	**Blackbirds**
	Agelaius phoeniceus	red-winged blackbird
	Sturnella neglecta	western meadowlark
	Euphagus cyanocephalus	Brewer's blackbird
	Molothrus ater	brown-headed cowbird
	Icterus bullockii	Bullock's oriole
	Icterus cucullatus	hooded oriole
	Fringillidae	**Finches**
	Haemorhous mexicanus	house finch
	Spinus psaltria	lesser goldfinch
	Spinus tristis	American goldfinch

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BIRDS

	Scientific Name	Common Name
	Passeridae	**Old World Sparrows**
	**Passer domesticus*	house sparrow

MAMMALS

	Scientific Name	Common Name
	Leporidae	**Hares and Rabbits**
CSC	*Lepus californicus bennettii*	San Diego black-tailed jackrabbit
	Sylvilagus audubonii	desert cottontail
	Sciuridae	**Squirrels**
	Otospermophilus beecheyi	California ground squirrel
	Geomyidae	**Pocket Gophers**
	Thomomys bottae	Botta's pocket gopher
	Canidae	**Wolves and Foxes**
	Canis latrans	coyote
	**Canis familiaris*	domestic dog
	Procyonidae	**Raccoons**
	Procyon lotor	raccoon
	Mustelidae	**Weasels, Skunks, and Otters**
	Mustela frenata	long-tailed weasel
	Felidae	**Cats**
	Felis (Lynx) rufus	bobcat

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Contact: Ruben S. Ramirez, Jr. 949-300-0212, r.ramirez@cadreenvironmental.com

Appendix D:

Cultural Resources

PHASE I CULTURAL RESOURCES SURVEY OF 274.77 ACRES FOR THE BELLE TERRE PROJECT, SPECIFIC PLAN 00382, FRENCH VALLEY AREA, RIVERSIDE COUNTY, CALIFORNIA

USGS Winchester and Bachelor Mtn, CA 7.5' Quadrangles

Submitted to:
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December 2012

Keywords: Auld Valley/French Valley region; Specific Plan 00382; APNs 476-010-040, 476-010-045, 472-170-001, 472-180-001, and 472-200-002; approximately 270 acres surveyed; Newly recorded resources: CA-RIV-10949/H, CA-RIV-10950/H, 33-021112, 33-021114, 33-021115; prehistoric bedrock milling feature; prehistoric lithic scatter; historic-period farmsteads, a segment of the Second San Diego Aqueduct (CA-RIV-8195H; 33-015734)

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MANAGEMENT SUMMARY

This report, prepared for Regent Properties, documents the results of an intensive Phase I cultural resources investigation conducted by Applied EarthWorks, Inc. (Æ) in November and December, 2012, for a proposed residential development known as the Belle Terre Project (Specific Plan 00382). The cultural resources investigation was conducted in accordance with the California Environmental Quality Act (CEQA), as amended. The Belle Terre Project (Project) area is located approximately six miles south of the community of Winchester, and five miles northeast of Murrieta Hot Springs, in the unincorporated French Valley region of western Riverside County, California. Specifically, the Project area encompasses approximately 344 acres (ac) spread across portions of Sections 27, 28, and 34, of Township 6S, Range 2W, San Bernardino Baseline & Meridian (SBBM). As currently proposed, the conceptual land use plan for the Project consists of three different large tract areas: the Northeastern Tract (~ 73.5 ac) is slated as open space preserve, while the Northwestern Tract (~ 215 ac) and the Southeastern Tract (~ 55 ac) will be developed, as described in further detail within this report. No trails or other Project-related activities will occur within the open space preserve (Northeastern Tract), and therefore, it is outside the Project Area of Direct Impact (ADI) and was not surveyed for cultural resources.

The records and literature search conducted at the Eastern Information Center (EIC), University of California, Riverside indicated that the Project area had not been previously surveyed for cultural resources, and that no cultural resources were known to be present within the Project boundaries. However, a segment of the Second San Diego Aqueduct was previously recorded immediately adjacent to the Project boundaries. The Second San Diego Aqueduct (CA-RIV-8195H; 33-015734) was previously found eligible for both the National Register of Historic Places (NRHP) under Criterion A, and the California Register of Historical Resources (CRHR) under Criterion 1, as a driving and enabling force in the economic development of the greater San Diego region that began with naval expansion during and after WWII. Because the significance of the Second San Diego Aqueduct stems from its association with an important historical event, and its setting does not play a substantial role in the measure of its historical integrity, residential and commercial development near its perimeter *would not cause a substantial adverse change* in the significance of the Second San Diego Aqueduct. Therefore, the Project as currently proposed has no potential to affect the significance of this resource, and thus, the resource requires no further consideration in the CEQA-compliance process.

A search of the Native American Heritage Commission's Sacred Lands file failed to indicate the presence of any known Native American cultural resources or sacred sites in the immediate Project area or vicinity. Six Native American individuals and Tribal representatives were contacted, and two responses about the Project have been received. Anna Hoover, Cultural Analyst for the Temecula Band of Luiseño Mission Indians (Pechanga), and Joseph Ontiveros of the Soboba Band of Luiseño Indians have both stated concerns and request participation and formal consultation, as covered in further detail in Chapter 3.4 of this report.

An intensive-level Phase I cultural resources survey of the Project ADI resulted in the documentation of five cultural resources. These resources include two multi-component archaeological sites (CA-RIV-10949H and CA-RIV-10950/H) containing both prehistoric and historic-period features and artifacts, and three isolated prehistoric manos (hand-held grinding stones used to process food and other matter).

The three isolated finds, 33-021112, 33-021114, and 33-021115, by definition, do not constitute a "historical resource," and therefore, they require no further consideration in the CEQA-compliance process. The two archaeological sites, CA-RIV-10949/H and CA-RIV-10950/H, however, are potential historical resources under CEQA until further evaluation of their historical significance can be made.

The archaeological data potential of CA-RIV-10949/H and CA-RIV-10950/H are presently unknown, therefore a Phase II testing and evaluation program is necessary at both of these sites. Specifics regarding the nature and purpose of the Phase II testing and evaluation program are covered in Chapter 7 of this report. A Native American monitor should be present during the testing program at prehistoric sites to observe the activities and be on hand in case of discoveries.

The historic-period component of CA-RIV-10950/H does not appear to meet any of the criteria of the CRHR as a historical resource under CEQA, as none of the recorded features has any archaeological data potential, or exhibits any architectural or engineering merits, or interesting landscape design. Pertinent historical background research has been conducted, and no additional research is warranted. Thus, the historic-period component of this site requires no further consideration in the CEQA-compliance process.

Upon completion of the Phase II evaluation program, a report of the findings, as well as the maps and drawings that are produced should be placed on file at the EIC for inclusion into the California Historical Resources Information System (CHRIS).

Field notes documenting the current investigation are on file at Æ's Hemet office, and a copy of this report and attached cultural resource DPR (California Department of Parks and Recreation) Recording Forms will be placed on file at the EIC.

1
INTRODUCTION

This report, prepared for Regent Properties, documents the results of an intensive Phase I cultural resources investigation conducted by Applied EarthWorks, Inc. (Æ) in November and December, 2012, for a proposed residential development known as the Belle Terre Project (Specific Plan 00382). The cultural resources investigation was conducted in accordance with CEQA (California Environmental Quality Act), as amended. The Belle Terre Project (Project) area is located approximately six miles south of the community of Winchester, and five miles northeast of Murrieta Hot Springs, in the unincorporated French Valley region of western Riverside County, California (Figure 1). Specifically, the Project area encompasses approximately 344 acres (ac) located within the western half of Section 27, along the eastern edge of Section 28, and comprising a portion of the northwest quarter of Section 34, Township 6S, Range 2W, San Bernardino Baseline & Meridian (SBBM), as depicted on the Winchester and Bachelor Mtn., CA 7.5' USGS quadrangles (Figure 2). The Project area is situated south of Scott Road, and is primarily to the east of Washington Avenue, encompassing gently sloping agricultural fields neighbored by steep, rocky hills. Elevations range from about 1,430 feet (ft) to 1,580 ft above mean sea level (amsl), with uphill slopes trending toward the east. The San Diego Aqueduct winds between the various tracts of the Belle Terre Project area.

As currently proposed, the conceptual land use plan for the Project consists of three different large tract areas: the Northwestern Tract (~ 215 ac), the Northeastern Tract (~ 73.5 ac), and the Southeastern Tract (~ 55 ac), as described below and depicted in Figures 2 and 3.

- The **Northeastern Tract** (hatched area in Figures 2 and 3) comprising Assessor Parcel Numbers (APNs) 472-170-003 and 472-170-008, is situated among the hills to the east of the San Diego Aqueduct and is proposed to be set aside as permanent open space. No trails or other Project-related activities will occur within this parcel, and therefore, it is outside the Project Area of Direct Impact (ADI) and was not surveyed for cultural resources. The Northeastern Tract has not been covered by any known previous cultural resources studies.

- The 215-ac **Northwestern Tract,** comprising APNs 476-010-040, 476-010-045, 472-170-001, and 472-180-001, is located to the west of the San Diego Canal and is accessed from Washington Street on its northern end. Fields Drive traverses across the center of the tract. An existing drainage channel situated to the south of Fields Drive and trending east-west will be preserved as an open space amenity with trails, an overlook park, and picnic areas. A community clubhouse will be constructed along the edge of this open space feature to allow easy, off-street connectivity. The central and northern portions of this tract will feature a recreation center. In addition, several neighborhood pocket parks will be located throughout the tract. The Northwestern Tract would accommodate up to 1,073 units with densities that range from 6 dwelling units per acre to 14 dwelling units per acre.

- The 55-ac **Southeastern Tract**, composing APN 472-200-002, would accommodate up to 128 dwelling units clustered around an approximately 12-ac combination active park and stormwater detention basin. The public active park would serve the region and contain active sports amenities such as basketball and baseball facilities as well as picnic

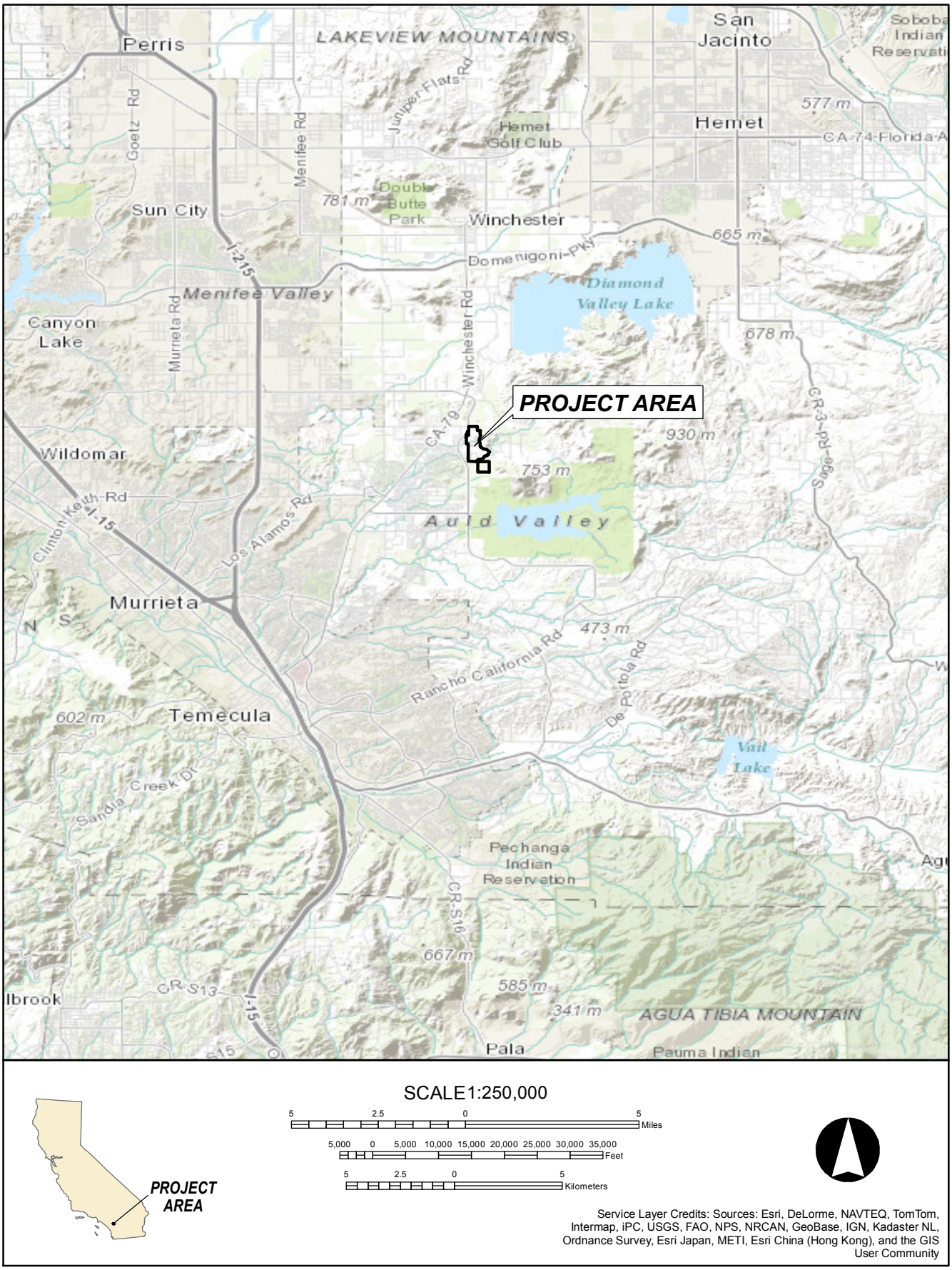


Figure 1 Project vicinity map.

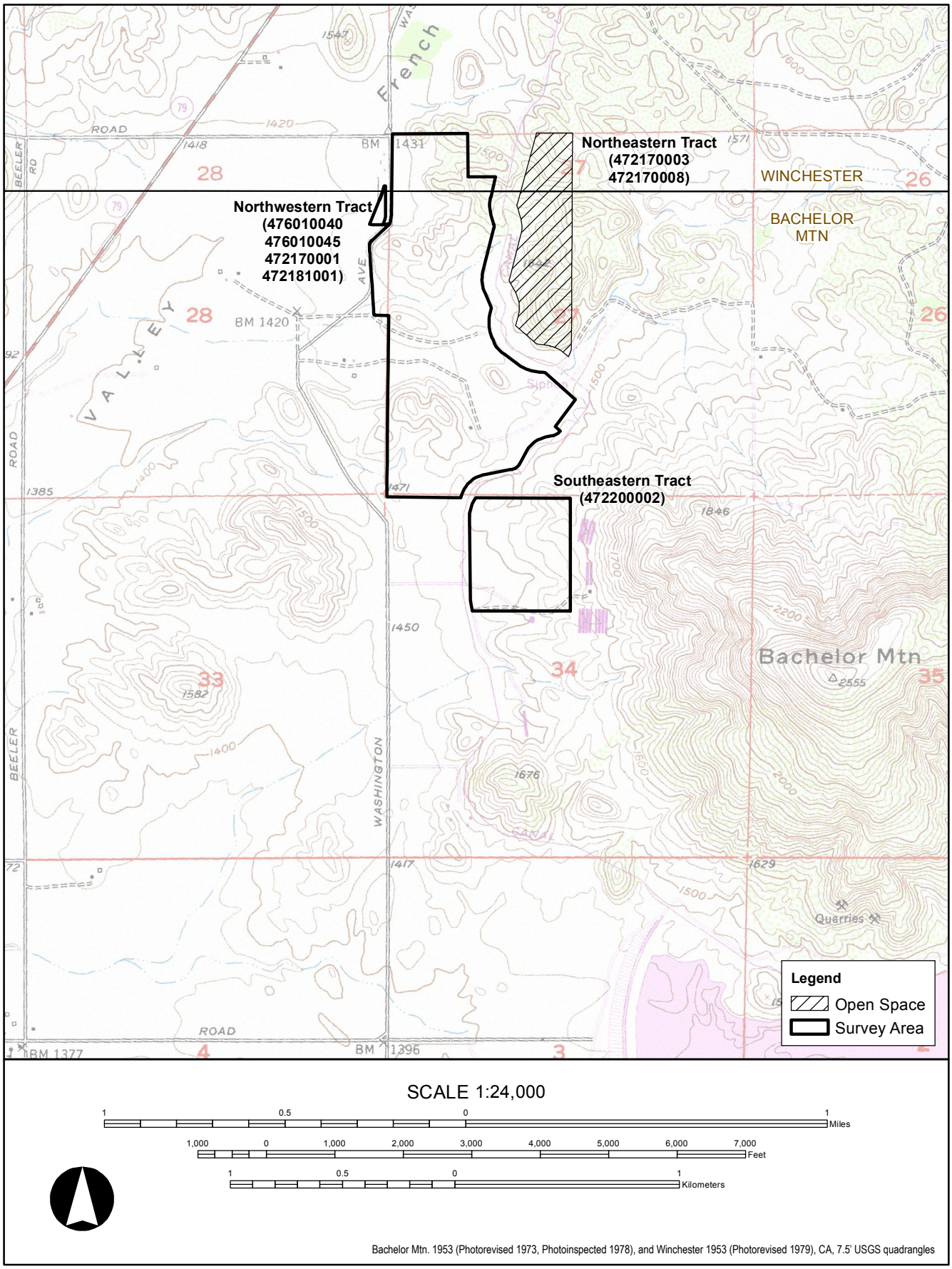


Figure 2 Project location map.

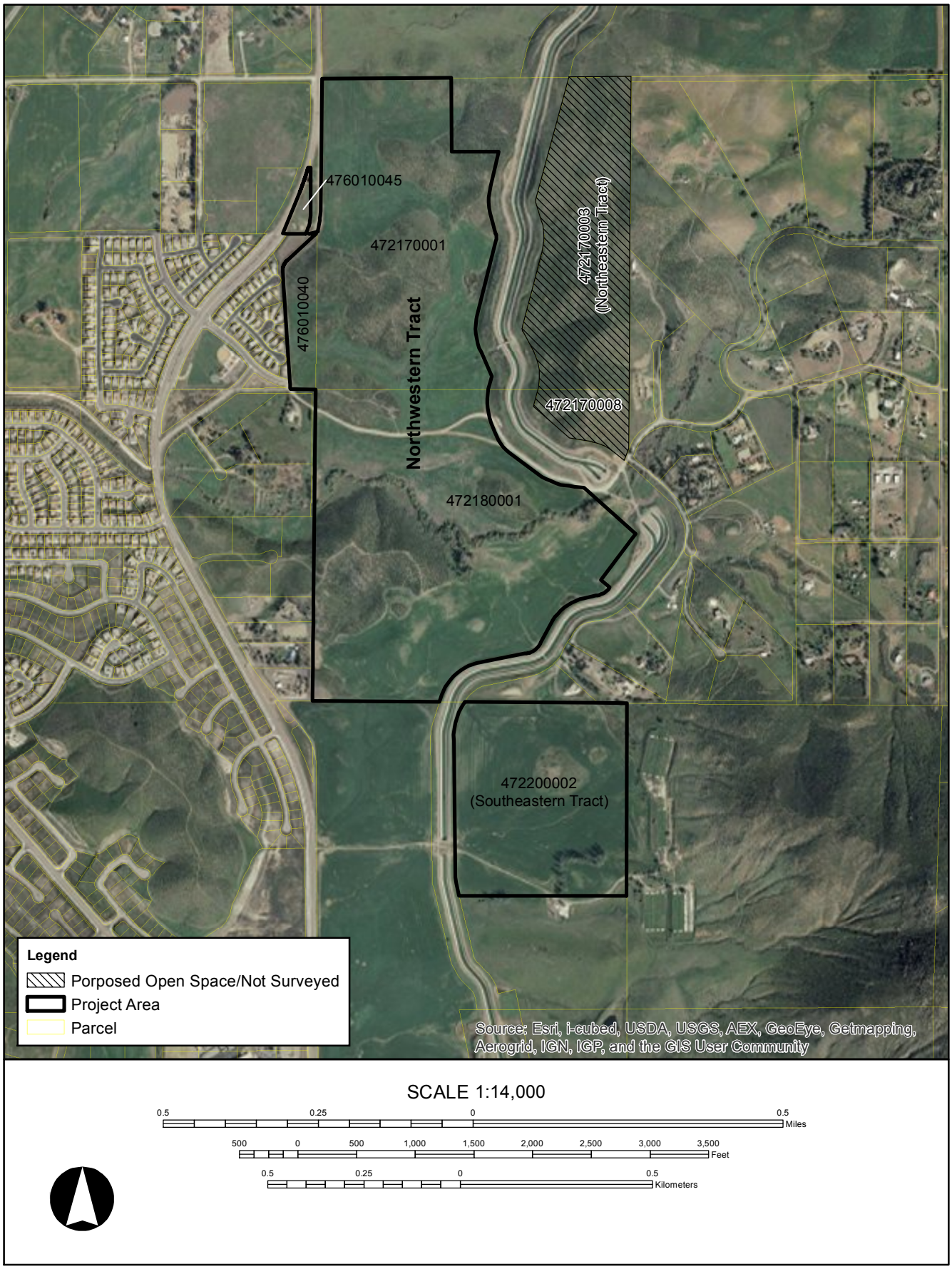


Figure 3 Project component map.

- areas and play equipment. The Southeastern Tract would accommodate between 1.3 and 3.7 dwelling units per acre.

1.1 REGULATORY CONTEXT

The proposed Project is subject to compliance with the CEQA, as amended. Therefore, cultural resources management work conducted as part of the proposed Project shall comply with the *CEQA Statutes and Guidelines* (California 2012), which directs lead agencies to first determine whether cultural resources are "historically significant" resources. A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. "Substantial adverse change" is defined as demolition, destruction, relocation, or alteration activities which would impair historical significance (Section 5020.1). Generally, a cultural resource shall be considered "historically significant" if the resource is 45 years old or older, possesses integrity of location, design, setting, materials, workmanship, feeling, and association, and meets the requirements for listing on the California Register of Historical Resources (CRHR) under any one of the following criteria:

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2) Is associated with the lives of persons important in our past;
3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,
4) Has yielded, or may be likely to yield, information important in prehistory or history (Title 14 CCR, § 15064.5).

The cited statutes and guidelines specify how cultural resources are to be managed in the context of projects, such as the Belle Terre Specific Plan Project. Briefly, archival and field surveys must be conducted, and identified cultural resources must be inventoried and evaluated in prescribed ways. Prehistoric and historical archaeological resources, as well as historical resources such as standing structures and other built environment features, deemed "historically significant" must be considered in project planning and development. As well, any proposed project that may affect "historically significant" cultural resources must be submitted to the State Historic Preservation Office (SHPO) for review and comment prior to project approval by the responsible agency and prior to construction.

CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (PRC §21084.1). "Substantial adverse change," according to PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired." "Historical resources," according to PRC §5020.1(j), "includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (OHP 2005:10). CEQA guidelines state that the term "historical resources" applies to any such

resources listed in or determined to be eligible for listing in the CRHR, included in a local register of historical resources, or determined to be historically significant by the Lead Agency (Title 14 CCR §15064.5(a)(1)-(3)).

1.2 REGULATIONS PERTAINING TO HUMAN REMAINS

It should also be noted that sites that may contain human remains important to Native Americans must be identified and treated in a sensitive manner, consistent with state law (i.e., Health and Safety Code §7050.5 and Public Resources Code §5097.98), as reviewed below.

> In the event that human remains are encountered during project development and in accordance with the Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods.

1.3 REPORT ORGANIZATION

This report documents the results of Æ's intensive cultural resources investigation of the Project ADI. Chapter 1 has introduced the scope of the work, defined the Project boundaries, and outlined the regulatory context governing the Project. Chapter 2 synthesizes the natural and cultural setting of the Project area and surrounding region. Chapter 3 presents the results of the archaeological literature and records search conducted at the Eastern Information Center of the California Historical Resource Information System, housed at the University of California, Riverside; Chapter 4 discusses Native American consultation. The cultural resources study methods employed during this investigation and subsequent findings are discussed in Chapter 5. An evaluation of each resource identified during this study is provided in Chapter 6. Management recommendations for the Project are provided in Chapter 7, followed by bibliographic references in Chapter 8, preparer's qualifications in Chapter 9, and appendices.

2
SETTING

This chapter describes the prehistoric, ethnographic, and historical cultural setting of the Project area and surrounding region to provide a context for understanding the nature and significance of cultural properties identified within the region. Prehistorically, ethnographically, and historically the nature and distribution of human activities in the region have been affected by such factors as topography and the availability of water, biological resources, and lithic resources. Therefore, prior to a discussion of the cultural setting, the environmental setting of the Project area and surrounding region is summarized below.

2.1 GEOLOGY

Located near the northern end of the Peninsular Ranges physiographic province of southern California within the Perris Block, the Project region is bound to the southwest by the Elsinore fault zone and on the northeast by the San Jacinto fault zone. The Perris Block is a portion of the southern California batholiths, a massive geological intrusion of granite rock that was formed in the late Cretaceous Period and uplifted in the early Tertiary Period. Cretaceous-age rocks of the Peninsular Range batholiths, and older metasedimentary and metavolcanic rocks of probable Mesozoic-age, underlie the region. Granitic bedrock is very much exposed on the hill slopes and inselbergs throughout the Project region, and also occurs as small to large isolated outcrops on the valley floor areas. Many of the granitic bedrock exposures and outcrops scattered throughout the region were utilized prehistorically by Native American groups as bedrock milling areas for the processing of local biotic resources. Local granitic materials were also regularly used during prehistoric times for the production of ground stone implements. Metasedimentary rocks conducive for the production of flaked stone artifacts, such as fine-grained quartzite, can also be found nearby in the Bedford Canyon Formation, portions of which daylight in the hills surrounding French Valley. Other lithic materials locally available for the production of flaked, ground, or shaped stone implements include massive (i.e., white, milky, or vein) quartz, crystalline quartz, schist, and low-grade steatite; these materials can also be found in the hill ranges surrounding French Valley (Goldberg et al. 2001).

The topography of the region consists of inland valleys with rolling hills, intermittent streams, plateaus, small valleys and grassland meadows. Small ephemeral creeks and springs are found across the low-lying areas of the region. Annual precipitation in the region hovers around 10 inches (in.) per year, with less rain during periods of drought. Elevations within the Project area range from approximately 1,430 to 1,580 ft amsl, with uphill slopes trending toward the east.

The Project parcels encompass an area characterized by gently rolling agricultural fields separated by steep shrub covered hills of hard decomposed granitic soil and rock. Some of these hillsides feature exposed volcanic dikes of hard quartzite. Agricultural activities such as plowing have avoided these hill areas due to the hard, poor rocky soils. Two small intermittent drainages cross through the Project area; one north of Fields Drive, and one south of Fields Drive. These two unnamed drainages flow from higher elevations to the east, and head west toward the valley floor. The drainage to the south of Fields Drive is lined with dense stands of sycamore, cottonwood, and willow trees, with an understory of stinging nettle, jimson weed, tree tobacco, and mustard. The drainage north of Fields Drive is a dry, narrow incision lined with brush.

Agricultural activities appear to avoid these two drainages except one or two locations where crossings are necessary to get to the next field.

2.2 VEGETATION

Prehistorically, the vegetation within the Project region likely included representative species of two major plant communities: valley grasslands and Riversidian sage scrub (the interior variant of the coastal sage scrub community) (Munz and Keck 1959). Restricted riparian communities also would have occurred near springs or in places where groundwater was close to the surface. Depending upon elevation and climate, various species from these communities were available from early spring until winter, and the leaves, stems, seeds, fruits, roots, and tubers from many of these plant species formed an important subsistence base for the Native American inhabitants of the region (Bean and Saubel 1972; Hyde and Elliot 1994).

Important species in the valley grassland community, prior to extensive farming and grazing by domestic livestock, may have included rye grass (*Leymus condensatus*), blue grass (*Poa secunda*), bent grass (*Agrostis* spp.), needlegrass (*Stipa* spp.), and three-awn (*Aristida divaricata*). Pollen samples recovered from prehistoric valley sediments indicate that members of the sunflower family (Asteraceae) also were important components of the vegetation. For decades, most of the valley floor areas in the Project region have been dry-farmed for wheat and alfalfa, which has led to the deterioration of the native floral communities that once inhabited the valley floor areas. At present, in areas not utilized for agriculture, the valley grassland community is dominated by exotic species such as filaree (*Erodium cicutarium*), tansy mustard (*Descurainia pinnata*), tumble mustard *(Sisymbrium altissimus*), foxtail fescue (*Vulpia myuros*), barleys (*Hordeum* spp.), wild oats (*Avena* spp.), rye grass (*Lolium* spp.), cheat or brome grass (*Bromus* spp.), vinegar weed (*Trichostema lanceolatum*), and dove weed (*Eremocarpus setigerus*).

Currently, the Riversidian sage scrub community occurs on many of the hill slopes within the Project region. This vegetation type likely occurred in these habitats during prehistoric times as well. Important perennials in this community are California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), black sage (*Salvia melifera*), white sage (*S. apiana*), brittlebush (*Encelia farinosa*), spiny redberry (*Rhamnus crocea*), yellow bush penstemon (*Penstemon antirrhinoides*), bee plant (*Scrophularia californica*), orange bush monkey flower (*Mimulus longiflorus*), mesa prickly-pear (*Opuntia littoralis*), and valley cholla (*O. parryi*).

2.3 PALEOENVIRONMENT

Environmental variables influencing archaeological site types and locations have fluctuated over the last 12,000 years, the period of confirmed human occupation in California. Paleoenvironmental, paleobotanical, and geomorphologic investigations associated with the Eastside Reservoir Project (ESRP) (Spaulding 2001; Anderson 2001; and Onken and Horne 2001, respectively) suggest that the climate, vegetation, and landscape of the inland southern California region changed dramatically at the end of the Pleistocene, from wet and cool conditions to a drier and warmer regime. In very general terms, the desert interior would have actually been more productive and more attractive to prehistoric groups than the inland areas during the Early Holocene (circa [ca.] 10,000 to 8000 before present [B.P.]); however, by the Middle Holocene (ca. 8000 to 4000 B.P.), increased aridity in the desert would have created

resource deficiencies, and the inland areas would have become a more suitable habitation location.

Effective moisture continued to increase in the inland areas throughout most of the Late Holocene (ca. 4000 B.P. to the present). However, approximately 1060 B.P., a period of persistent drought called the Medieval Warm began. Higher temperatures and decreased precipitation occurred throughout the western United States and continued until about 575 B.P. The desert interior and inland areas of southern California would have been adversely affected by these conditions, although the desert would have been more susceptible to these droughts, making the inland areas more attractive to prehistoric people. At the end of the Medieval Warm, cooler temperatures and greater precipitation ushered in the Little Ice Age, during which time ecosystem productivity greatly increased along with the availability and predictability of water. The differences between the inland areas and the desert regions would have become less pronounced, making both areas suitable for human habitation.

2.4 PREHISTORIC SETTING

The prehistoric cultural setting of the region provides a context for understanding the types, nature, and significance of the prehistoric cultural resources identified within the general Project region. The prehistory of inland southern California has been less thoroughly understood than that of the adjacent desert and coastal regions. Prior to the ESRP studies conducted at Diamond Valley some five miles to the northeast of the Project area (Goldberg et al. 2001; McDougall et al. 2003), no comprehensive synthesis had been developed specifically for the interior valley and mountain localities of cismontane southern California.

Two regional chronologies have been widely cited in the archaeological literature for the prehistory of the coastal regions of southern California (Wallace 1955, 1978; Warren 1968). These chronologies are generalized temporal schemes based on the presence or absence of certain artifact types. For the desert regions of southern California, Warren and Crabtree also constructed a chronology based on the temporal concept using projectile points as period markers and radiocarbon assays to provide absolute dates (Warren and Crabtree 1972). Eight years later Warren (1980), in his overview of the Amargosa-Mojave Basin Bureau of Land Management Planning Units, presented a slightly modified version of the earlier Warren-Crabtree chronology.

The following discussion of the prehistoric cultural setting for the Project region is drawn from the cultural sequence developed for the ESRP, and can be directly applied to the current Project area. This chronology was based first on artifact cross dating and geomorphological interpretations, and then refined with radiocarbon and obsidian hydration dates (Onken and Horne 2001; Robinson 1998, 2001). The resultant chronology draws heavily on a cultural sequence defined by Warren (1984) that is based largely on archaeological work conducted in the Colorado and Mojave deserts. However, because Warren's chronology used temporal period names that suggest links to the Mojave, these were replaced in the ESRP chronology by value neutral terms.

Native American occupation of the inland valleys of southern California can be divided into seven cultural periods: Paleoindian (ca. 12,000–9500 years before present (B.P.); Early Archaic (ca. 9500–7000 B.P.); Middle Archaic (ca. 7000–4000 B.P.); Late Archaic (ca. 4000–1500 B.P.); Saratoga Springs (ca. 1500–750 B.P.); Late Prehistoric (ca. 750–410 B.P.); and Protohistoric (ca.

410–180 B.P.), which ended in the ethnographic period. Due to the nature of prehistoric archaeological sites known to be located within the vicinity of the Project area (see Chapter 3), the prehistoric cultural setting discussed below begins at the Middle Archaic period, which correlates with the Millingstone Horizon discussed in older archaeological literature. The following has been adapted from Mirro (2006).

2.4.1 Middle Archaic Period (ca. 7000–4000 B.P.)

The Middle Archaic saw a reversal of the weather patterns that had prevailed throughout much of cismontane southern California for several millennia. By about 6000 B.P., local environmental conditions ameliorated while conditions in the deserts deteriorated, reaching maximum aridity of the postglacial period (Antevs 1952; Hall 1985; Haynes 1967; Mehringer and Warren 1976; Spaulding 1991, 1995). Spaulding (2001) proposes that a westerly air flow pattern returned to southern California, while the monsoonal weather patterns in the deserts retreated. As a result, the inland areas may have seen increased effective moisture, while the interior deserts, no longer receiving moist monsoonal flow and now in the rainshadow of the Transverse and Peninsular Ranges, became quite arid. This suggests that cismontane southern California, including the Project study region, may have been a relatively more hospitable environment than the interior deserts during the middle Holocene.

Due to both the amelioration of the local environmental conditions and the deterioration of the conditions in the interior deserts, it was postulated that the inland areas of cismontane southern California would see an increase in prehistoric use and occupation after about 6000 B.P. as compared to the earlier periods (Goldberg et al. 2001). This hypothesis appears to have been validated by the ESRP studies, where at least 19 archaeological localities were dated to the Middle Archaic. These Middle Archaic components include several intensively used residential bases and/or temporary camps containing abundant cultural debris including temporally diagnostic artifacts (Pinto and Silver Lake projectile points, crescents), at least nine complex lithic scatters that appear to have functioned as resource extraction and processing sites, and one human burial covered with large rocks and ground stone artifacts. In addition, evidence of ephemeral Middle Archaic use is present at several sites in the form of isolated radiocarbon-dated features and/or sparse scatters of obsidian debitage dated by obsidian hydration methods. The more intensively used residential locations occur along alluvial fan margins, while less intensively used areas tend to be situated on arroyo bottoms or upland benches (Goldberg et al. 2001).

In coastal southern California, the early traditions gave way to what Warren refers to as the "Encinitas Tradition" by about 7000 to 8000 B.P.; Wallace's "Period II: Food Collecting" also would be subsumed under this tradition. Inland San Diego County sites dating to this period have been assigned to the "La Jolla/Pauma Complex" by True (1958). This interval has been described frequently as the "Milling Stone Horizon" because of the preponderance of milling tools in the archaeological assemblages of sites dated to this era (Basgall and True 1985; Kowta 1969; Wallace 1955).

In the coastal and inland regions of southern California, this period of cultural development is marked by the technological advancements of seed grinding for flour and possibly the first use of marine resources, such as shellfish and marine mammals. The artifact inventory of this period is similar to that of the previous period and includes crude hammerstones, scraper planes, choppers, large drills, crescents, and large flake tools. This assemblage also includes large leaf-shaped projectile points and knives; manos and milling stones used for hard-seed grinding; and likely

non-utilitarian artifacts, such as beads, pendants, charmstones, discoidals, spherical stones, and cogged stones (Kowta 1969; True 1958; Warren et al. 1961).

Although sites assigned to this stage of cultural development are similar in many respects, their content, structure, and age can vary. This variability is largely due to geographical differences between the coast and interior; the primary difference between the archaeological assemblages of coastal and inland sites appears to be related to subsistence. Coastal occupants gathered fish and plant resources, while it is assumed that hunting was generally less important based on the dearth of stone projectile points, although it is possible that bone or wood tip projectiles were utilized. The inland occupants primarily collected hard seeds and hunted small mammals and stone projectile points are more common in inland assemblages. King (1967:66–67) suggests that the coastal sites probably represent more permanent occupations than are found in the interior, since coastal inhabitants were sustained by more reliable and abundant food resources. A more mobile subsistence round was likely necessary for inland inhabitants. It is possible, too, that inland and coastal sites of this period represent seasonal movement by the same groups of people.

These inconsistencies in content, structure, and age of sites assignable to the "Milling Stone Horizon" have been reviewed by Goldberg and Arnold (1988:12–13, 46–50). In their discussion, the presence of a single technology (the milling stone and mano) to define a temporally meaningful analytic unit of cultural development is seen to be problematic and does not explain the variability in site assemblages and dates of this period. They argue that to assign all sites that contain milling stones and manos to the period from 8000 to 2000 B.P. implies a "cultural unity" among the peoples who deposited these artifacts. However, decades of research have documented significant variability in subsistence emphasis, mortuary practices, and non-utilitarian artifacts (e.g., cogged stones, discoidals, beads), notwithstanding great similarities in one element of the tool kit—the milling stone and the mano.

In the desert regions of southern California, the "Pinto Period" succeeded the "Lake Mojave Period," beginning at approximately 7000 B.P. and lasting to 4000 or 3500 B.P. Relatively recent paleoecological and paleohydrological evidence suggests maximum aridity in the desert regions between ca. 7000 and 5000 B.P., with amelioration beginning at approximately 5500 B.P. and continuing through 4000 B.P. (Spaulding 1991, 1995). As an adaptive response to these changing climatic conditions, the Pinto Period is characterized by necessary shifts in prehistoric subsistence practices and adaptations, with greater emphasis placed on the exploitation of plants and small animals than the preceding Lake Mojave Period, as well as a continued focus on artiodactyls (Warren 1980, 1984).

The distinctive characteristics of the "Pinto Basin Complex" as defined by Campbell and Campbell (1935) are projectile points of the Pinto series, described by Amsden (1935) as weakly shouldered, indented-base projectile points that are coarse in manufacture as well as form. Other diagnostic artifact types of this period include: large and small leaf-shaped bifaces; domed and heavy-keeled scrapers; numerous core/cobble tools; large blocky metates evincing minimal wear and small, thin, extensively used milling slabs; and shaped and unshaped manos. Throughout most of the California desert region, sites containing elements of the Pinto Basin Complex (e.g., those in the Pinto Basin, Tiefort Basin, Salt Springs, and Death Valley) are small and usually limited to surface deposits suggestive of temporary and perhaps seasonal occupation by small groups of people (Warren 1984:413).

Interestingly, one site discovered during the ESRP studies evinces purely Lake Mojave and Pinto period materials. This site, CA-RIV-5045, also known as the Diamond Valley Pinto Site, is very unique in that Pinto and Lake Mojave materials were found within well-stratified, radiometrically defined cultural deposits. In addition to the numerous dart projectile points recovered indicative of the Pinto period (i.e., Pinto-series and Silver Lake-series), these deposits contain abundant and diverse faunal assemblages, an extensive array of flaked stone tools and ground stone implements, as well as intact cultural features ascribable to specific periods of occupation. Radiometric data, feature types, and artifact/ecofact assemblage characteristics indicate that CA-RIV-5045 was occupied most intensively between 6200–5600 B.P., and functioned as a winter-time residential base during this period (McDougall 2001).

As noted earlier, it was posited that cismontane southern California would see an increase in human activity after about 6000 B.P. in response to changing environmental conditions. At this time, local environmental conditions ameliorated and conditions in the interior deserts reached the maximum aridity of the postglacial period. The number of sites dating to the Middle Archaic documented at the ESRP certainly increased during this period, and it is plausible that the apparent increase in human use and occupation of the ESRP study area during the Middle Archaic is related to both the amelioration of the local environment and the deterioration of the desert interior (Goldberg et al. 2001).

The distribution of sites and variety of site types (i.e., residential bases, temporary camps, and a variety of ephemeral resource extraction and processing sites) dating to the Middle Archaic at the ESRP suggest that overall use of the Project area likely conformed to a rest-rotation collecting strategy involving relatively brief intervals of sedentism during the midwinter ebb of yearly productivity, followed by warm-season residential movements through a series of resource procurement camps in a seasonal round (Goldberg and Horne 2001). A key feature of rest-rotation collecting is a reliance on stored foods during the interval of winter sedentism. Logistic mobility, or the collection and transport of critical resources to the home residential base, also played an important role in resource procurement, especially during the interval of seasonal sedentism and consumption of stored foods. Another key feature of this strategy is the regular rotation of settlements on a yearly or multi-yearly basis to new areas to avoid the declining rates of return associated with continuous exploitation of the same areas.

It is of interest that although the indices used to measure residential mobility for the Early and Middle Archaic components documented at the ESRP indicate that these early components evince a more mobile land-use strategy than later periods, and that the Middle Archaic strategy registers more mobile than the Early Archaic strategy, most data convincingly show that neither of these early periods can be characterized as fully mobile. The fragmentation of bottom grinding stones (i.e., metates, milling slabs), ranging between 80 and 100 percent for nearly all ESRP components throughout prehistory, clearly indicates that occupations were fairly sedentary or that sites were consistently reused, with ground stone being cached and reused until it was no longer functional (Klink 2001a). In addition, the occurrence of artifact and toolstone caches at several Middle Archaic sites suggests that site reuse was anticipated (Horne 2001).

While most chronometric data from the ESRP Middle Archaic components are too gross to confirm whether intensified use of the ESRP began after the posited ca. 6000 B.P. termination of the postglacial thermal maximum, some reliable radiocarbon assays support that proposition. Dates from three separate residential components, CA-RIV-4628/H Locus A, CA-RIV-4629/H Locus B, and CA-RIV-5045 Locus B, all postdate 6000 B.P. when tree-ring calibrations are

taken into account. No reliable radiocarbon samples date Middle Archaic occupation to the postglacial thermal maximum in the ESRP study area (Goldberg 2001:570).

2.4.2 Late Archaic Period (ca. 4000–1500 B.P.)

The Late Archaic Period was one of cultural intensification in southern California. The beginning of the Late Archaic coincides with the Little Pluvial, a period of increased moisture in the region. Effective moisture continued to increase in the desert interior by approximately 3600 B.P., and lasted throughout most of the Lake Archaic. This ameliorated climate allowed for more extensive occupation of the region. By approximately 2100 B.P., however, drying and warming increased, perhaps causing resource intensification.

At the ESRP, 23 archaeological localities show evidence that their primary use was during the Late Archaic, while eight others yielded evidence of some activity during the period. Late Archaic site types documented within the ESRP include residential bases with large, diverse artifact assemblages, abundant faunal remains, and cultural features, as well as temporary bases, temporary camps, and task-specific activity areas. In general, sites showing evidence of the most intensive use tend to be on range-front benches adjacent to permanent water sources such as perennial springs or larger streams, while less intensively used locales occur either on upland benches or on the margins of active alluvial fans (Goldberg 2001).

Evidence from the ESRP also suggests increased sedentism during this period, with a change to a semi-sedentary land-use and collection strategy. The profusion of features, and especially refuse deposits in Late Archaic components, suggests that seasonal encampments saw longer use and more frequent reuse than during the latter part of the Middle Archaic, with increasing moisture improving the conditions of southern California after ca. 3100 B.P. (Horne 2001). Drying and warming after ca. 2100 B.P. likely exacted a toll on expanding populations, influencing changes in resource procurement strategies, promoting economic diversification and resource intensification, and perhaps resulting in a permanent shift towards greater sedentism (Goldberg 2001).

Technologically, the artifact assemblage of this period was similar to that of the preceding Middle Archaic; new tools were added either as innovations or as "borrowed" cultural items. Diagnostic projectile points of this period are still fairly large (dart point size), but also include more refined notched (Elko), concave base (Humboldt), and small stemmed (Gypsum) forms (Warren 1984). Late in the period, Rose Spring arrow points appeared in the archaeological record in the deserts, reflecting the spread of the bow and arrow technology from the Great Basin and the Colorado River region. However, this projectile point type was not found at the ESRP study area, and there is no evidence suggesting that the bow and arrow had come into use at this time in the inland regions of southern California.

Concerning the cultural sequences for Late Archaic coastal sites, for the period after about 5000 B.P., Warren (1968) and Wallace (1978) diverge in their chronological sequences for the coastal regions of southern California. Warren's "Encinitas Tradition" includes all areas outside the Chumash territory of the Santa Barbara coastal zone and continues until approximately 1250 B.P. Wallace, on the other hand, identifies a transition beginning approximately 5000 B.P., marking the onset of "Period III: Diversified Subsistence." In his original 1955 sequence, Wallace said this period, generally referred to as the "Intermediate Horizon," was largely based on changes in the archaeological assemblages of sites from the Santa Barbara coastal region. This horizon is characterized by a greater variety of artifacts, suggesting a greater variety of

utilized food resources. Although this interval of human occupation in coastal southern California is poorly defined and dated because of the paucity of representative sites, many researchers in southern California have retained Wallace's original "Intermediate Horizon" as a classification for sites dating between 5000 and 1500 B.P.

The subsistence base during this period broadened. The technological advancement of the mortar and pestle may indicate the use of acorns, an important storable subsistence resource. Hunting presumably also gained in importance. An abundance of broad, leaf-shaped blades and heavy, often stemmed or notched projectile points have been found in association with large, numbers of terrestrial and aquatic mammal bones. Other characteristic features of this period include the appearance of bone and antler implements and the occasional use of asphaltum and steatite. Most chronological sequences for southern California recognize the introduction of the bow and arrow by 1500 B.P., marked by the appearance of small arrow points and arrow shaft straighteners.

Some archaeologists have suggested that the changes in the coastal artifact assemblages dating to this period were the result of an influx or incursion of "Shoshonean" people from interior desert areas to the coastal regions (Rogers 1929; Wallace 1978). However, there is virtually no agreement among researchers as to the timing of the initial Shoshonean incursion into the study region; estimates generally range from 1,000 to more than 6,000 years ago, and few researchers acknowledge or question the assumption that Shoshoneans arrived to the study region and replaced some other cultural group (Goldberg and Arnold 1988:50–56). Other archaeologists suggest that cultural transition from the earlier "Milling Stone Horizon" to the succeeding "Intermediate Horizon" coastal and inland assemblages reflects progressive economic changes (e.g., trade) rather than population replacement (King 1982; Koerper 1981; Moratto 1984:164).

In general, cultural patterns remained similar in character to those of the preceding horizon. However, the material culture at many coastal sites became more elaborate, reflecting an increase in sociopolitical complexity and increased efficiency in subsistence strategies (e.g., the introduction of the bow and arrow for hunting). The settlement-subsistence patterns and cultural development during this period are not well understood because of a lack of data; however, the limited data do suggest that the duration and intensity of occupation at the base camps increased, especially toward the latter part of this period.

In the eastern desert regions of southern California, the "Gypsum Period" (ca. 4000 to 1500 B.P.) is generally coeval with Wallace's "Intermediate Horizon." A trend toward increasing effective moisture, which began in the late middle Holocene, culminated in a pronounced pluvial episode between approximately 3700 and 3500 B.P. At that time, a number of basins in the Mojave and Owens rivers drainages supported perennial lakes (Enzel et al. 1992). No comparable events are evident earlier in the paleohydrological record, developed largely since Warren's (1984) work, that date to 5000 to 4500 B.P., the dates that encompass Warren's so-called "Little Pluvial." After the end of pluvial conditions (ca. 3500 B.P.), conditions typified by greater effective moisture appear to have persisted until approximately 3,000 years ago. An episode of aridity exceeding that of the present may have occurred about 2500 B.P., but there is evidence for increased effective moisture again between approximately 2000 and 1400 years B.P. (Spaulding 1991, 1995).

In addition to diagnostic projectile points, Gypsum Period sites include leaf-shaped points, rectangular-based knives, flake scrapers, T-shaped drills and, occasionally, large scraper planes,

choppers, and hammerstones (Warren 1984:416). Manos and milling stones are also common. A technological innovation introduced during this period was the mortar and pestle, used for processing acorns and hard seeds, such as those derived from the hollyleaf cherry and mesquite pod. This correlates with a warming and drying trend that began around 2100 B.P., which appears to have resulted in resource intensification. In addition, the frequencies of grinding tools show increasing importance of plant foods throughout the Late Archaic, with a substantially greater emphasis after 2000 B.P. (Goldberg 2001). Other artifacts include arrow shaft smoothers, incised slate and sandstone tablets and pendants, bone awls, *Olivella* shell beads, and *Haliotis* beads and ornaments. A wide range of perishable items dating to this period was recovered from Newberry Cave, including atlatl hooks, dart shafts and fore-shafts, sandals and S-twist cordage, tortoise-shell bowls, and split-twig animal figurines. The presence of both *Haliotis* and *Olivella* shell beads and ornaments and split-twig animal figurines indicates that the California desert occupants were in contact with populations from the southern California coast, as well as the southern Great Basin (e.g., Arizona, Utah, and Nevada).

Technologically, the artifact assemblage of this period is similar to that of the preceding Pinto Period; new tools also were added either as innovations or as "borrowed" cultural items. Included are the mortar and pestle, used for processing hard seeds (e.g., mesquite pods), and the bow and arrow, as evidenced by the presence of Rose Spring projectile points late in this period. Ritual activities became important, as evidenced by split-twig figurines (likely originating from northern Arizona) and petroglyphs depicting hunting scenes. Finally, increased contact with neighboring groups likely provided the desert occupants important storable foodstuffs during less productive seasons or years, in exchange for valuable lithic materials such as obsidian, chalcedonies, and cherts. The increased carrying capacity and intensification of resources suggests higher populations in the desert with a greater ability to adapt to arid conditions (Warren 1984:420).

2.4.3 Saratoga Springs Period (ca. 1500–750 B.P.)

Because paleoenvironmental conditions were little changed from the preceding period, cultural trends in the early portion of the Saratoga Springs Period were, in large part, a continuation of the developments begun during the end of the Late Archaic Period. However, the Medieval Warm, a period of even more persistent drought, began by 1060 B.P., and conditions became significantly warmer and drier. These climatic changes were experienced throughout the western United States (Jones et al. 1999; Kennett and Kennett 2000), although the inland areas of cismontane southern California may have been less affected than the desert interior. The Medieval Warm continued through the first 200 years of the Late Prehistoric Period until approximately 550 B.P. (Spaulding 2001).

Firm evidence of Saratoga Springs Period occupation was documented at seven site components within the ESRP, while three other sites exhibit evidence of ephemeral use at this time. Six other localities within the ESRP yielded either obsidian with hydration bands suggesting Saratoga Springs age or Saratoga Springs projectile points (a large triangular form associated with use of the bow and arrow which began to appear in the ESRP at this time) but without evidence of sustained site use during this period. The focal shift of prehistoric activity from alluvial fan margins to mountain-front benches adjacent to permanent water sources, which was initiated during the Late Archaic, is also evidenced in the Saratoga Springs site locations (Goldberg 2001).

Within the ESRP, the Saratoga Springs Period is seemingly marked by a reduction in the number of refuse deposits and, to a slightly lesser extent, hearths. Interestingly, when accounting for sample size, the frequency of artifact and toolstone caches was more than doubled during the Saratoga Springs Period from the preceding Late Archaic, while the frequency of human remains reached the highest point of any time in the archaeological record. Midden-altered sediments also appear for the first time during this period (Horne 2001).

However, it is of interest that most Saratoga Springs components identified within the ESRP actually date to the Medieval Warm Interval; only one component did not. When components dating to the Medieval Warm segment of the Saratoga Springs Period are segregated and combined with Medieval Warm components from the Late Prehistoric Period, it reveals that the frequency of refuse deposits and artifact and toolstone caches during the Medieval Warm is slightly higher than during the Late Archaic and much higher than during the latter portion of the Late Prehistoric Period. The frequency of human remains (all of which are unburned) during the Medieval Warm is also much higher than during the Late Archaic and Protohistoric Period; no human remains were found in components of the Late Prehistoric Period after the Medieval Warm Interval (Horne 2001).

During the ESRP studies, it was anticipated that intensive use of the inland areas of cismontane southern California during the Medieval Warm may have been curtailed altogether owing to inhospitable climate and concomitant decline in water and food sources. However, while land-use and procurement strategies experienced profound changes at this time, the response to deteriorating conditions was not abandonment of the inland areas, but rather intensification. Apparently, climatic conditions of warming and drying that may have begun ca. 2100 B.P., toward the end of the Late Archaic, had already triggered an intensification process that established productive strategies for dealing with resource stress. With the onset of the Medieval Warm, those strategies were further refined and intensified (Goldberg 2001).

Not only did the data indicate that the ESRP was used on at least a semi-permanent basis during the Medieval Warm Interval, but that residential bases show evidence (e.g., refuse deposits, midden development) that activities intensified at those settlements. People were also intentionally caching toolstone and ground stone tools, suggesting that they anticipated returning to the same locations. Characteristics of the ESRP ground stone assemblages from the Medieval Warm demonstrate that plant foods were more important than in any other period; plant processing intensified and acorns apparently became an important staple (Klink 2001a). The faunal assemblages also show that resource stress was accommodated with similar strategies by intensifying the use of lagomorphs and by further expanding diet breadth, adding animals (i.e., medium-sized carnivores) to the diet that were rarely consumed during other periods (McKim 2001). The most abundant evidence of trade also occurs in the Medieval Warm components identified at the ESRP, suggesting that this was another mechanism for dealing with resource stress (Goldberg 2001).

However, two factors identified during the ESRP studies indicate that these adaptation strategies may not have been completely successful in dealing with the resource stress brought about by the Medieval Warm. First, the indices which differentiate degrees between planned and actual mobility indicate that occupations were considerably shorter than had been anticipated during the Saratoga Springs Period. Substantially long-term occupation at any given location may have been difficult given the presumably low levels of environmental productivity at this time. This suggests that not only were conditions harsh, they may also have been unpredictable. This may

account for a larger number of residential locations than had been anticipated, a pattern in response to arid conditions that has also been identified on the central California coast (Lebow 2000). Second, while the burial population discovered throughout the ESRP study area was surprisingly small, the relative proportion of those from the Medieval Warm Interval is higher than any other time period (Horne 2001).

Throughout much of the California desert regions to the east, the Saratoga Springs Period saw essentially a continuation of the Gypsum Period subsistence adaptation. Unlike the preceding period, however, the Saratoga Springs Period is marked by strong regional cultural developments, especially in the southern California desert regions, which were heavily influenced by the Hakataya (Patayan) culture of the lower Colorado River area (Warren 1984:421–422). Specifically, turquoise mining and long distance trade networks appear to have attracted both the Anasazi and Hakataya peoples into the California deserts from the east and southeast, respectively, as evidenced by the introduction of Buff and Brown Ware pottery and Cottonwood and Desert Side-notched projectile points. The initial date for the first Hakataya influence on the southern Mojave Desert remains unknown; however, it does appear that by about 1000 to 1100 B.P. the Mojave Sink was heavily influenced, if not occupied by, lower Colorado River peoples.

Lake Cahuilla is believed to have refilled the Coachella Valley around 1450 B.P., and was the focus of cultural activities such as exploitation of fish, water fowl, and wetland resources during this period. Desert people, speaking Shoshonean languages, may have moved into southern California at this time; the so-called "Shoshonean Intrusion." Brown and Buff Ware pottery first appeared on the lower Colorado River at about 1200 B.P., and started to diffuse across the California deserts by about 1100 B.P. (Moratto 1984:425). Associated with the diffusion of this pottery were Desert Side-notched and Cottonwood Triangular arrow projectile points dating to about 800 to 850 B.P., suggesting a continued spread of Hakataya influences.

However, about 1060 B.P., environmental conditions became notably warmer and drier. This period of intense drought, the Medieval Warm, extended throughout the Southwest, and led to the withdrawal of Native American populations from marginal desert areas to more reliable, drought-resistant water sources such as the Colorado River and Lake Cahuilla, the episodic presence of which was not climatically controlled but dependent upon natural discharges from the Colorado River, and which experienced two, if not three, high stands during the Medieval Warm Interval (Waters 1983).

Along the southern California coastal regions, reliance on the bow and arrow for hunting, along with the use of bedrock mortars and milling slicks, mark the beginning of the tradition denoted as the "Late Prehistoric Horizon" by Wallace (1955) and the "Shoshonean Tradition" by Warren (1968), dating from about 1500 B.P. to the time of Spanish settlement (approximately A.D. 1769). Late prehistoric coastal sites are numerous. Diagnostic artifacts include small triangular projectile points, mortars and pestles, steatite ornaments and containers, perforated stones, circular shell fishhooks, and numerous and varied bone tools, as well as bone and shell ornamentation. Elaborate mortuary customs, as well as generous use of asphaltum and the development of extensive trade networks, are also characteristic of this period.

In the Santa Barbara coastal region, the Late Prehistoric Horizon appears to represent increases in population size, economic complexity, social complexity, and the appearance of social ranking. King (1990) posits that the mortuary practices of the Intermediate and Late Horizons

throughout Chumash territories evince social ranking and that beads were used to confer status. Similarly, craft specialization on the northern Channel Islands has been linked to expanding economic capacities and emerging social ranking during the Late Period (Arnold 1987). Although the motivating forces for such trends have yet to be identified with certainty, some researchers have suggested that economies controlled by social elites spurred increasing economic productivity and resultant population growth (Clewlow et al. 1978; King 1990). More recently, archaeologists have linked past changes in subsistence, population, exchange, health, and violence to periods of drought and resource stress that occurred during the Medieval Warm Interval (Arnold 1992a, 1992b; Arnold et al. 1997; Jones et al. 1999; Larson 1987; Moratto et al. 1978).

2.4.4 Late Prehistoric Period (ca. 750–410 B.P.)

The Medieval Warm extended into the Late Prehistoric Period, ending about 550 B.P. The cultural trends and patterns of land-use which characterized the Medieval Warm Interval, including that portion which extends into the earlier part of the Late Prehistoric Period, were discussed above. At the end of the Medieval Warm, however, and lasting throughout the ensuing Protohistoric Period (410–150 B.P.), a period of cooler temperatures and greater precipitation ushered in the Little Ice Age during which time ecosystem productivity greatly increased along with the availability and predictability of water (Spaulding 2001).

Also during this period, Lake Cahuilla began to recede (Waters 1983), and the large Patayan populations occupying its shores began moving eastward to the Colorado River basin or westward into areas such as Anza Borrego, Coyote Canyon, the Upper Coachella Valley, the Little San Bernardino Mountains, and the San Jacinto Plain (Wilke 1976: 172–183). The final desiccation of Lake Cahuilla, which had occurred by approximately 370 B.P. (A.D. 1580), resulted in a population shift away from the lakebed into the Peninsular Ranges and inland valleys to the west, and the Colorado River regions to the east.

With the return of more mesic conditions after approximately 550 B.P., resulting in less resource stress, the ESRP studies show that people returned to a less intensive, semi-sedentary land-use strategy similar to that identified for the Late Archaic Period. Within the ESRP, evidence of intensive occupation dating to the Late Prehistoric Period occurs at five residential sites comprising 16 separate components; all of these coincide with sites that were occupied during earlier periods, and all are situated on elevated bedrock benches near active springs and overlook the valley floor (Goldberg 2001).

By segregating those components dating to the Medieval Warm Interval from other Late Prehistoric components, the differences between land-use strategies for these periods can be demonstrated. The ESRP studies show that after the Medieval Warm Interval there was a quite unexpected reduction in the number and frequency of refuse deposits, as well as fire-altered rock weight and midden development. The number and frequency of artifact and toolstone caches were also reduced, while hearth features were slightly more common. Rock art also first appeared in association with Late Prehistoric components which post-date the Medieval Warm Interval. The decrease in the number of artifact and toolstone caches and the first appearance of rock art during this period suggests that residential sites may have been occupied year-round (Horne 2001).

Mortars and pestles and other grinding tools also declined in importance after the Medieval Warm in the ESRP site components, suggesting that the intensive procurement and processing of

acorns and other plant foods was no longer as critical as previously; this pattern is further supported by a decline in the effort expended in shaping grinding tools (Klink 2001a). A reduction in emphasis on plant foods, and especially acorns, which require intensive preparation, likely accounts for the reduction in refuse deposits, fire-altered rock weights, and midden development at the end of the Late Prehistoric. It is possible that the portable milling toolkit was supplemented substantially by bedrock milling features; however, bedrock features cannot be dated, and so cannot be assigned to any particular time period(s). Percentages of projectile points also increased somewhat after the Medieval Warm (Cottonwood Triangular points began to appear in inland assemblages at this time, and Obsidian Butte obsidian became much more common), suggesting increased focus on large mammals, but the lower ratio of late-stage bifaces indicates that hunting methods returned to random-encounter strategies, rather than the logistical forays of the preceding period (Klink 2001b). Of particular note, faunal assemblages produced an anomalously high lagomorph index after the Medieval Warm, suggesting a very wet climatic regime with dense undergrowth well suited to cottontails (McKim 2001). Finally, the percentage of non-utilitarian artifacts declined considerably, suggesting that trade was no longer critical for assuring food supplies (Klink 2001c).

2.4.5 Protohistoric Period (ca. 410–180 B.P.)

The ameliorated, productive conditions of the Little Ice Age continued throughout the Protohistoric Period. Generally speaking, sedentism intensified during the Protohistoric Period, with small, but apparently fully sedentary villages forming. Increased hunting efficiency (through use of the bow and arrow) and widespread exploitation of acorns and other hard nuts and berries (indicated by the abundance of mortars and pestles) provided reliable and storable food resources. This, in turn, promoted greater sedentism. Related to this increase in resource utilization and sedentism are sites with deeper middens, suggesting central-based wandering or permanent habitation. These would have been the villages, or rancherias, noted by the early non-native explorers (True 1966, 1970).

Within the ESRP, the most striking change in material cultural in this period was the local manufacture of ceramic vessels and ceramic smoking pipes. Although pottery was known in the Colorado Desert as long ago as 800 B.P., ceramic technology in the Project region appears to date to around 350 B.P. Also during this interval, abundant amounts of obsidian were imported into the region from the Obsidian Butte source which was exposed by the desiccation of Lake Cahuilla. In addition, Cottonwood Triangular points were supplemented by Desert Side-notched points during this period. Late in this period, some European trade goods (i.e., glass trade beads) were added to the previous cultural assemblages (Meighan 1954).

Based on work in the San Luis Rey River Basin in northern San Diego County, Meighan (1954), True (1970), and True et al. (1974, 1991) have defined two Late Prehistoric/Protohistoric Period complexes that are worthy of mention. The "San Luis Rey I Complex" existed from approximately 600 to 250 B.P., and is typified by grinding implements, small triangular projectile points with concave bases, stone pendants, *Olivella* shell beads, quartz crystals, and bone tools. The "San Luis Rey II Complex," lasting from about 250 to 150 B.P., is very similar, but with the addition of ceramic vessels (including cremation urns), red and black pictographs, glass beads, metal knives, and steatite arrow straighteners. True et al. (1974) believe that the San Luis Rey complexes developed out of the earlier La Jolla/Pauma cultural substratum, and are the prehistoric antecedents to the historically known Luiseño Indians.

The Hakataya influence in coastal and inland southern California regions appears to have diminished during the late Protohistoric Period when the extensive trade networks along the Mojave River and in Antelope Valley appear to have broken down and the large village sites were abandoned (Warren 1984:427). Warren (1984:428) suggests that the apparent disruption in trade networks may have been caused by the movement of the Colorado River basin Chemehuevi populations southward across the trade routes during late Protohistoric Period.

Within the ESRP, all five village clusters located on elevated bedrock surfaces near active springs and overlooking the valley floor that were occupied during the Late Prehistoric Period saw continued occupation in the Protohistoric Period. Most archaeological data from the ESRP site components dating to the Protohistoric Period indicate that a fully sedentary land-use strategy was adopted during this period. Given the spatial coincidence of the Protohistoric villages with residential sites of the Late Prehistoric Period, this sedentism appears to have been a further intensification of patterns established in the earlier period. At that time, resource stress did not appear to have been an issue; resource niche widths were expanded, and intensive resource processing that had been required during the Medieval Warm Interval appeared not to have been necessary. However, even though the climatic conditions of the Little Ice Age afforded a very productive environment during both the Late Prehistoric and Protohistoric periods, land-use strategies intensified during the later period. The use of plant food increased, as did the intensity of the processing effort. The Protohistoric Period exhibited the highest ranks for fire-altered rock and midden development, as well as rock ring foundations for brush dwellings, storage facilities, and ceremonial areas with rock art and rock enclosures; overall, there was a fluorescence of feature types and numbers at this time (Horne 2001). The faunal data for this period indicate a decrease in faunal diversity, and signify a reduction in diet breadth as well as greater intensification (McKim 2001).

The intensification in land use during the Protohistoric Period seen in the ESRP assemblages mirrors changes that occurred at the end of the Late Archaic when it is hypothesized that the collecting strategy evolved from rest-rotation to semi-sedentary. Climatic degradation causing resource stress beginning about 2100 B.P. is thought to have triggered that shift. If the environment during the Protohistoric Period was just as productive as during the earlier portion of the Little Ice Age (Late Prehistoric Period), what then accounts for land-use intensification at this time? Apparently resources were stressed again, but not by deteriorating productivity of the environment. Rather, population growth probably led to competition for food, and possibly water and fuel resources. While preceding periods of stress could have been relieved by expansion of territory and diet breadth, increasing populations would have precluded the opportunity for territory expansion. Therefore, it is hypothesized that the shift to a fully sedentary strategy was brought about by population stress, which itself was initiated during the Late Prehistoric Period when the environment was productive and populations were very successful at exploiting that productivity (Goldberg 2001).

Other archaeological patterns exhibited by the ESRP Protohistoric components were likely a result of sedentism and protection of territories. As it is today, logistical mobility would have become essential for provisioning fully sedentary communities. With lower temperatures during the Little Ice Age but no source of fuel wood in or near the ESRP, procurement of fuel may have become an increasingly important element of logistical provisioning. Although there was a fluorescence of feature types and numbers at the ESRP sites dating to the Protohistoric Period, the number of artifact and toolstone caches reached an all-time low; toolstone and artifact caches would no longer have been required because there were year-round occupants at residential

bases. Due to increased territoriality, resource intensification would have been required because territorial and resource niche-width expansion was no longer a viable option. Likewise, along with increasing territorial circumscription would have come the inevitable fact that residential bases were occupied longer than the inhabitants had originally anticipated; moving the residential base may no longer have been an option. As well, trade and ceremonial gatherings with other groups would have helped maintain social relationships and ensure food resources. Finally, sedentism and the need to protect critical resources from competitors may have eventually led to conflict. Protohistoric patterns of raw material procurement indicate that desert materials (obsidian and chert) gained prominence, while other relatively closer sources of exotic raw materials from the west (basalt, andesite, rhyolite, metavolcanic rock, and Piedra de Lumbre "chert") were little used, suggesting that territorial boundaries, at least to the west, had become established. While there was no direct evidence of physical conflict at any of the ESRP sites, the locations of villages on elevated bedrock surfaces overlooking the valley may have been designed to afford views of intruders; an increase in projectile points may reflect a need for defensive weapons (Goldberg et al. 2001).

2.5 ETHNOGRAPHIC SETTING

Based on information passed down from Tribal elders, published academic works in the areas of anthropology, history, and ethnohistory, and through recorded ethnographic and linguistic accounts (cf., Freers and Smith 1994; Kroeber 1925; Strong 1929; Vane 2000), the Project area lies within the ancestral cultural territory of the Luiseño. However, the Project area may also have been occupied by the Cahuilla due to population shifts in the historic era (Bean 1978). Both of these tribes speak a language of the Takic branch of the Shoshonean family, part of the larger Uto-Aztecan language stock. The following discussions of Luiseño and Cahuilla traditional culture are derived primarily from Bean (1978) and Bean and Shipek (1978).

2.5.1 Luiseño

Territory. The term Luiseño originated as a description of the native peoples associated with Mission San Luis Rey near Oceanside. Luiseño territory in ethnographic times encompassed a stretch of the California coast and included most of the drainage of the San Luis Rey and Santa Margarita rivers. Inland, Luiseño territory extended south from Santiago Peak, including the Elsinore and Temecula valleys, and extended farther south to Mount Palomar and the Lake Henshaw area, then west to the coast at Agua Hedionda Creek. The coastal territory of the Luiseño extended north to near San Mateo Creek in Orange County (Bean 1978). Their territory included every ecological zone from the coastline to the mountains. Elders of the Pechanga Band of Luiseño Indians add that the Temecula/Pechanga people had usage/gathering rights to an area extending from Rawson Canyon on the east, over to Lake Mathews on the northwest, down to Temescal Canyon to Temecula, eastward to Aguanga, and then along the crest of the Cahuilla Range back to Rawson Canyon.

Social and Political Organization. The traces of any Luiseño moiety system that may have existed are indistinct, but suggest a division into easterners (inland groups) and westerners (coastal groups) (Bean and Shipek 1978:550). The social structure of the Luiseños was severely disrupted by the mission system as early as the 1770s. Their population density is thought to have been greater than that of the Cahuilla, probably because they occupied a more favorable environment. Each village was occupied by a "clan tribelet—a group of people patrilineally related who owned an area in common and who were politically and economically autonomous

from neighboring groups" (Bean and Shipek 1978:555). The clan tribelets, by the time anthropologists studied them, were composed of one major lineage who had a ceremonial head, a ceremonial house or enclosure, and a ceremonial bundle, and the remnants of other lineages. Settlements, occupied by one or more familial groups, were sometimes politically autonomous, but sometimes several villages were allied under one chief. The hereditary chiefs had religious, economic, and military power, and were role models for their people. They were assisted in their duties by one or more assistants. The chiefs and their families were the elites of the society, along with the very wealthy. The acquisition of wealth was important, but the acquisition of extreme wealth was prevented by the custom of burning or burying the possessions of the deceased.

Subsistence and Material Culture. The Luiseño were, for the most part, hunters, collectors, and harvesters. Their subsistence patterns can be attributed mostly to their environments. Clans were apt to own land in valley, foothill, and mountain areas, providing them with the resources of many different ecological niches. Villages were usually located in coves or canyons that offered some shelter from the sun and wind, featured a reliable water supply, and that was defensible. Settlement areas were surrounded by named places associated with food products, raw materials, or sacred beings. Hunting and gathering places were owned by individuals, families, the chief, or by the collective community (Bean and Shipek 1978:551). Certain clusters or groves of tobacco, eagle nests, cactus, oaks, or other sources of food and medicine were guarded and owned by individuals. Collecting outside of one's area could only be done with permission of the owner, and failure to do so could result in physical combat or sorcery against one another. Most food resources were gathered within close proximity to the village, but during certain seasons the family group would move to the coast for marine resources or into the mountains for acorns and deer.

Game animals included deer, cottontail rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, quail, doves, ducks, and other birds. Tree squirrels, most reptiles, and predators were avoided as food resources, except possibly during lean times. As in most of California, acorns were a major staple, but the roots, leaves, seeds, and fruit of many other plants also were used. Insects were also available as food resources. Roots and shoots of various types were gathered from marshes and wetlands. Seeds from various grasses and scrub plants also played an important role in the aboriginal diet and were available for harvest from summer through fall. Certain mushrooms and tree fungi supplemented the diet and were considered delicacies. Teas were made from a variety of floral resources and were used for medicinal cures as well as for beverages. Tobacco and datura were sacred plants used for rituals and medicine. Fire was used as a crop-management technique and for communal rabbit drives (Bean and Shipek 1978:552).

To gather these food resources and to prepare them for eating, the Luiseño had an extensive inventory of equipment. The throwing stick and bow and arrow were the most important hunting tools for killing game, but snares, traps, slings, decoys, disguises, and hunting blinds also were part of the hunting technology. Many villages had access to creeks and rivers, and nets, traps, spears, hooks and lines, and poisons were used to catch fish. Gathering required few tools: poles for shaking pine nuts and acorns from the trees, cactus pickers, chia hooks, seed beaters, digging sticks and weights for digging sticks, and pry bars (Bean and Shipek 1978:552-553).

Food was usually stored in large storage baskets. Pottery ollas and baskets treated with asphaltum also were used to store and carry water and seeds. Wood, clay, and steatite were used to make jars, bowls, and trays. Skin and woven grass were used to make bags. Food processing

required hammers and anvils for cracking nuts; mortars and pestles for grinding acorns and other hard nuts and berries; manos and metates for grinding seeds and berries; winnowing baskets; strainers; leaching baskets and bowls; cutting implements made of stone, bone, and wood. Basket mortars, made by using asphaltum to attach an open-bottomed basket to a mortar, were important for food processing. Food was served in wooden and gourd dishes and cups and in basket bowls that were sometimes tarred. Wood, shell, and horn were used for spoons (Bean and Shipek 1978:553).

Most Luiseño houses were conical and partially subterranean; however, during the nineteenth century some Luiseño had rectangular houses. The dwellings were made of locally available material, such as reeds, brush, or bark. Occupants entered using a door at the side of the shelter, which was sometimes accessed through a short tunnel. Smoke from a central fireplace rose through a hole in the center of the roof. Domestic chores, such as cooking, eating, and social interaction, often occurred under a brush-covered ramada that stood near the house. Earth-covered sweat houses for purification and curing rituals, ceremonial houses with fenced areas, and granaries for food storage were found in most villages (Bean and Shipek 1978:553; Bean and Vane 2001:VI.D-5).

Religion, Ceremony, and World View. The various life cycles of the Luiseño, including birth, puberty, marriage, and death were celebrated in ritual. At birth, the child was confirmed to the group and the patrilineage (Bean and Shipek 1978:556). Girls and boys were initiated in puberty rituals, which taught them about supernatural beings, the rules of behavior, and explained how their actions would be governed through adulthood. The boys' ceremony included the drinking of *toloache*, which induced visions, followed by dancing, and the teaching of songs and rituals. The girls' ceremony included instruction for maintaining a household and preparation for marriage, rock paintings, and a "roasting ceremony" that included placing the young girl in a bed of warm sand to prepare her for child bearing. Girls were married shortly after their puberty ceremony. Marriages were arranged by the parents to ensure that the two were not closely related, and to form alliances between groups. Marriage ceremonies included a bride-price, after which the couple resided with the husband's lineage. Death rituals were surrounded by purification, from washing one's clothes to smoking and incense. The mourning ritual was attended by close relatives as well as related clans. An image-burning ceremony was held to commemorate the death of an individual, and was considered the last of the rites, ending formal mourning after a period of time. During the ceremony an image of the person was burned to signify their passing, followed by a feast and presentation of gifts to guests. To commemorate the death of a chief, an eagle was killed (Bean and Shipek 1978:556).

Among the Luiseño, rituals played a role in governing hunting, harvest, warfare, and all other major activities of village life. Many rituals were connected with the *Chinigchinich* cult among the Luiseño. A great deal is known about this religion because Father Boscana of Mission San Juan Capistrano recorded what he knew of it in 1828 (Boscana 1978). The *Chinigchinich* religion may have originated as recently as the late eighteenth century. It spread southward to the Luiseño, and then to some of the Hokan-speaking peoples of present-day San Diego County. It did not reach the Cahuilla. This religion originated among the Gabrieliño to the north in the appearance of a second deity at the village of *Puvu*, the birthplace of *Wiyot*, one of the first creations who established the order of the world in Luiseño cosmology. This second deity gave the Gabrieliño instructions for proper living. *Chinigchinic*h was an avenging god, whose animal helpers, such as eagles, hawks, ravens, and rattlesnakes, kept watch to see that people obeyed *Chinigchinich's* rules, and avenged transgressions. Shamans and boys undergoing puberty rites

drank infusions of *toloache* made from the datura plant in order to gain supernatural power. Sand paintings were a significant component of the *Chinigchinich* religion, and although utilized by several southern California groups, they are best documented among the Luiseño. They were made at boys' and girls' initiations, and at the death of cult members. The sand paintings were constructed to include various elements used in the ritual to which it pertained, and once the ritual was completed, the sand painting was destroyed (Bean and Shipek 1978:556).

2.5.2 Cahuilla

Territory. Ethnographically, Cahuilla territory spanned from the summit of the San Bernardino Mountains in the north to Borrego Springs and the Chocolate Mountains in the south, a portion of the Colorado Desert west of Orocopia Mountain to the east, the San Jacinto Plain as far as Riverside, and the eastern slopes of Palomar Mountain to the west (Bean 1978:575). Bean (1978:583) has estimated the total population of the three Cahuilla divisions—the Mountain, Pass, and Desert Divisions—at between 6,000 and 10,000 people at Spanish contact in the late eighteenth century. The Cahuilla occupied a topographically complex region that includes mountain ranges with elevations of 11,000 ft, to low desert at 273 ft below sea level, interspersed by passes, canyons, foothills, and valleys. Seasonal extremes in temperature, precipitation, and wind characterize the region.

Social and Political Organization. The term Cahuilla is of uncertain origin; the language belongs to the Cupan subgroup of the Takic family of Uto-Aztecan stock. The Cahuilla were grouped into clans or sibs that were organized on the basis of patrilineal descent (Bean 1978:580). Individuals related to a common male ancestor by descent through the male line belonged to the same clan, whether they were males or females. All Cahuilla clans, whether of the Mountain Cahuilla, Pass Cahuilla, or Desert Cahuilla divisions of this native language-culture group, belonged to one of two moiety divisions—Wildcat or Coyote. This moiety system regulated marriage, such that clans that belonged to the Coyote moiety division had to seek a spouse belonging to a clan belonging to the Wildcat moiety division.

For the Cahuilla, individual clans were led by a chief or *net*, who acted as both a political and ceremonial leader. The *net* had charge of the sacred house (dance house) and sacred bundle, *maswut*. This sacred bundle consisted of matting, originally of seagrass, which was wrapped around ritual paraphernalia and items sacred to the clan. This bundle was a sacred expression of the identity of the clan. It was kept in a special enclosure at the back of the sacred house, which also served as a dance house, and originally as a residence of the net. Among many clans, the *net* was assisted by a *Paha*, a ritual assistant or "master of ceremonies," also found among other Takic groups. This pattern of political and ritual "offices" is generally similar to that of the Serrano, Cupeño, and Luiseño. The individual lineages, however, lacked their own sacred bundle, sacred house, and *net*. Sometimes the individual lineages might live together to gather at a particular location, but sometimes they lived at separate named localities. Even if they lived separately, however, they were dependent on the *net*, or clan ritual and religious leader. As Strong (1929) pointed out, the *Pūalem*, the shamans or wizards of the Cahuilla, played an important role in Cahuilla culture but were not officers or political or ritual leaders of the individual clans. Their enterprise was individual rather than group-corporate (Bean 1972, 1978).

Subsistence and Material Culture. The Cahuilla were hunters, collectors, and harvesters. A diverse habitat provided an immense variety of floral resources, which the Cahuilla used for food, medicine, and manufacture of tools and shelter (Bean 1978:578). Acorns, screw beans,

mesquite, piñon, cactus fruits, seeds, wild berries, tubers, roots, and greens were valuable food resources. Corn, beans, squash and melons from the Colorado River tribes were raised in garden plots by the Cahuilla. Hunting and butchering of meat was carried out by the men, while women did the cooking and the acorn and seed processing. Acorns and hard berries were pounded in stone mortars, while hard seeds were ground on stone metates. Softer foods, like honey mesquite, were pounded in wooden mortars. Various basket and pottery forms were used to process and cook plant foods. Stone lined pit ovens were used to cook yucca, agave, and tule-potatoes. Large granaries were constructed for storing acorns, and pottery ollas were used to store seeds. At ancient Lake Cahuilla in the Coachella Valley, periods of high lake stands brought Cahuilla from the mountain areas down to the valley floor to exploit the freshwater aquatic resources such as fish, shellfish, waterfowl, and shoreline vegetation (Wilke 1976:8, from Blake 1856:98).

Cahuilla pottery was manufactured by the coil method and paddle-and-anvil technique, and was often painted or incised. Their pottery forms included cooking pots, ollas, bowls, dishes, and tobacco pipes. Basketry was produced by a stitched coil method, and forms included flat plates or trays for winnowing seeds, both shallow and deep baskets, conical baskets, and round flat bottom baskets, which were often decorated with cosmological motifs (Bean 1978:579). Arrow-shaft straighteners were made of soapstone and incised with designs that reflected ownership. Bows were made of willow or mesquite, and were strung with mescal fiber or sinew. Ceremonial items included charmstones, bull-roars, clappers, rattles, feathered headdresses, wands, and eagle feather skirts and capes. Clothing included sandals made of mescal fiber, rabbit skin or other hide blankets, and skirts made of tule, or the soft inner bark of mesquite or cottonwood.

Tribal cosmology and history were recorded in Cahuilla songs, and "songs accompanied games, secular dances, shamanic activities, and hunting and food-gathering activities" (Bean 1978:580). Musical expression was primarily vocal, although instruments often accompanied the song and included one or more of the following: elder flutes, split-stick clappers, whistles, pan-pipes, bone flageolets, or rattles made of deer hooves, turtle shell, gourds, seashells, or dried cocoons. Games were also an important part of Cahuilla society, and wagers were often placed on the outcome of the game, such as a guessing game played by men, called peón (Bean 1978:580).

Cahuilla shelters were more often made of brush, although some were wattled and plastered with adobe mud. In prehistoric times, these shelters are believed to have been dome-shaped; during post-contact times they tended to be rectangular. The entryway into the shelter was usually covered with hides or woven mats, and one or more holes were left open at the roof peak for smoke to escape. Most of the Cahuilla's domestic activities were performed outside within the shade of large, expansive ramadas. Within each village, the chief's house was the largest and was usually next to the ceremonial house. Each village also had a men's sweat house and several granaries (Bean 1978:578; Bean and Vane 2001:VI.D-1).

Some Cahuillas specialized as traders, with goods being transferred as far west as Catalina Island, and east to the Gila River (Bean 1978:582). Trade items included shell beads, steatite ornaments, asphaltum, food products, hides, furs, obsidian, turquoise, and salt. Within the Cahuilla territory, local craftsmen exchanged their wares among the group for services and goods.

Religion, Ceremony, and World View. The Cahuilla understand the universe in terms of power, and power, believed to be sentient and to have will, was assumed to be the principal causative agent for all phenomena, whether good or bad (Bean 1978:582). The presence of power was used to explain all unusual talents, events, or differences in the universe. Shamans, always male, were both revered and feared (Bean 1978:581). They could eat fire, cure illness, cause rain, increase food resources, keep away evil spirits, and some could even change shape into animals, or could kill a person instantly with supernatural power. A shaman's status was often reaffirmed through public demonstration of his abilities. As power figures, they acted together with the net as community leaders. Another person of power was a diviner or dreamer, either male or female, who could foretell future events, find lost objects, and locate game and new food resources. A medicine doctor, often a woman, was not connected with supernatural power, but possessed great knowledge in the use of medicinal herbs and medical conditions.

The Cahuilla's creator-god, *Múkat*, established the order of the world and how the dead should be cremated (Bean 1978:583). The elderly, through the story of *Múka*t, attained privilege, power, and honor through wisdom and age. Elders, it was taught, are the repositories of knowledge and lore, which was especially important among the Cahuilla, who lived in a diverse and often harsh environment. The elderly were respected as teachers of the values and skills needed for a successful adult life. Older women taught young girls the techniques of basketry, and values of womanhood, and performed tasks that were time-consuming such as grinding seeds and making blankets. Older men made hunting implements and taught boys the traditional societal values as well as hunting techniques.

Cahuilla were taught to share possessions, food, and capital within an enforced system of reciprocity (Bean 1978:583). Failure to reciprocate could be punishable by public ridicule. Lineages and clans shared harvesting and hunting areas in a reciprocal manner when there was a surplus of game or food. Following the teachings of *Múkat*, Cahuilla children were taught to do things slowly, orderly, and deliberately, and to be aware of any possible ramifications for their actions. Therefore, actions were usually explicit and direct as possible to avoid misunderstandings.

Cahuilla rituals included the mourning ceremony, the eagle ceremony, birth, naming, adolescence, marriage, status changes, and performances to improve subsistence resources (Bean 1978:582). At the center of many of these rituals was the performance of songs that recorded the cosmology and history of Cahuilla tradition. Some song cycles could be very long and complex requiring several days to perform. These ceremonial songs were sung and taught to younger assistants by a ceremonial song leader. Dancers often accompanied the singers to enact mythical events. Marriages were arranged by the parents, and spouses were chosen that were unrelated by at least five generations, or sometimes crossed cultural boundaries between the Cahuilla and neighboring groups. Husbands were expected to be skilled in economic pursuit, while women were expected to work hard to produce food and bear children. Food and gifts were presented to the wife's family at the time of marriage, and afterwards she took residence within the husband's kin group. The birth of a child signified an economic and social alliance between the two families, and the reciprocal exchange of gifts and food. At death, a person's soul went to the land of the dead, to the east of the Cahuilla territory, where all others before went. Spirits could still pass messages to the living, "advising, sanctioning, and aiding those still on earth" (Bean 1978:582).

2.6 MISSIONIZATION AND NATIVE AMERICAN LIFEWAYS

European settlement of California began with the founding of Mission San Diego de Alcala in 1769, although European explorer Juan Rodriguez Cabrillo had contact with southern California coastal tribes in 1542. The establishment of Mission San Gabriel in 1771 had an indirect impact on the native inhabitants of the Project region. The founding of Mission San Luis Rey in 1798, had a profound effect on the Native American populations located in the Project region, especially the Luiseño, who derive their name from this mission.

The first European contact with the Cahuilla was by the Juan Bautista de Anza expedition, which passed through the Coachella Valley in 1774. Subsequently, in 1781, hostility by the Quechan Indians along the Colorado River closed this land route across California from Santa Fe. Europeans primarily used sea routes to populate and supply California, due to the superior technology of ships and harsh conditions in the interior deserts, which made land travel a daunting prospect. The Cahuilla, therefore, had little direct contact with Europeans except for those baptized at missions in San Gabriel, San Luis Rey, and San Diego, and thus integrated into the mission system.

In 1819, several Mission-associated *asistencias* were established, such as the Pala *asistencia* located about 17 miles (mi) south of the Project area. At Rancho San Jacinto Viejo, one of the most remote ranchos associated with Mission San Luis Rey, livestock ranching was the principal pursuit. Although not officially part of the rancho, the broad grasslands of the San Jacinto Plains were often used to graze the rancho cattle.

Mission San Luis Rey, like other California missions, began baptizing people who lived in the immediate vicinity of the mission; however, as time went on, the Mission Fathers went farther and farther away in search of converts. Mission life was highly regimented and contrasted sharply with the southern California traditional Native American lifeway. As a result, colonization had a dramatic and negative effect on Native American society, including fugitivism.

For the most part, young, active, working adults of southern California Native American communities were forcibly baptized during the 1810s. This left traditional Native American communities economically devastated, because significant portions of the labor force were removed. Fewer active young people remained to hunt and collect food; to take care of the sick, young, and elderly; to defend territorial rights against other native groups or poachers; and to authenticate the culture's stories and traditions (Bean and Vane 2001).

During this period, the local Native American populations became increasingly sedentary, and learned to use the Spanish language. Cahuillas adopted some European economic practices such as cattle ranching, agriculture, trade, and wage labor, as well as cultural traits such as clothing styles. Some Cahuillas worked seasonally for the local Euro-American inhabitants and lived for the remainder of the year in their villages.

2.7 HISTORY

The regional history of the area is divided into the Mission, the Mexican, and the American periods and is primarily based on discussions in Brackett (1939), Robinson (1957), Sholders

(2002), Wells et al. (1992), and Wirth Associates (1978). The following has been adapted from Mirro (2006).

The Mission Period began with the early Spanish explorers and continued until the 1830s. The California coast was first explored by Juan Cabrillo in 1542. Poor sailing conditions along California's coastline prompted explorers, led by Pedro Fages in 1772 and 1782, to find overland routes for colonization. In 1795, the missionary Father Juan Mariner, along with Captain Juan Pablo Grijalva, explored the Pala, Pauma, and San Luis Rey River area searching for an appropriate locality for a new mission.

The Mission Period continued in 1798 with the establishment of Mission San Luis Rey, located near present-day Oceanside far to the west of the Project area. The first major church structure associated with the mission consecrated in 1802 under the direction of Father Antonio Peyri. According to Mission records, at least 300 neophytes were enrolled there during this time. The neophytes provided labor for raising livestock and cultivating crops on the extensive mission lands. Father Peyri also established the Asistencia de San Antonio de Pala. A granary was constructed at that location in 1810, and the Asistencia was dedicated in the year 1816.

The economic success of the mission system prompted private citizens to argue in favor of secularization of lands in Alta California. Their wish was realized in 1834.

During the late 1830s and 1840s, the Mexican government divided large land holdings of the Catholic Church and made grants of ex-mission lands to private citizens. Two large ranchos located north of Pala were granted in the Project vicinity. The 26,597.96-ac Pauba Rancho was granted first by Governor Manuel Micheltorena to Vincente Moraga in 1844 and second by Governor Pio Pico to Vicente Moraga and Luis Aranes in 1846. Rancho Temecula, also located north of Pala, was granted for 26,608.94 ac to Felix Valdez by Governor Manuel Micheltorena in 1844. Governor Pio Pico also granted a one-half league rancho known as "Little Temecula" to a Luiseño, Pablo Apis in 1843. The 13,000 acre Monserrate Ranch, located west of Pala, was granted to Ysidro Maria Alvarado by Governor Pio Pico in 1846. The Californios, as the California-born children of Mexican settlers were known, operated cattle ranches on these lands, often employing the former mission Indians as laborers.

The Mexican Period ended with the Mexican War, which began in 1846 when the United States Army invaded California. One of the early battles of this war took place in December of 1846 at San Pasqual near Escondido. A few days later, at Pauma, 11 of the California combatants were killed by a group of Luiseño. Subsequently, a coalition of California soldiers and Cahuilla Indians attacked and killed approximately 100 Luiseño at Nigger Canyon near today's Vail Lake Dam. These two events are known, respectively, as the Pauma Massacre and the Temecula Massacre. The victims of the latter massacre were buried in Pauba Valley south of Highway 79 (Hallaran 1991).

One week before the signing of the Guadalupe Hidalgo Treaty in 1848, gold was discovered in northern California. The gold rush of the 1840s and 1850s had a tremendous impact on the newly established state of California. Anglo-Americans began arriving en masse from the east, overwhelming a population that had consisted mostly of Californios and Native Americans. Most of the gold seekers entered California in the north, but southern routes across the Mojave and Colorado deserts were also utilized, primarily during winter months. The trail through Warner's Pass was the primary route into southern California.

In the San Diego County region, the gold rush had the dual impact of depopulating the area, but stimulating the economy. The demand for beef by the miners dramatically increased prices, and the cattle ranchers of southern California prospered briefly.

During the 1850s and 1860s, the transportation routes in southern California were upgraded. Pertinent to the Project region is the Butterfield Stage Road, which ran along the Southern Emigrant Route through Pauba Valley. The Little Temecula Ranch store, owned by John Magee, was one of the customary stops along this trail. The operation of the southern portion of the Butterfield Stage line was disrupted by the Civil War, but the roads continued to be an important inland transportation corridor, with Anglo-American settlers and expanded agricultural markets. Settlement was concentrated in the valleys, where small communities developed.

At the beginning of the twentieth century, farming continued to be a major industry in the Project region. Primary crops in the region included grapes, olives, citrus, and avocados; a pattern that has persisted in the inland areas.

Water is, of course, critical to farming, and the last century of history in the area is closely linked to availability of this resource. As a result of the population boom, private companies were formed in the area to build water reservoirs, both for drinking and irrigation. In the early twentieth century, a number of mutual water companies were organized. Following World War I, three agricultural contractors and Metropolitan signed a contract with the Secretary of the Interior in response to the drought of 1928–1934, resulting in delivery of Colorado River water via the Colorado River Aqueduct by July 1941, providing supplemental water in the region. These water sources supplemented local water supplies in San Diego and Riverside counties, particularly along the coast. Inland agricultural areas are presently being impacted by the expanding urban zones.

2.7.1 French Valley/Auld Valley Region

The French Valley/Auld Valley region was open to settlement in the 1880s. The region fell within 20 mi of a railroad right-of-way privileged with a federal land grant (the California Southern route); therefore, odd-numbered sections of surveyed public land were granted to this railroad for resale to settlers. In Township 6 South, Range 2 West, SBBM, major transfers of public land to railroad control were made during the 1880s–1890s (BLM n.d.).

Even-numbered sections of public land in the area were open to homesteading and certain other forms of public land entry. Homesteading required, among other things, five years of residence on the claimed landholding and construction of a habitable dwelling. The maximum land area that an individual was allowed to homestead was 160 ac, or one-quarter of a Township section. Pioneer families in the area in the 1880s included those of Auguste, Alexandre, and Calixte Vail, Auguste Cantarini, Jean Nicolas, Pierre Pourroy, and Joseph Sauvie in French Valley, and Henry Thompson, and Charles, Henry, and William Auld in Los Alamos (Auld) Valley (Garrison 1963:165). The farmsteads of the Auld families were the nucleus of the Auld community and district in what was called either the Auld Valley or Los Alamos Valley (United States Bureau of the Census 1900). Approximately 2.5 mi west of the crossroads at Auld was another crossroads hamlet called Los Alamos. This was the site of the Los Alamos school, established in 1889.

Potential settlers became interested in the French Valley and adjacent areas in the early and mid-1880s. Two important developments helped to spur this interest. First, the establishment of competing transcontinental rail service between the East and southern California brought a

substantial increase in tourists and emigrants by the mid-1880s, as railroad fares were reduced. This influx was accompanied by a frenzy of real estate promotion, as well as the development of organized cooperative or colony settlement schemes.

A second, more local factor encouraging settlement was the penetration of the railway net to within a few miles of the French Valley region. The sites of Murrieta, 6 mi to the southwest, and Temecula, 8 mi to the south-southwest, were reached by the California Southern line, being built to San Diego, in September of 1883 (A. A. Bynon and Son 1992:104–105,109; Garrison 1963:11–21). Temecula had existed as a small settlement since the 1850s, with its first post office service commencing in 1859, but the railroad brought growth to the town. Murrieta, on the other hand, was brought into existence by the arrival of railroad service. In 1884, the town site of Murrieta was laid out by the Temecula Land and Water Company on lands formerly a part of the Rancho Temecula. Winchester, located seven miles to the north, was founded in 1886–1887, and was reached by a branch railroad line in the latter year (Gustafson and Serpico 1992:163–175; Tapper and Lolmaugh 1990). It was originally settled in the late 1870s by Robert Kirkpatrick and Swiss immigrant farmers Gaudenzio Garboni and Angelo Domenigoni.

These developments made the export of local grain and other farm products economically more feasible. The availability of railroad transport coincided with a decade of relatively wet winters in the late 1880s and early 1890s. This also encouraged local agricultural settlement by newcomers.

The colony schemes were based on the cooperative approach to funding and building gravity-flow irrigation improvements that would permit villages and farm settlements to grow orchard crops such as citrus, other fruits, and nuts for developing world markets. Irrigation would allow such settlements to escape the limitations of dry farming. The passage by the California state legislature of the Wright Act in 1877, permitting local communities to establish irrigation districts with the powers of taxation, was intended to facilitate this local community irrigation development. Gravity-flow irrigation infrastructure was expensive, and in southern California it was difficult for individual property owners to build their own systems, as water usually had to be conveyed to a particular property from a considerable distance away. For settlers of the era of the 1880s, the alternatives to participation in gravity flow irrigation systems were the digging of an artesian-flow well or rejection of irrigation in favor of dry land farming. Before about 1905–1910, pumps and associated power plants that could be used on farms in an economical fashion for large-scale irrigation were not available in southern California. Expensive steam-powered pumps or limited-capacity windmills, introduced in the 1880s, were the only options available (Earle 1998:100–101).

In some parts of the region, artesian well type water flow was not favored by local geological conditions. In the Winchester region, some six miles to the north, major efforts were made in the early 1890s to bring gravity-flow irrigation, using water from the San Jacinto Mountains, to that area (Tapper and Lolmaugh 1990). Meanwhile, in the Diamond, Domenigoni, French, and Auld valleys, hopes for the development of fruit culture were mixed with the reality of a dependence on dry-land farming and stock grazing. On some farms in that region, small deciduous fruit orchards were maintained, and beekeeping and honey production was also common.

In the Greater French Valley region, grain production was the predominant agricultural activity in the early 1890s, with some stock grazing also carried out (Figure 4). As early as 1889, more than 100 railroad carloads of grain were reported shipped from Murrieta station (Garrison

1963:21). This emphasis on grain and grazing is indicated by tax assessor's records, which list only one small vineyard of Muscat grapes owned by George Auld, and no commercial orchards (Riverside County Assessor, Map Books, 1892–1969, Map Book 20, 1892–1895, p.43; Map Book 20, 1896–1899, p.41). The success of local dry land farming varied with the intensity of local winter rainfall. Annual rainfall of 14 in. or more could provide reasonable yields of winter wheat or barley, and straw hay could be produced with a little less rainfall. While modern rainfall averages for the region have approached 13–14 in., the late 1880s and early 1890s were years of heavier than average winter rainfall in southern California, providing encouragement to those engaged in dry-land farming. The grain from French Valley was hauled to Murrieta to be transported by rail to Los Angeles and San Bernardino (Garrison 1963:138, 165, 168).

Figure 4 Nicolas family members harvesting grain in Los Alamos/Auld Valley, circa 1910.

During the late 1890s, years of low rainfall brought crisis to agriculture in southern California. Both the orchard crop areas dependent on gravity flow irrigation and the dry land farm zones were severely affected. Eight of the 10 years between 1896 and 1905 were seriously deficient in winter rainfall. This led to a turnover in land ownership in the region. However, by the time of the 1900 U.S. decennial census, additional families had made their way to the area and would remain there for at least the next several decades. These included the Roripaughs and the Bucks, for whom Buck Road is named, and John Harvey. Arthur Buck, who settled the area with his brothers Andrew, Sherman, and Asaph, originally came to Murrieta from Nebraska in 1896, according to his granddaughter Thelma Buck Bronson (Bronson 2004:2). James Roripaugh had formerly resided in Nebraska as well. His son Jack would later become a well-known figure in the region as foreman of the Pauba Ranch. Thomas Milholland established a ranch at the east end of the Los Alamos Valley, to the east of Hyatt School (Figure 5).

Figure 5 Milholland family house in Los Alamos/Auld Valley region, circa 1900.

The decade of the 1920s offered regional urban growth in southern California that was helpful to many farmers in the region. However, it also brought sustained national declines in the prices of many agricultural commodities due to major increases in agricultural production in the U.S. and elsewhere. Coupled with this were seven years of lower than average rainfall during the 1920s in southern California. The years 1922–1924 were particularly dry, which set off a temporary collapse of hydroelectric power generation. Fruit or alfalfa producers, depending on pumped groundwater, were less affected by these drought conditions than dry-land farm grain producers. In the late 1920s, even before the onset of the Great Depression, farm properties in the region were at least temporarily coming into the hands of banks and other financial institutions, clearly reflected in tax assessor's records (Riverside County Assessor, Map Books 1892–1969, Map Book 20, 1920–1926; Map Book 20, 1927–1933, p.27).

During the worst years of the Depression in the early 1930s, this trend of loss of farm property to creditors was accelerated. This provided an opportunity for some individuals, such as Marius Nicolas, to acquire a number of ranch properties in the area during the 1930s at low prices (Riverside County Assessor, Map Books 1892–1969, Map Book 20, 1927–1933, p. 27; Map Book 20, 1933–1936, p. 27; Map Book 20, 1937–1943, p. 27).

A review of the 1930 U.S. decennial census for the Auld-Los Alamos region shows only a moderate increase in the number of families living in the area as compared to 1900 (from approximately 20 households to 29), although there had been considerable turnover in land ownership (United States Bureau of the Census 1900, 1910, 1920, 1930). This stability was reflected in the continued use of the one room Los Alamos and Hyatt schoolhouses. It is striking, as well, that of 29 households in the area whose 1930 census data were reviewed, there were only two working adult men listed in the 1930 census as farm laborers, and one as a ranch

truck driver, while all other adult men claimed to operate their own farms. Of these farm operators, a significant percentage leased or rented farm property. For southern California at this time this is a very high percentage of farm operators and low percentage of farm laborers. Rural residence with non-agricultural employment was not yet a factor, as it was for some other southern California rural communities at that time. Only one farm was identified as dedicated to poultry raising. Beekeeping was also reported in the area in the 1930s by Viola Carlson.

The crisis in agriculture during the Depression was particularly difficult for southern California farmers who had to pay to pump water to irrigate their crops. Those who obtained their water from irrigation districts often lost their land to water lien sales. However, winter rainfall conditions, beginning in 1934–1935, were quite favorable through 1943–1944, and very helpful to those who were involved in the dry-farming of grain. Thus, after 1934, the dry-farmers who had survived the early Depression years were given an opportunity to stabilize their situation.

Turnover in land ownership during the 1930s and the eventual recovery of agricultural prices by the eve of World War II was followed by the disruptions of the exodus of younger people into military service or leaving to work in urban areas. However, the favorable average rainfall conditions of the years from 1934 through 1944 was followed by a prolonged period of lower than average years of winter rainfall lasting until 1965. The portion of this drought cycle from 1944 through 1951 was particularly severe, with rainfall in Los Angeles, for example, totaling only little more than half of normal in the years 1947–1951. Water from the Colorado River Aqueduct was piped to the region beginning in the early 1940s. Alfalfa, potatoes, watermelons, and sugar beets soon after became the mainstay of farming in many parts of the region.

The post-WWII era ushered in a boom in commercial, industrial, and residential development in and near the region's urban centers, followed by the construction of several freeways linking urban areas to one another. As urban areas were spread outward by development, once-rural areas took on a more semi-rural character, dotted by small, 2.5- and 5-ac "ranch" subdivisions. In more recent years, housing and urban development have spread outward from urban areas and swallowed up former agricultural land at an exponential rate, forever changing the character of the region. During the last decade, inexpensive land and housing transformed many of the towns in southwestern Riverside County into "bedroom" communities for those working in Los Angeles and San Diego Counties. Substantial growth over the last few decades has necessitated the construction of numerous artificial lakes, reservoirs, and other forms of municipal water storage, such as nearby Lake Perris, Lake Skinner, and the Eastside Reservoir. Increased population and automobile traffic has resulted in the need for construction of new roads, as well as expansion and improved safety of many of the pre-existing roads throughout the region. The over-expansion of the housing market, and ultimate crash in 2007, led to a shift in the region's development trend in recent years to increase infrastructure projects to support the population growth. Recently, new residential development has been spurred by a low inventory of homes and a slowly reviving market economy.

3
SOURCES CONSULTED

3.1 INTRODUCTION

A variety of sources were consulted as part of the cultural resources study of the Project area. Included were cultural resources records and literature housed at the Eastern Information Center (EIC) on the campus of the University of California, Riverside. For information pertaining to the local and site-specific history of the Project area, numerous archival resources were consulted. In an effort to gather pertinent information regarding the Native American use of the area and to elicit concerns regarding the Project, the Native American Heritage Commission (NAHC) and Native American individuals and organizations were also consulted. A detailed discussion of the sources consulted and results of these investigations are provided below, as well as in subsequent sections of this report.

3.2 CULTURAL RESOURCES LITERATURE AND RECORDS SEARCH

A cultural resources literature and records search of a one-mile radius surrounding the Project area was conducted by EIC personnel on October 26, 2012. Results of that search indicate that none of the Project area has been previously surveyed for cultural resources, and no cultural resources have been previously identified within the Project boundaries. Within a one-mile radius of the Project area, as many as 34 cultural resources studies have been conducted since the 1970s (Table 1). These investigations resulted in the documentation of 36 cultural resources in the vicinity, including 21 prehistoric Native American sites, nine historic-period buildings, structures, and archaeological resources, and six isolated prehistoric artifacts (Table 2). None of these resources are located within the Project area, however, a segment of the Second San Diego Aqueduct (33-015734; CA-RIV-8195H) is located immediately adjacent to the Project area. This segment of the Aqueduct is a concrete-lined canal structure that was built by the Metropolitan Water District of Southern California (Metropolitan) in 1957–1960. It was previously evaluated for historical significance and found eligible for both the NRHP and CRHR (Easter and Beedle 2005). Due to its proximity to the Project area, this resource is discussed in further detail in later sections of this report.

The prehistoric archaeological sites found in the surrounding area are primarily resource procurement/processing sites consisting of bedrock milling features such as slicks, basin metates, and mortars where Native Americans processed hard seeds, nuts, and other vegetal foods as well as animals. Artifacts, such as manos (hand-held grinding stones used in conjunction with bedrock milling features), hammerstones used for pecking, shaping, and resharpening milling surfaces, and lithic debitage were sometimes found in association with these types of resources. One of the locations contained Native American pictographs (painted rock art), and two others featured lithic quarries. The six isolated prehistoric artifacts included whole or fragmented manos, metates, and hammerstones. The presence of so many prehistoric resources in the vicinity attests to the settlement and use of the surrounding area by Native Americans for thousands of years.

Six of the historic-period sites comprised buildings and/or the ruins of buildings, and scattered refuse dating to the late nineteenth and early to mid twentieth century. In addition, one prospect pit and an abandoned segment of Winchester Road were also identified by previous studies.

Table 1
Previous Cultural Studies within One Mile of the Project Area

EIC Reference #	Year	Author	Title
RI-00227	1977	Ken Daly	Archaeological Assessment of the Northern Half of the Southern Quarter, Section 26, T6S, R2W, Bachelor Mountain Quadrangle, Riverside County, California.
RI-00313	1978	Stephen Bouscaren	Environmental Impact Evaluation: Archaeological Assessment of a Portion of the Winchester Area, Riverside County, California.
RI-00570	1979	Larry L. Bowles and Jean A. Salpas	Archaeological Assessment of PM 14844.
RI-00702	1979	Roger J. Desautels	Archaeological Survey Report on a Portion of Farm Lot 27, in Block "B" of the Murrieta Eucalyptus Company's Tract, as Shown by Map in the File in Book 6, Page 73 of Maps, Riverside County Records, State of California.
RI-00777	1980	Larry L. Bowles and Jean A. Salpas	An Archaeological Assessment of Parcel 14620.
RI-00906	1980	Christopher E. Drover	Environmental Impact Evaluation: Archaeological Assessment of Tentative Parcel 15865, Riverside County, California.
RI-00972	1980	Adella Schroth and Marie Cottrell	Archaeological Assessment of Tentative Parcel 16471, Bachelor Mountain Area, Riverside County, California.
RI-01230	1981	Jean A. Salpas	An Archaeological Assessment of Parcel 172336.
RI-01256	1981	Roger J. Desautels	Archaeological Assessment of TPM 17295.
RI-01587	1979	Larry L. Bowles	Archaeological Assessment Form (PM 15061).
RI-01731	1983	Jean A. Salpas	An Archaeological Assessment of Parcel 19448.
RI-01946	1985	Jean A. Salpas	An Archaeological Assessment of Parcel 20350, Riverside County, California.
RI-02580	1990	Christopher E. Drover	A Cultural Resource Assessment, Dutch Village Project, French Valley, Riverside County, California.
RI-02582	1990	Christopher E. Drover	A Cultural Resource Assessment: Winchester 1800, French Valley, Riverside County, California.
RI-04135	1998	Roger Mason, Philippe Lapin, and Brant A. Brechbiel	Cultural Resources Records Search and Survey Report for a Pacific Bell Mobile Services Telecommunications Facility: CM 501-22, Winchester, Riverside County, California.
RI-04404	2000	Jones and Stokes Associates, Inc.	Final Cultural Resources Inventory Report for the Williams Communications, Inc., Fiber Optic Cable System Installation Project, Riverside to San Diego, California, Vol. I-IV.
RI-04635	2003	Jean A. Keller	A Phase I Cultural Resources Assessment, Tentative Tract Map 30430, 40.16 Acres of Land Near the City of Murrieta, Riverside County, California.
RI-04833	2004	Carol R. Demcak	Phase I Archaeological Assessment of TTM 30837, near Skinner Reservoir in French Valley, Riverside County, California.

Table 1 (continued)

EIC Reference #	Year	Author	Title
RI-04943	2003	Jeanette A. McKenna	A Phase I Cultural Resource Investigation of the Temecula Valley Unified School District School No. 4 Project Area in the Winchester Area of Riverside County, California.
RI-05027	2000	Jeanette A. McKenna	A Phase I Cultural Resources Investigation of the Vista Telecommunications, Inc. Fiber Optic Alignment, Riverside County to San Diego County, California.
RI-05076	2003	Dennis McDougall	Cultural Resources Inventory and Management Recommendations for the Metropolitan Water District of Southern California Lake Skinner Filtration Plant Operations Area.
RI-05450	2005	Roger D. Mason and Cary Cotterman	Phase I Archaeological Survey Report for the French Valley 45 Project, APN 467-180-024, -028, -029, -030, -031, -033, -042, -044, -045, and -047, Tentative Tract 33423, Riverside County, California.
RI-05829	2001	Applied EarthWorks, Inc.	Cultural Resources Survey Report, A Comprehensive Report on the Archaeological Investigations Conducted within the Southwestern Riverside County Multi-Species Reserve.
RI-06046	2004	Matthew Tennyson	Cultural Resources Reconnaissance of the Vereecken Property, Winchester Hills, Riverside County, California.
RI-06720	2006	Roderic McLean	Letter Report: Cultural Resources Study for the Replacement of Three Deteriorated So Cal Edison Wood Utility Poles, on the Keller 12kV Circuit, the Arapaho 12kV Circuit, and the Devers Eisenhower-11D 66kV Circuit, Riverside County, California.
RI-06850	2006	Emily Game, Kevin Hunt, and Judy McKeechan	Cultural Resources Survey for the Classic Collection Project, Tract #33303, Riverside County, California
RI-06921	2005	Patrick O. Maxon and Stephen O'neil	Cultural Resources Survey for the Keller Ranch West (Keller 1 & 2) Development Project, Riverside County, California
RI-07987	2009	Robert J. Wlodarski	Letter Report: Bechtel Wireless Telecommunications Site RS0187 Winchester
RI-08023	2003	Michael Dice and Marnie Vianna	An Archaeological Resource Evaluation and Paleontological Records Search on APN 467-170-049, 467-170-050, and 467-170-051, Tentative Tract #29662, County of Riverside, California.
RI-08155	2005	Stephen O'neil and Patrick Maxon	Cultural Resources for the Keller Ranch East Development Project, Riverside County, California.
RI-08184	2009	Matthew Wetherbee	Phase I Archaeological Resources Assessment of the Proposed Hanna-Winchester Project, Riverside County, California
RI-08428	2009	Wayne H. Bonner and Sarah Williams	Letter Report: Cultural Resources Records Search and Site Visit Results for Verizon Wireless Candidate "Pourroy," 33630 Elmhurst Lane, Winchester, Riverside County, California.
RI-08456	2008	Mark Robinson, Noelle Storey, and Richard Starzak	Historic Property Survey Report: State Route 79 Widening between Thompson Road and Domenigoni Parkway in the County of Riverside, California.
RI-08642	2011	Jean Keller	A Phase I Cultural Resources Assessment of a Portion of General Plan Amendment 954

Table 2
Cultural Resources Located within One Mile of the Project Area

Trinomial	Primary	Description
CA-RIV-868	33-000868	Prehistoric bedrock mortars, manos, and chipping waste
CA-RIV-869	33-000869	Prehistoric bedrock mortars
CA-RIV-1105	33-001105	Prehistoric Native American pictographs
CA-RIV-1270	33-001270	Prehistoric deep basin and shallow metate fragments, mano, pestle, hammerstones, quartz biface, chipping debitage, and fire-cracked rock
CA-RIV-3061	33-003061	Prehistoric basalt flakes, core, and shatter
CA-RIV-3068	33-003068	Prehistoric bedrock milling slicks
CA-RIV-3844H	33-003844	Circa 1890s farmstead ruins
CA-RIV-3845	33-003845	Prehistoric mano and metate fragments
CA-RIV-3846	33-003846	Prehistoric bedrock milling slicks and lithic quarry
-	33-007799	Late nineteenth century farmhouse and well
-	33-007802	Early twentieth century barn
CA-RIV-5905/H	33-007956	Prehistoric bedrock milling slicks and a USGS Benchmark dated 1939
CA-RIV-5906	33-007957	Prehistoric bedrock milling slick
CA-RIV-5907	33-007958	Prehistoric bedrock milling slick
CA-RIV-5943	33-007994	Prehistoric bedrock milling slicks
CA-RIV-5946	33-007997	Prehistoric bedrock milling slicks and a mortar
CA-RIV-6020	33-008106	Prehistoric bedrock milling slab, groundstone fragments, and hammerstones
CA-RIV-6021	33-008107	Prehistoric bedrock milling slicks found on a quartzite outcrop
CA-RIV-6022	33-008108	Prehistoric Native American habitation debris, bedrock milling features, and a lithic quarry
CA-RIV-6284	33-008854	Prehistoric bedrock milling slick
CA-RIV-6290	33-008860	Prehistoric bedrock milling slick
CA-RIV-6291	33-008861	Prehistoric bedrock milling slicks
CA-RIV-6292	33-008862	Prehistoric bedrock milling slick
CA-RIV-6293	33-008863	Prehistoric bedrock milling slicks
CA-RIV-6378	33-009478	Circa 1883 farmstead ruins
CA-RIV-6461H	33-009661	Historic-period stacked rock wall and scattered refuse
—	33-011229	Prehistoric isolate metate
—	33-011230	Prehistoric isolate metate fragment and hammerstone
—	33-011231	Prehistoric isolate metate fragment
—	33-011232	Prehistoric isolate mano and hammerstone
—	33-014715	Prehistoric isolate basalt flake
*CA-RIV-8195H	33-015734	Second San Diego Aqueduct, constructed between 1957–1960
CA-RIV-8736	33-016684	Historic-period prospect pit
—	33-017628	Prehistoric isolate metate fragments
—	33-019665	Abandoned segment of Winchester Road
—	33-021033	Historic-period farmstead remnants

*Adjacent to the Project area

Additional sources consulted during the records search include: the National Register of Historic Places (NRHP); the Office of Historic Preservation (OHP) Archaeological Determinations of Eligibility (ADOE); and the OHP Directory of Properties in the Historic Property Data File (HPD). No NRHP-listed or -eligible properties are located within the boundaries of the Project area. No ADOE has been prepared for any properties located within the boundaries of the Project

area. Two properties are listed in the OHP's HPD, including 33-007799 (a late nineteenth-century farmhouse and well) and 33-007802 (an early twentieth-century barn). Site 33-007799 has been found historically significant and eligible for local listing, while 33-007802 has not yet been evaluated for historical significance.

3.3 ARCHIVAL RESEARCH

A number of archival and historical data sources were examined by Æ's architectural historian/historical archaeologist, Josh Smallwood, in documenting the specific history of the Project parcels and persons who owned and presumably resided upon them during the historic period. These sources of information included historic maps and aerial photographs of the Project vicinity, the Riverside County Assessor map books, records of the General Land Office (GLO) available through the Bureau of Land Management's online database, as well as records of the U.S. Bureau of the Census, California Voter Registrations, and birth, marriage, and death records available online through Ancestry.com. Also consulted was the book titled, *Greater French Valley*, written by William J. McBurney and Mary Rice Milholland of the Greater French Valley Historical Society, and part of the book series, *Images of America*, published by Arcadia Publishing. The results of the archival research are provided in Chapter 5.

3.4 NATIVE AMERICAN COORDINATION

Æ contacted the NAHC on October 15, 2012, to elicit pertinent cultural resources information available through a Sacred Lands file search covering the Project location and vicinity (see Appendix B). In a reply to Æ later that same day, the NAHC stated that a Sacred Land files search did not indicate the presence of Native American cultural resources or sacred sites in the immediate Project area or vicinity (see Appendix B). However, the absence of specific site information in the Sacred Lands file does not necessarily indicate the absence of cultural resources in the Project area. Therefore, the NAHC provided a list of Native American individuals and Tribal representatives within the Project region to contact for more information (see Appendix B).

Six Native American individuals and Tribal representatives on the NAHC contact list were contacted by letter dated November 13, 2012. These individuals are nearest the Project location, and they have shown the most interest during previous studies in the French Valley region, while the others generally defer comment to them. Among these six, Willie Pink represents himself as a local Native American traditional teacher and tribal elder, while the other five individuals represent Native American groups in the region: Joseph Hamilton (Ramona Band of Cahuilla Mission Indians), Anna Hoover (Pechanga/Temecula Band of Luiseño Mission Indians), John Marcus (Santa Rosa Band of Mission Indians), Joseph Ontiveros (Soboba Band of Luiseño Indians), and Luther Salgado (Cahuilla Band of Indians). As of December 6, 2012, two written responses from Native American individuals have been received, as discussed below and attached in Appendix B.

In a letter dated November 30, 2012, Anna Hoover, Cultural Analyst for the Pechanga Band, requests (1) participation in all archaeological surveys, a field visit to the Property to view the recorded cultural sites, and a meeting with the County, the Applicant, and Applied EarthWorks to discuss avoidance, preservation, and archaeological testing; (2) notification once the Project begins the entitlement process; (3) copies of all applicable archaeological reports, site records, proposed grading plans, and environmental documents; (4) government-to-government

consultation with the Lead Agency, as well as discussions with the Applicant and Project archaeologist regarding the cultural sites on the Project; (5) monitoring by a Riverside County qualified archaeologist and a professional Pechanga Tribe monitor during earthmoving activities; and (6) the Tribe reserves the right to make additional comments and recommendations once the environmental documents have been received and fully reviewed and after a meeting with the County, the Applicant, and the Project archaeologist.

Joseph Ontiveros of the Soboba Band responded in a letter dated November 13, 2012 to request (1) consultation with the Project Developer and Land owner; (2) progress reports of the project as soon as development occurs; (3) that the Tribe continues to act as a consulting tribal entity for the project; (4) a Native American Monitor from the Tribe's Cultural Resource Department be present during and ground disturbing proceedings, including testing; and (5) and that procedures (such as treatment and disposition of artifacts and/or remains) and requests of the Tribe be honored.

4
FIELD METHODS

The intensive cultural resources pedestrian survey of the Project ADI was conducted by Æ's staff archaeologists Josh Smallwood, Chuck Bouscaren, and Trinity Medellin on November 5–9, 2012. Smallwood and Æ staff archaeologist Nicolas Hearth returned to the field on November 20, 2012 to record all of the resources that were encountered during the field survey.

As mentioned in the Introduction, the Project's Northeastern Tract (hatched area in Figures 2 and 3) comprising APNs 472-170-003 and 472-170-008, is proposed to be set aside as permanent open space, and therefore, was not surveyed during this study. The intensive pedestrian survey of the Project ADI was conducted by the survey crew walking parallel transects spaced at 15 m (approximately 50 ft) intervals. All areas likely to contain or exhibit archaeologically or historically sensitive cultural resources were inspected carefully to ensure that visible, potentially significant cultural resources were discovered and documented. Additionally, surveyors paid special attention to investigating any unusual landforms, soil changes, and geological features (e.g., bedrock outcrops, volcanic dikes, terraces above seasonal drainages), and other potential cultural site markers. A Daily Work Record was completed each day documenting survey personnel who were present, hours worked, ground surface visibility, and any cultural resources that were encountered.

Those portions of the Project ADI located on the valley floor where agricultural fields had been previously disked and grazed by sheep featured excellent (90–100%) ground visibility (Figure 6). However, ground visibility within all other portions of the Project ADI on elevations above

Figure 6. Overview showing a portion of the Project ADI. View to the northeast towards Fields Drive from a hill near the center of APN 472-180-001. Photograph taken on November 8, 2012.

these agricultural fields was variable, ranging from poor (0–50%) in densely vegetated chaparral to moderate (50–70%) where brush was not as dense but grasses obscured much of the surface.

When encountered, any newly identified cultural resources were recorded on State of California Department of Parks and Recreation Primary Records (DPR 523A), and archaeological sites were supplemented with Archaeological Site Forms (DPR 523C). Systematic efforts were made to characterize and define the boundaries of each archaeological site, as well as discrete activity loci and cultural features. Site locations were plotted on the Bachelor Mtn., CA 1:24,000 scale USGS 7.5' quadrangle using a Trimble GeoXH hand-held GPS unit using real-time satellite based augmentation system (SBAS) corrections achieving sub-meter accuracy. The GPS unit was also used to determine and document the precise locations and UTM coordinates of all activity loci, cultural features, and temporally or functionally diagnostic artifacts identified within site areas. Site maps of each archaeological resource were drawn to scale, indicating the location of activity loci, features, and temporally or functionally diagnostic artifacts. Digital photographs were taken showing overviews of the Project ADI, sites, activity loci, cultural features, temporally or functionally diagnostic artifacts, and isolates. All cultural features were documented, inventoried, and mapped by UTM coordinates. No artifacts were collected during the survey.

5
RESULTS

5.1 SURVEY RESULTS

The intensive-level cultural resources survey of the Project ADI that occurred on November 5–9 resulted in the initial identification and recordation of three prehistoric isolated manos, one prehistoric archaeological site consisting of a moderate-density lithic scatter, one prehistoric archaeological site containing three milling slicks on one rock outcrop, and several remnant structures and landscaping from occupation of two different historic-period farmsteads.

Documentation of these finds was conducted upon revisiting the Project ADI on November 20, 2012. The historical farmstead features and prehistoric milling features found on APN 472-180-001 were all recorded under one resource number, CA-RIV-10949/H, based on either proximity or temporal relationship to one another (see DPR forms in Appendix A). Similarly, the prehistoric lithic scatter and historical features on APN 472-200-002 were all recorded under one resource number, CA-RIV-10950/H, based on proximity and temporal relationship to one another (see Appendix A). An isolated mano found on APN 472-200-002 was recorded as 33-021112 (see Appendix A).

APNs 472-170-001 and 472-180-001 had been disked for agriculture since the initial survey, and as such, the two isolated manos encountered during the initial survey could not be found despite an intensive resurvey of the location around their documented UTM coordinates. It is presumed they were inadvertently buried in the process of disking and that is why they could not be located. These resources were documented based on the information that had been gathered during the initial survey, and have been temporarily designated as 33-021114, and 33-021115 (see Appendix A).

Thus, as a result of the current investigation of the Project ADI, five cultural resources including two sites and three isolated artifacts have been documented (Figure 7). Brief descriptions of these resources are provided below. More in-depth descriptions and the locations of these sites and isolates are provided in the DPR 523 forms attached in Appendix A.

5.1.1 Resources Identified During this Study

CA-RIV-10949/H. This multicomponent site is located in the central portion of APN 472-180-001 and is situated east of Washington Avenue and south of Fields Drive. The site measures approximately 275 x 135 m (E-W x N-S) and consists of numerous historic-period features and one bedrock milling feature. The bedrock milling feature is situated at the east end of a metavolcanic dike located between the hillside and the adjacent drainage. The historical features are primarily foundations, structural ruins, scatter of artifacts, eucalyptus trees and other domestic vegetation, and a well shaft.

Feature 1 is a stone perimeter footing; Feature 2 is a stone and mortar concrete pile; Features 3 and 4 are both very large old pepper trees; Feature 5 is a prehistoric bedrock milling feature; Feature 6 is a concrete cistern; Feature 7 is a pomegranate tree; Feature 8 is an eucalyptus tree row (10 trees); Feature 9 comprises two concrete slab foundations in the field to the east of Feature 1; Feature 10 is a well shaft of stone and mortar construction; Feature 11 is the ruins of a

Figure 7 **(CONFIDENTIAL - Not for Public Distribution)**

concrete dwelling that is 14 ft square with 18-in. thick walls, 7 ft tall, with two window openings and one doorway. The exterior walls are covered with smooth stucco. The cistern measures 16 ft long by 4 ft 4 in. wide by 2 ft 4 in. deep, with 8-in. thick walls. The well shaft is rectangular, measuring 7 x 6 ft, stone and mortar construction, and is presently filled with boards and other debris. Feature 5, the bedrock milling feature, exhibits three slicks on a relatively level, flat surface that is lightly polished, with very little pecking and no exfoliation. The bedrock exhibiting the milling slicks is a very hard metavolcanic material. Scattered historical artifacts observed at the site consist of glass bottle fragments, ceramic kitchen ware fragments, metal can fragments, and other farmstead and domestic household refuse. No prehistoric artifacts were encountered, but there is a good possibility that buried historic-period deposits could exist at this location.

33-021112. This is an isolated mano located in the southwestern portion of APN 472-200-002, situated in a plowed field east of Washington Avenue and south of Fields Drive. It is a unifacial, highly weathered and plow-damaged oval milky quartz mano measuring 10 x 8 x 4 cm.

CA-RIV-10950/H. This site is located east of Washington Avenue and south of Fields Drive, scattered over the eastern half of APN 472-200-002. The site comprises a prehistoric Native American component as well as an overlapping historic-period farmstead component.

The prehistoric component of this site contains more than a dozen bifacial oval manos, numerous metavolcanic and quartz hammerstones, cores, scrapers, and one discoidal, all located in a plowed field on a saddle hill with north, west, and south exposure. The site area measures approximately 150 x 70 m (N-S x E-W), and the datum point marks a sparse scatter of artifacts in the southern portion of the prehistoric component. Likely more than 100 lithic artifacts are present on the surface with the possibility of more in the plow zone at depth.

The historic-period component of this site comprises numerous scattered features that are historic in age. There is a double row of eucalyptus trees in the southeastern portion of the site that measure approximately 4 to 5 ft in diameter and form a right angle shaped wind-row. To the north is a knoll with a large quarry/mine pit and tailings on top. Both features date to the historic period and are temporally and spatially related. One 9 ft diameter x 6 ft high riveted steel water tank to the east of the quarry is also part of the site. A local service power line crosses the northeastern portion of the parcel and traverses to the former farmstead residence located to the east of the Project parcel. The Project parcel has experienced a complex historical evolution since the 1890s, as explained further below. The one wood pole located on the Project parcel is 35 ft tall and has two nails and a metal tag on it. One of the nails reads “35” which is the pole height, while the other reads “47” which is the year date of construction, 1947. The metal tag reads “C.E.P.Co” which is the acronym for California Electric Power Company, predecessor to Southern California Edison (SCE) Company. The insulators and wire appear to be modern replacements. The C.E.P.Co. is known to have built the first power lines through the French Valley region to provide power to local residents in 1947, and SCE has maintained, upgraded, and replaced poles and hardware since then.

No historic-period artifacts were encountered at the site. Prehistoric artifacts found at the prehistoric component consist of a lithic tool scatter that includes cores, scrapers, manos, metate fragments, and hammerstones. Likely more than 100 artifacts are present on the surface, with the possibility of more in the plow zone at depth. The prehistoric artifacts are located in an

agricultural field that has been used throughout much of the twentieth century to the present time. No crops were present at the time of recordation, but the agricultural field is actively used.

33-021114. This isolated mano is located in the northern portion of APN 472-180-001, situated east of Washington Avenue and south of Fields Drive. It is a bifacial oval milky quartz mano located in a plowed field. It was found during the intensive-level field survey on November 8, 2012, but upon returning to the location on November 20, the field had been disked and the mano could not be found again, presumably because it had been inadvertently buried by the plow.

33-021115. This isolated mano is located in the eastern portion of APN 472-180-001, situated east of Washington Avenue and south of Fields Drive. It is a bifacial oval granitic mano located in a plowed field. It was found during the intensive-level field survey on November 8, 2012, but upon returning to the location on November 20, the field had been disked and the mano could not be found again, presumably because it had been inadvertently buried by the plow.

5.1.2 Previously Recorded Resources

CA-RIV-8195H (33-015734). As mentioned in the Records Search results, a segment of the Second San Diego Aqueduct is located immediately adjacent to the Project area, but outside of the Project boundaries. This segment of the Aqueduct is a concrete-lined canal structure that was built by the Metropolitan Water District in 1957–1960. It diverts water from the Casa Loma Canal in San Jacinto to the Lake Skinner Reservoir located one mile to the southeast of the Project area. From Lake Skinner the water is piped to the Lower Otay Reservoir east of San Diego. Due to the Project's immediate proximity to this historic-period built-environment resource, and thus, the Project's potential to affect its historical significance and integrity, a consideration of indirect effects to this resource is discussed in Chapter 6 of this report.

5.2 SITE-SPECIFIC HISTORICAL RESEARCH

Because remnant historic-period farmstead and landscape features were encountered within the Project ADI during the field survey, site-specific historical research was carried out to establish the land use history of those parcels where such features were found.

CA-RIV-10949/H (APN 472-180-001). A GLO plat map of T6S, R2W dated 1880 reveals that other than a wagon trail that meandered across the Project ADI through Section 27, there were no man-made features observed in all of APN 472-180-001 at that time (GLO 1880). A "spring" existed along the dry creek bed in the northeastern quarter of Section 27. GLO patent records from the late nineteenth century available through the Bureau of Land Management's searchable database indicate that all of Section 27, T6S, R2W, SBBM, was first included as part of a 10,329.64-ac grant deeded to the Southern Pacific Railroad Company on December 27, 1883 under the Pacific Railroad Land Grant Act of 1866 (BLM n.d.). Although no railroad or related construction occurred on the land, it was later sold off to pay off the debt to the U.S. Government once the railroad was completed. The land was typically sold to land speculators and investment groups. Prior to incorporation on May 9, 1893, this portion of Riverside County was still part of San Diego County. The first Riverside County Tax Assessments occurred in 1893, carried over from the 1892 San Diego County assessments. Assessor archival records indicate that in 1892–1893, Section 27 was split into three portions owned by A. H. Judson (320 ac), Mrs. Francis E.

Bridges (160 ac), and Mrs. M. L. Potts (160 ac). No improvements were assessed on any of these parcels through the summer of 1897, with the extent of their use being for dry-farming grain. All three parcels were then acquired by A.J. Sanders et al. on September 9, 1897, at which time improvements in the form of a well and at least one building were made. A U.S. Geological Survey (USGS) map of the region dated 1901, surveyed in 1897–1898, reveals two buildings, likely Sanders' residence and an outbuilding, located in the southwest quarter of Section 27, being situated at CA-RIV-10949/H.

A. J. Sanders held title to the property until 1911 when it was deeded to Sarah A. and Tillie M. Stone. The Stone sisters held onto the property less than one year, selling it to G. H. T. Wilson in 1912. The property passed hands between G. H. T. Wilson, M. A. Peterson, A. J. and Will H. Sanders, and Mary A. Smith during the 1910s before finally being acquired by A.J. Vial around 1919, with no additional improvements recorded up to that time. Arthur J. Vial held the deed to the property from 1919 up to at least the mid-1960s, with substantial spikes in building assessments occurring in 1924, 1939, 1944, 1948, and 1959, which presumably reflected the addition of buildings or other taxable improvements to his parcel.

A U.S. Department of Agriculture (USDA) aerial photograph of the property dated 1938 indicates that a residence and several ancillary buildings were once located where the various foundations, eucalyptus trees, and other structure remnants remain today (NETROnline 2012). At that time, a barn and another ancillary structure were located to the north of the drainage, and a dirt road crossed in front of these buildings as it meandered across the farm property. Metropolitan Water District purchased the right-of-way across Vial's property for construction of the Second San Diego Aqueduct in December, 1958.

Records available through Ancestry.com indicate that A. J. Sanders was Adoniray J. Sanders, an emigrant from Nova Scotia who first settled in Minnesota in the 1870s with his wife Elizabeth and three-year-old son William. They moved to Orange, California later that decade. He was a general farmer and fruit grower who made his way to the Auld Valley/French Valley region in the 1890s. No other information could be found on the life of Adoniray J. Sanders.

Arthur Joseph Vial was born in Auld Valley on August 15, 1890, to French-immigrant parents. His mother, Rosalie Vial, was listed as a widow, and head of the household in 1900, taking care of three daughters, Rosa (age 18), Agnes (age 16), and Mary (age 13), and one son, Arthur, who was 9 years old at the time. Rosalie, age 50 in 1900, was born in April, 1850. Her occupation was listed as farmer, and she could read, write, and speak English. Arthur and his sisters were still attending school in 1900. In 1910, the children, ages 26, 24, 22, and 19, were all still living at home and helping out with the farm. Arthur was registered for the World War I Draft on June 5, 1917, but he does not appear to have served on account of being an only son and having a dependent mother (WWI Draft Registration Card available at Ancestry.com). His physical characteristics were described as medium height, medium build, and having dark hair and brown eyes. In 1920, Arthur, age 29, was listed as the head of the household, with his mother Rosalie, age 69, his sister Mary, age 31, and a hired farm worker, Amasa Houston, age 59, living with him. His mother had passed away by the time of the 1940 U.S. Census, leaving him and his sisters Rose and Mary living together at the Vial family estate, which was listed as a "grain ranch" at that time. According to the California Death Index, Arthur Vial passed away on November 5, 1972 (Ancestry.com).

CA-RIV-10950/H (APN 472-200-002). The 1880 GLO plat map of T6S, R2W dated 1880 reveals that Section 34 was virtually barren at the time of the U.S. Government survey of the area, except for a wagon trail that crossed the very northwestern corner of the Section (GLO 1880). GLO patent records indicate that the northern and southern portions of APN 472-200-002 were once part of two separate homestead patents (BLM n.d.). The southeast quarter of the northwest quarter of Section 34 (40 ac) and most of the southwest quarter of Section 34 (120 ac), totaling 160 ac were deeded to Edwin A. Beattie on September 30, 1891, under the authority of the Cash Sale Act of 1820. The Cash Sale Act of 1820 authorized public land to be sold at auction for a minimum of $1.25 per acre for tracts as small as 80 ac, with no conditions for improvement or residence on the land.

The north half of the northwest quarter (80 ac), the southwest quarter of the northwest quarter (40 ac), and the northwest quarter of the southwest quarter of Section 34 (40 ac), all totaling 160 ac, were deeded to Orrin J. Blackee (or Blacker) on July 18, 1898 under the Homestead Act of 1862. The Homestead Act of 1862 established a three-fold homestead acquisition process: filing an application, improving the land, and filing for deed of title. Any U.S. citizen, or foreign emigrant intending citizenship, who had never borne arms against the U.S. Government could file an application and lay claim to 160 ac of surveyed government land. For the next five years, the homesteader had to live on the land and improve it by building a 12-by-14 ft dwelling and growing crops. After five years, the homesteader could file for patent (or deed of title) by submitting proof of residency and demonstrating the improvements to a local land office. Valid claims were granted patent to the land free and clear, except for a small registration fee. Title could also be acquired after a six-month residency and trivial improvements, provided the claimant paid the government $1.25 per acre. After the Civil War, Union soldiers could deduct the time they served from the residency requirements.

The first Riverside County Tax Assessment on this property occurred in 1893, carried over from the 1892 San Diego County assessments. Assessor archival records indicate that in 1892–1893, Section 34 was split into numerous tracts held by both E. A. Beattie and Orrin J. Blacker. Blacker owned a small cabin home that was present by late 1893 and was first assessed for tax purposes in 1894. Its presence in 1893 fulfilled the five-year residency requirement necessary for Blacker to acquire the land under the Homestead Act by 1898. Blacker was dry-farming grain on his property. A USGS map of the region dated 1901, surveyed in 1897–1898, reveals a building, likely Blacker's homestead cabin, located in the northwest quarter of Section 34, being situated near the northwest corner of APN 472-200-002, very close to the present-day alignment of the MWD's Second San Diego Aqueduct. No surface manifestation of a historic-period homestead was found in this region of the Project area during this study, and therefore, it is presumed that all traces of Blacker's homestead cabin have been removed from the landscape.

E. A. Beattie had died by the early 1890s and his property was held as an estate, sold to Rose S. Glaser in January, 1893. The property was described as rocky and dry, and no account of grain farming or other use was made. Glaser sold the property in 1898, and it changed hands numerous times for the next 10 years. The property was never assessed for improvements, evidence that no one ever resided there. The portion of Beattie's property located within present-day APN 472-200-002 was eventually absorbed into a large 160-ac tract encompassing the northwest quarter of Section 34.

Martin Meier acquired the north half of the northwest quarter of Section 34 and most of APN 472-200-002 around 1915, and a rather small tax assessment for a building, likely Blacker's

cabin, remained on the records through 1931, although it is unlikely that Meier ever resided in the cabin, or anywhere on the property, as it is well known that he resided in Hemet at the time. Meier, a German immigrant, settled in San Jacinto in 1883, where he operated a successful lumber yard. He later moved his lumber business to North State Street in Hemet in 1902 and built an elegant Victorian home at 2345 North State Street in 1908 where it still stands as a local historical landmark. Meier likely kept his farm property as an investment, and leased it to local area farmers for grain production, as he was not himself a farmer.

By 1932, Blacker's cabin must have fallen into ruins or been removed from the landscape, as it was no longer recorded as an improvement. Martin Meier died in 1937, and by October, 1938, the entire northwest quarter of Section 34 was sold to Pierre Pourroy, Jr. and his wife, Catherine. The Pourroys held title to the property through at least 1964, never having built any buildings on it, and presumably using the land only for grain production and grazing up through that time.

A USDA aerial photograph of the property dated 1938 indicates that no buildings were present anywhere on the property at that time (NETROnline 2011). The right-angle row of eucalyptus trees recorded during the field survey was present in 1938, but there is no indication who planted them, when they were planted, or for what purpose they served other than as a wind-row or as shade trees. A very discernible scar from a mining or quarrying operation was present on one of the knolls on the property in 1938, where the quarry pit and tailings piles were recorded during this field survey. No information could be found on the historical use or nature of the quarry, despite a thorough search of assessment records, historical maps, and published literature. None of the historical maps indicate a quarry or other feature at this location, and there were never any improvements recorded in the County tax assessor's roles for this property. Therefore, there is no indication within the historical record of when the quarry was operated, by whom, and for what purpose.

Martin Meier was an absentee owner whom never resided on the subject property and likely leased it to local area farmers for grain production, such as the Pourroys, who are well-known in the French Valley region as having been very active grain farmers since the late nineteenth century and throughout the twentieth century. They are known to have owned properties and farmed many tracts of land in the region. However, they never resided on any of the properties in the Project area, so a thorough record of the family history is not pertinent or necessary for this report.

Being situated very close to the present-day alignment of Metropolitan's Second San Diego Aqueduct, where no surface manifestation of a historic-period occupation was found during the field survey, it is highly unlikely that any intact archaeological remains of Orrin J. Blacker's cabin or occupation are extant within or immediately adjacent to the Project ADI. As such, there is no need to further explore the historical background of Orrin J. Blacker.

6
SIGNIFICANCE EVALUATIONS

The intensive-level Phase I cultural resources survey of the Project ADI resulted in the discovery of five cultural resources. These resources include two multicomponent sites containing both prehistoric and historic-period features and artifacts, and three isolated prehistoric manos (hand-held grinding stones used to process food and other matter). Outside the Project ADI but immediately adjacent to the Project boundaries is a segment of the Second San Diego Aqueduct (CA-RIV-8195H; 33-015734).

6.1 SAN DIEGO AQUEDUCT (CA-RIV-8195H; 33-015734)

The Second San Diego Aqueduct was previously found eligible for both the NRHP under Criterion A and the CRHR under Criterion 1 as a driving and enabling force in the economic development of the greater San Diego region that began with naval expansion during and after WWII (Easter and Beedle 2005). As the area continued to grow in population, the need for more water necessitated construction of the Second San Diego Aqueduct to increase supply. While a formal Determination of Eligibility has not been made by SHPO, this study concurs with the findings of Easter and Beedle (2006), that the Second San Diego Aqueduct appears eligible for both the NRHP and CRHR for its direct association with the successful growth and development of the greater San Diego region. Because the significance of the Second San Diego Aqueduct stems from its association with an important historical event, and its setting does not play a substantial role in the measure of its historical integrity, residential and commercial development near its perimeter *would not cause a substantial adverse change* in the significance of the Second San Diego Aqueduct. Thus, the Project as currently proposed has no potential to directly or indirectly affect the significance of this resource, and thus, the resource requires no further consideration.

6.2 33-021112, 33-021114, AND 33-021115

The three isolated finds, 33-021112, 33-021114, and 33-021115, by definition, do not constitute a "historical resource," and therefore, they require no further consideration in the CEQA-compliance process. The two archaeological sites, CA-RIV-10949/H and CA-RIV-10950/H, however, are potential historical resources under CEQA until further evaluation of their historical significance can be made.

6.3 CA-RIV-10949/H

As discussed in previous sections of this report, this multicomponent site is located in the central portion of APN 472-180-001 and consists of numerous historic-period features and a prehistoric bedrock milling feature. The bedrock milling feature is situated at the east end of a metavolcanic dike located between the hillside and the adjacent drainage. The historical features are primarily foundations, structural ruins, a scatter of artifacts, eucalyptus trees and other domestic vegetation, and a well shaft. The historical significance of both the prehistoric and historic-period components of this site is considered individually in the discussion below.

6.3.1 Prehistoric Component

Bedrock milling features such as this one, with no associated surface artifacts, are quite common in western Riverside County and often recorded as isolated features, although they may be situated within the realm of a much larger prehistoric resource procurement area often supporting one or more villages in the region, often with a reliable year-round water source nearby. This particular bedrock milling feature is situated on a volcanic dike, with a drainage channel located within 25 meters to the north, and a chaparral covered hillside immediately to the south. In prehistoric times, Luiseno people often buried their dead near the banks of waterways. Because the surrounding area of this site provides a depositional environment where features and/or artifacts may exist buried beneath the surface, the archaeological data potential of this site is unknown at this time, and therefore, further study is required to evaluate the historical significance under CRHR Criterion 4.

6.3.2 Historic-period Component

The historic-period component comprises remnant features and scattered artifacts that potentially date to the earliest occupation of the property by a Euro-American settler named Adoniray J. Sanders (owner from 1897–1911) and later by a local farmer of French decent named Arthur Joseph Vial (owner from 1919–1972). This particular site is not directly associated with any important historical event or trend of events (CRHR Criterion 1). Neither of these two individuals is an acclaimed historical figure, or ever achieved any prominence in local, state, or national history (CRHR Criterion 2). Most of the primary buildings of this farmstead have been removed, leaving only remnants of ancillary structures and large domestic trees. The design, layout, and configuration of the farmstead structures and domestic trees do not exhibit any architectural or landscaping merits that would suggest this site is significant under Criterion 3 of the CRHR. The archaeological data potential of this site is unknown at this time, and therefore, further study is required to evaluate the historical significance under CRHR Criterion 4.

6.4 CA-RIV-10950/H

This site is located east of Washington Avenue and south of Fields Drive, scattered over the eastern half of APN 472-200-002. The site comprises a prehistoric Native American component as well as an overlapping historic-period farmstead component. The historical significance of both the prehistoric and historic-period components of this site is considered individually in the discussion below.

6.4.1 Prehistoric Component

As discussed in previous sections of this report, the prehistoric component of this site contains more than a dozen bifacial oval manos, numerous metavolcanic and quartz hammerstones, cores, scrapers, and one discoidal, all located in a plowed field on a saddle hill with north, west, and south exposure. Likely more than 100 lithic artifacts are present on the surface with the possibility of more in the plow zone at depth. The full content and integrity of the archaeological deposit, and its horizontal and vertical extents are presently unknown. As such, the data potential of the site, its significance, and whether or not it meets criteria of the CRHR as a historical resource under CEQA, is currently unexplored. Therefore, further study is required to evaluate the historical significance of the prehistoric component of this site under CRHR Criterion 4.

6.4.2 Historic-period component

The historic-period component of this site comprises numerous scattered features that are historic in age, but no historic-period artifacts were encountered at the site. None of the recorded features has any archaeological data potential, or exhibits any architectural or engineering merits, or interesting landscape design. The historic-period component of this site does not appear to meet any of the criteria of the CRHR as a historical resource under CEQA.

7
MANAGEMENT RECOMMENDATIONS

The following discussion provides recommendations for Phase II investigation of the prehistoric and historic-period components found at CA-RIV-10949/H and CA-RIV-10950/H.

7.1 CA-RIV-10949/H

7.1.1 Prehistoric Component

The content and integrity of the archaeological deposit at this location, and its horizontal and vertical extents are presently unknown. As such, the data potential of this site component, its significance, and whether or not it meets criteria of the CRHR as a "historical resource" under CEQA, is currently unknown, and therefore, further study is required to evaluate the historical significance under CRHR Criterion 4 (data potential). A Phase II test excavation program is necessary to establish the presence or absence of cultural materials at this location. The program would rely on hand-excavated shovel probes and test units to identify the presence or absence of any cultural soils, stratified deposits, artifacts, and features that may be present at this particular location surrounding the bedrock milling feature. The testing program should occur prior to any type of Project-related construction activities in the area. A Native American monitor should be present during the testing program to observe the activities and be on hand in case of discoveries.

7.1.2 Historic-period Component

The archaeological data potential of this site is unknown at this time, and therefore, further study is required to evaluate the historical significance under CRHR Criterion 4. Through various sources of published literature, much is already known about the lifeways and material culture of settlers and farmers who lived in western Riverside County since the 1890s. Farmstead sites like this one are well-represented in the region. However, it is important to supplement the written historical record with information gathered from archaeological study whenever possible. The information gained can compliment or refute what is already known about the region, and further our understanding of the Victorian age in southern California.

The historic-period component of the site needs to be fully documented and thoroughly mapped through a Phase II intensive recordation effort, so that all archaeological features are plotted and all structures are drawn to scale. This should be supplemented with accurate descriptions of site components and structural dimensions. The intensive recording effort will serve to provide a highly detailed map of the site and its components prior to demolition and grading. It is highly likely that buried, artifact-filled deposits such as privies and refuse dumps may be present in the "living area" of this former farmstead. Previous archaeological studies of historical homesteads in the region have shown that it is nearly impossible to locate these buried deposits without conducting extensive mechanical excavations across the entire area. To streamline the effort, it would be more practical to conduct archaeological monitoring at this location during the construction phase while demolition and grading is occurring. During the demolition and grading process, a qualified archaeologist should be present to monitor freshly excavated soil and identify, document, and further explore any intact artifact-filled deposits that may become unearthed, with the focus being on artifacts that date to the 1890s–1910, or earlier. This would include field and laboratory analysis of any artifacts that are recovered during the fieldwork. The locations of any new discoveries should be plotted on the site map, and described in detail.

Upon completion of the Phase II testing, intensive recordation, and archaeological monitoring program, a report of the findings, as well as the maps and drawings that are produced should be placed on file at the EIC, University of California, Riverside, for inclusion into the CHRIS.

7.2 CA-RIV-10950/H

7.2.1 Prehistoric Component

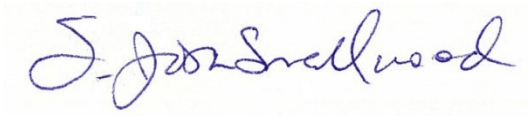
The prehistoric component of this site contains more than a dozen bifacial oval manos, numerous metavolcanic and quartz hammerstones, cores, scrapers, and one discoidal, all located in a plowed field on a saddle hill with north, west, and south exposure. Likely more than 100 lithic artifacts are present on the surface with the possibility of more in the plow zone at depth. The full content and integrity of the archaeological deposit, and its horizontal and vertical extents are presently unknown. As such, the data potential of the site, its significance, and whether or not it meets criteria of the CRHR as a "historical resource" under CEQA, is currently unknown. Therefore, further study is required to evaluate the historical significance of the prehistoric component of this site under CRHR Criterion 4. A Phase II test excavation program is necessary at the prehistoric component of CA-RIV-10950/H to identify the presence or absence of any subsurface cultural soils, stratified deposits, artifacts, and features that may be present at this location. The program would rely on hand-excavated shovel probes and test units and include field and laboratory analysis of any artifacts that are recovered during the fieldwork. The testing program should occur prior to any type of Project-related construction activities in the area. A Native American monitor should be present during the testing program to observe the activities and be on hand in case of discoveries.

7.2.2 Historic-period Component

The historic-period component of this site does not appear to meet any of the criteria of the CRHR as a historical resource under CEQA. Pertinent historical background research has been conducted, and no additional research is warranted. Thus, the historic-period component of this site requires no further consideration.

Upon completion of the Phase II evaluation program, a report of the findings, as well as the maps and drawings that are produced should be placed on file at the EIC, University of California, Riverside, for inclusion into the CHRIS.

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.

SIGNED: 

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DATE: December 12, 2012

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1992 *San Diego Pipeline No. 6 Project. Environmental Planning Technical Report, Cultural and Ethnographic Resources.* Keller Environmental Associates. Submitted to CRMS. Unpublished report on file at UCR, Eastern Information Center, Riverside, CA 92501.

Wilke, P. J.
1976 Late Prehistoric Human Ecology at Lake Cahuilla, Coachella Valley, California. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Riverside, California.

Wirth Associates, Inc.
1978 *Overview of the Prehistory and History of Inland San Diego County*. Report to the United States Bureau of Land Management, Riverside District.

WWI Draft Registration Cards, 1917–1918 (available at Ancestry.com)
1917 Arthur Joseph Vial, Winchester, California.

9
PREPARER'S QUALIFICATIONS

Josh Smallwood, Architectural Historian/Historical Archaeologist. M.A. Historic Preservation, Savannah College of Art and Design, Savannah, Georgia, 2008. B.A. Anthropology, California State University, Humboldt, 1998. Has 17 years experience in California conducting historical and archaeological studies, and eight years conducting historic building surveys and evaluating historical significance. Mr. Smallwood meets the Secretary of Interior's Professional Qualifications Standards for Architectural Historian and Historical Archaeologist. Contribution: report preparation, field recordation, historical research, evaluation of resources, and management recommendations.

APPENDIX A

DPR RECORDS (CONFIDENTIAL - Not for Public Distribution))

APPENDIX B

NATIVE AMERICAN CONSULTATION

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
915 Capitol Mall, RM 364
Sacramento, CA 95814
(916) 653-4082
(916) 657-5390 – Fax
nahc@pacbell.net

Information Below is Required for a Sacred Lands File Search

Date: October 15, 2012

Project: Belle Terre Project (AE #2457)

County: Riverside

USGS Quadrangle Name: Bachelor Mtn. and Winchester

Township 6S/Range 2W, Sections 27, 28, and 34

Company/Firm/Agency: Applied EarthWorks, Inc.

Contact Person: Joan George

Street Address: 3550 E. Florida Ave., Suite H

City: Hemet Zip: 92544

Phone: (951) 766-2000

Fax: (951) 766-0020

Email: jgeorge@appliedearthworks.com

Project Description: Regent Properties proposes to construct a 344-acre residential community in French Valley, Riverside County, California.

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

October 15, 2012

Ms. Joan George, RPA
Applied Earth Works, Inc.
3550 E. Florida Avenue, Suite H
Hemet, CA 92544

Sent by FAX to: 951-766-0020
No. of Pages: 5

Re: Sacred Lands File Search and Native American Contacts list for the proposed Sacred Lands File Search and Native American Contacts list for the proposed **"Belle Terre Project (AE #2457)"** located on a 344-acre Residential Tract in the French Valley; Riverside County, California

Dear. Ms. George:

The Native American Heritage Commission (NAHC) conducted a Sacred Lands search based on the data provided and **Native American cultural resource sites were not identified** within one-half mile of the project site, the 'area of potential effect' (e.g. APE): you specified.. Also the absence of archaeological fixtures and other cultural resource items does not preclude their existence at the subsurface level. In addition, please note; the NAHC Sacred Lands Inventory is not exhaustive and does not preclude the discovery of cultural resources during any project groundbreaking activity.

California Public Resources Code §§5097.94 (a) and 5097.96 authorize the NAHC to establish a Sacred Land Inventory to record Native American sacred sites and burial sites. These records are exempt from the provisions of the California Public Records Act pursuant to. California Government Code §6254 (r). The purpose of this code is to protect such sites from vandalism, theft and destruction.

In the 1985 Appellate Court decision (170 Cal App 3rd 604), the court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources, impacted by proposed projects including archaeological, places of religious significance to Native Americans and burial sites

The California Environmental Quality Act (CEQA – CA Public Resources Code §§ 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential

effect (APE), and if so, to mitigate that effect. CA Government Code §65040.12(e) defines "environmental justice" provisions and is applicable to the environmental review processes. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and California Public Resources Code Section 21083.2 (Archaeological Resources) that requires documentation, data recovery of cultural resources, construction to avoid sites and the possible use of covenant easements to protect sites.

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Local Native Americans may have knowledge of the religious and cultural significance of the historic properties of the proposed project for the area (e.g. APE). Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). We urge consultation with those tribes and interested Native Americans on the list that the NAHC has provided in order to see if your proposed project might impact Native American cultural resources. Lead agencies should consider avoidance as defined in §15370 of the CEQA Guidelines when significant cultural resources as defined by the CEQA Guidelines §15064.5 (b)(c)(f) may be affected by a proposed project. If so, Section 15382 of the CEQA Guidelines defines a significant impact on the environment as "substantial," and Section 2183.2 which requires documentation, data recovery of cultural resources.

The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

Partnering with local tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C 4321-43351) and Section 106 4(f), Section 110 and (k) of the federal NHPA (16 U.S.C. 470 *et seq*), Section 4(f) of the Department of Transportation Act of 1966 (23 CFR 774); 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The NAHC remains concerned about the limitations and methods employed for NHPA Section 106 Consultation.

Also, California Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery', another important reason to have Native American Monitors on board with the project.

To be effective, consultation on specific projects must be the result of an ongoing

relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. An excellent way to reinforce the relationship between a project and local tribes is to employ Native American Monitors in all phases of proposed projects including the planning phases.

Confidentiality of "historic properties of religious and cultural significance" may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C.. 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APE and possibility threatened by proposed project activity.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton

Attachment: Native American Contact List

Native American Contacts
Riverside County
October 15, 2012

Los Coyotes Band of Mission Indians
Shane Chapparosa, Chairman
P.O. Box 189 Cahuilla
Warner , CA 92086
(760) 782-0711
(760) 782-2701 - FAX

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
P.O. Box 391670 Cahuilla
Anza , CA 92539
admin@ramonatribe.com
(951) 763-4105
(951) 763-4325 Fax

Pala Band of Mission Indians
Historic Preservation Office/Shasta Gaughen
35008 Pala Temecula Road, Luiseno
Pala , CA 92059 Cupeno
PMB 50
(760) 891-3515
sgaughen@palatribe.com
(760) 742-3189 Fax

Rincon Band of Mission Indians
Vincent Whipple, Tribal Historic Preationv. Officer
P.O. Box 68 Luiseno
Valley Center, CA 92082
twolfe@rincontribe.org
(760) 297-2635
(760) 297-2639 Fax

Pauma & Yuima Reservation
Randall Majel, Chairperson
P.O. Box 369 Luiseno
Pauma Valley CA 92061
paumareservation@aol.com
(760) 742-1289
(760) 742-3422 Fax

Santa Rosa Band of Mission Indians
John Marcus, Chairman
P.O. Box 391820 Cahuilla
Anza , CA 92539
(951) 659-2700
(951) 659-2228 Fax

Pechanga Band of Mission Indians
Paul Macarro, Cultural Resources Manager
P.O. Box 1477 Luiseno
Temecula , CA 92593
(951) 770-8100
pmacarro@pechanga-nsn.
gov
(951) 506-9491 Fax

Morongo Band of Mission Indians
Michael Contreras, Cultural Heritage Prog.
12700 Pumarra Road Cahuilla
Banning , CA 92220 Serrano
(951) 201-1866 - cell
mcontreras@morongo-nsn.
gov
(951) 922-0105 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed Belle Terre Project (AE #2457); located in the French Valley, California for which a Sacred Lands File search and Native American Contacts list were requested. Located in Riverside County.

Native American Contacts
Riverside County
October 15, 2012

Rincon Band of Mission Indians
Bo Mazzetti, Chairperson
P.O. Box 68 Luiseno
Valley Center, CA 92082
bomazzetti@aol.com
(760) 749-1051
(760) 749-8901 Fax

Pechanga Band of Mission Indians
Mark Macarro, Chairperson
P.O. Box 1477 Luiseno
Temecula , CA 92593
tbrown@pechanga-nsn.gov
(951) 770-6100
(951) 695-1778 Fax

William J. Pink
48310 Pechanga Road Luiseno
Temecula , CA 92592
wjpink@hotmail.com
(909) 936-1216
Prefers e-mail contact

Cahuilla Band of Indians
Uther Salgado, Chairperson
PO Box 391760 Cahuilla
Anza , CA 92539
tribalcouncil@cahuilla.net
915-763-5549

Pechanga Cultural Resources Department
Anna Hoover, Cultural Analyst
P.O. Box 2183 Luiseño
Temecula , CA 92593
ahoover@pechanga-nsn.gov
951-770-8104
(951) 694-0446 - FAX

SOBOBA BAND OF LUISENO INDIANS
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 Luiseno
San Jacinto , CA 92581
jontiveros@soboba-nsn.gov
(951) 663-5279
(951) 654-5544, ext 4137

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed Belle Terre Project (AE #2457); located in the French Valley, California for which a Sacred Lands File search and Native American Contacts list were requested. Located in Riverside County.

Applied EARTHWORKS Inc.

3550 E. Florida Ave., Suite H
Hemet, CA 92544-4937
O: (951) 766-2000 | F: (951) 766-0020

November 13, 2012

Anna Hoover, Cultural Analyst
Pechanga Band of Mission Indians
P.O. Box 2183
Temecula, CA 92593

Re: Cultural Resources Investigation for the Regent Belle Terre Project, Riverside County, California

Dear Ms. Hoover:

On behalf of Regent Properties, Applied EarthWorks, Inc. (Æ), is conducting a cultural resources study of the Belle Terre Project (Project; see attached map) located at the southeast corner of Keller Street and Washington Road in the community of French Valley, Riverside County, California. The Project proposes to construct a maximum of 1,128 residential units within a 344-acre community. The Project area, indicated on the attached map, is located on the Winchester and Bachelor Mtn., CA 7.5' USGS quadrangle maps in Sections 27, 28, and 34 of T6S/R2W, San Bernardino Baseline and Meridian (S.B.B.M.).

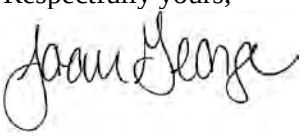
The archaeological literature and records search conducted at the Eastern Information Center housed at the University of California, Riverside, indicates that 34 cultural resources studies have been conducted within a one-mile radius of the Project area. None of these studies involved the Project area. Thirty-five cultural resources have been recorded within a one-mile radius of the Project area; however, no cultural resources have been recorded within the boundaries of the Project area.

Applied EarthWorks, Inc. (Æ) was contracted to perform an intensive archaeological survey of the Project area. The survey was completed on November 9, 2012 and transect spacing ranged from 10 to 15 meters. The following cultural resources were identified during the survey: four isolated artifacts (3 manos and 1 flake); one bedrock milling site; one possible prehistoric habitation site; one historical homestead ruins (with several contributing features), one historical refuse deposit, and a historical power line.

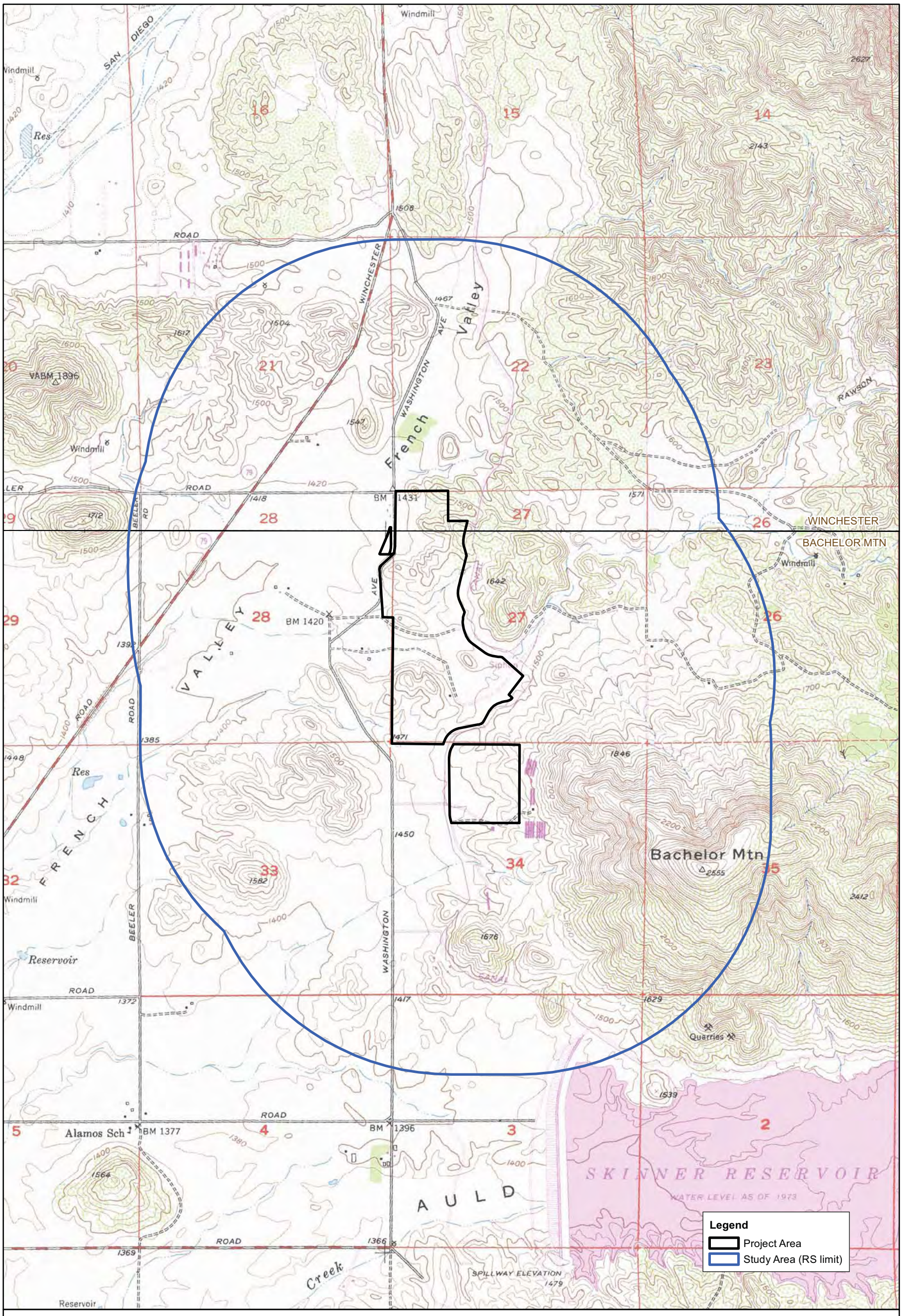
As part of the cultural resources assessment of the Project area, Æ requested a search of the *Sacred Lands File* by the Native American Heritage Commission (NAHC). The NAHC responded on October 15, 2012 stating that no Native American cultural resources were identified within one-half mile of the Project area site. Should cultural properties exist within or near the Project area shown on the enclosed map, or if you have any concerns regarding Native American issues related to the overall Project, please contact me at (951) 766-2000 or via letter expressing your concerns. You may also e-mail me at jgeorge@appliedearthworks.com. If I do not hear from you within in the next two weeks, I will contact you by telephone.

Please be aware that your comments and concerns are very important to us, as well as to the successful completion of this Project. I look forward to hearing from you in the near future. Thank you, in advance, for taking the time to review this request.

Respectfully yours,



Joan George
Associate Archaeologist
Applied EarthWorks, Inc.



Location map for the *Belle Terre Project*.

November 13, 2012

Attn: Joan George, Associate Archaeologist
Applied EarthWorks, Inc.
3550 E. Florida Ave Suite H
Hemet, CA 92544-4937

Re: Cultural Resources Investigation for the Regent Belle Terre Project, in the community of French Valley, Riverside County

The Soboba Band of Luiseño Indians appreciates your observance of Tribal Cultural Resources and their preservation in your project. The information provided to us on said project has been assessed through our Cultural Resource Department, where it was concluded that although it is outside the existing reservation, the project area does fall within the bounds of our Tribal Traditional Use Areas. This project location is in close proximity to known village sites and is a shared use area that was used in ongoing trade between the Luiseno and Cahuilla tribes. Therefore it is regarded as highly sensitive to the people of Soboba.

Soboba Band of Luiseño Indians is requesting the following:

1. To initiate a consultation with the Project Developer and Land owner.

2. The transfer of information to the Soboba Band of Luiseno Indians regarding the progress of this project should be done as soon as new developments occur.

3. Soboba Band of Luiseño Indians continues to act as a consulting tribal entity for this project.

4. Working in and around traditional use areas intensifies the possibility of encountering cultural resources during the construction/excavation phase. For this reason the Soboba Band of Luiseño Indians requests that Native American Monitor(s) from the Soboba Band of Luiseño Indians Cultural Resource Department to be present during any ground disturbing proceedings. Including surveys and archaeological testing.

5. Request that proper procedures be taken and requests of the tribe be honored (Please see the attachment)

Sincerely,

Joseph Ontiveros
Soboba Cultural Resource Department
P.O. Box 487
San Jacinto, CA 92581
Phone (951) 654-5544 ext. 4137
Cell (951) 663-5279
jontiveros@soboba-nsn.gov

Cultural Items (Artifacts). Ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices of the Soboba Band. The Developer should agree to return all Native American ceremonial items and items of cultural patrimony that may be found on the project site to the Soboba Band for appropriate treatment. In addition, the Soboba Band requests the return of all other cultural items (artifacts) that are recovered during the course of archaeological investigations. Where appropriate and agreed upon in advance, Developer's archeologist may conduct analyses of certain artifact classes if required by CEQA, Section 106 of NHPA, the mitigation measures or conditions of approval for the Project. This may include but is not limited or restricted to include shell, bone, ceramic, stone or other artifacts.

The Developer should waive any and all claims to ownership of Native American ceremonial and cultural artifacts that may be found on the Project site. Upon completion of authorized and mandatory archeological analysis, the Developer should return said artifacts to the Soboba Band within a reasonable time period agreed to by the Parties and not to exceed (30) days from the initial recovery of the items.

Treatment and Disposition of Remains

A. The Soboba Band shall be allowed, under California Public Resources Code § 5097.98 (a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and grave goods shall be treated and disposed of with appropriate dignity.

B. The Soboba Band, as MLD, shall complete its inspection within twenty-four (24) hours of receiving notification from either the Developer or the NAHC, as required by California Public Resources Code § 5097.98 (a). The Parties agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes.

C. Reburial of human remains shall be accomplished in compliance with the California Public Resources Code § 5097.98 (a) and (b). The Soboba Band, as the MLD in consultation with the Developer, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains.

D. All parties are aware that the Soboba Band may wish to rebury the human remains and associated ceremonial and cultural items (artifacts) on or near, the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The Developer should accommodate on-site reburial in a location mutually agreed upon by the Parties.

E. The term "human remains" encompasses more than human bones because the Soboba Band's traditions periodically necessitated the ceremonial burning of human remains. Grave goods are those artifacts associated with any human remains. These items, and other funerary remnants and their ashes are to be treated in the same manner as human bone fragments or bones that remain intact

Coordination with County Coroner's Office. The Lead Agencies and the Developer should immediately contact both the Coroner and the Soboba Band in the event that any human remains are discovered during implementation of the Project. If the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner shall ensure that notification is provided to the NAHC within twenty-four (24) hours of the determination, as required by California Health and Safety Code § 7050.5 (c).

Non-Disclosure of Location Reburials. It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code § 6254 (r).

Ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices of the Soboba Band. The Developer agrees to return all Native American ceremonial items and items of cultural patrimony that may be found on the project site to the Soboba Band for appropriate treatment. In addition, the Soboba Band requests the return of all other cultural items (artifacts) that are recovered during the course of archaeological investigations. Where appropriate and agreed upon in advance, Developer's archeologist may conduct analyses of certain artifact classes if required by CEQA, Section 106 of NHPA, the mitigation measures or conditions of approval for the Project. This may include but is not limited or restricted to include shell, bone, ceramic, stone or other artifacts.

PECHANGA CULTURAL RESOURCES
Temecula Band of Luiseño Mission Indians

Post Office. Box 2183 • Temecula, CA 92593
Telephone (951) 308-9295 • Fax (951) 506-9491

November 30, 2012

VIA E-Mail and USPS

RE: Request for Information for the Regent Belle Terre Project, Riverside County [Applied Earthworks]

Dear Ms. George;

The Pechanga Band of Luiseño Indians ("the Tribe") appreciates your request for information regarding the above referenced Project. After reviewing the provided maps and our internal documents, we have determined that the Project area is not within reservation lands although it is within our ancestral territory.

At this time, we are interested in participating in this Project based upon traditional knowledge of the area and recorded sites within the Project area boundaries. The Tribe is very concerned about potential impacts to cultural resources and is requesting to meet with you and your firm as soon as possible to share maps and information prior to completion of the archaeological study.

The documentation of precontact materials on the Project is very significant as our maps and internal information show that within less than a ½ mile are two large habitation areas containing distinct activity areas. As you know, it is unusual to identify fully intact habitations with identifiable areas where food processing, tool making and other living activities occurred on the southern California landscape, so this is a unique area and important not only to archaeological research but to the Tribe as well. There are also other individually recorded sites – which are associated with the habitation areas, located within a closer proximity to the Project and which you have noted in your letter. The Tribe also knows that the Project is situated between larger clusters of habitation areas which make up the village complex in this area of French Valley. Therefore, the activity areas located within the Project boundaries are associated with these surrounding areas and create an intensive pattern of land use, trade, travel, subsistence sharing and the practice of traditional and religious ceremonies. In addition, it appears from aerial photographs that there are two existing drainages located on the Property. The existence of water as well as known cultural sites is a fairly good indicator that cultural may exist subsurface, including human remains. The Tribe has additional information we would be happy to show you in a meeting.

Currently, the Tribe requests the following:

1) Participation in all archaeological surveys, a field visit to the Property to view the recorded cultural sites and a meeting with the County, the Applicant and yourself to discuss avoidance, preservation and archaeological testing;
2) Notification once the Project begins the entitlement process, if it has not already;
3) Copies of all applicable archaeological reports, site records, proposed grading plans and environmental documents (EA/IS/MND/EIR, etc);

4) Government-to-government consultation with the Lead Agency as well as discussions with the Applicant and Project archaeologist regarding the cultural sites on the Project; and

5) The Tribe believes that monitoring by a Riverside County qualified archaeologist and a professional Pechanga Tribe monitor will be required during earthmoving activities however, it is still too early to provide specific requests and mitigation. Therefore, the Tribe reserves its right to make additional comments and recommendations once the environmental documents have been received and fully reviewed and we have met with the County, the Applicant and the Project archaeologist.

As a sovereign governmental entity, the Tribe is entitled to appropriate and adequate government-to-government consultation regarding the proposed Project. We would like you and your client to know that the Tribe does not consider initial inquiry letters from project consultants to constitute appropriate government-to-government consultation, but rather tools to obtain further information about the Project area. Therefore, the Tribe reserves its rights to participate in the formal environmental review process, including government-to-government consultation with the Lead Agency, and requests to be included in all correspondence regarding this Project.

Please note that we are interested in participating in surveys within Luiseño ancestral territory. Prior to conducting any surveys, please contact the Cultural Department to schedule specifics. If you have any additional questions or comments, please contact me at ahoover@pechanga-nsn.gov or 951-770-8104.

Sincerely,

Anna M. Hoover
Cultural Analyst

LIST OF NATIVE AMERICAN CONTACTS AND RECORD OF RESPONSES

Name	Date & Time of Calls	Responses
Anna Hoover Cultural Analyst Pechanga Band of Luiseño Mission Indians	November 27, 2012 Letter dated November 30, 2012	Emailed follow-up effort for correspondence. Received an immediate response from Ms. Hoover stating that she will send a comment letter by the end of the week. Received letter from Ms. Hoover via e-mail. The Tribe requests (1) participation in all archaeological surveys, a field visit to the Property to view the recorded cultural sites, and a meeting with the County, the Applicant, and Applied EarthWorks to discuss avoidance, preservation, and archaeological testing; (2) notification once the Project begins the entitlement process; (3) copies of all applicable archaeological reports, site records, proposed grading plans, and environmental documents; (4) government-to-government consultation with the Lead Agency, as well as discussions with the Applicant and Project archaeologist regarding the cultural sites on the Project; (5) monitoring by a Riverside County qualified archaeologist and a professional Pechanga Tribe monitor during earthmoving activities; and (6) the Tribe reserves the right to make additional comments and recommendations once the environmental documents have been received and fully reviewed and after a meeting with the County, the Applicant, and the Project archaeologist.
Luther Salgado Chairperson Cahuilla Band of Indians	November 27, 2012	Emailed follow-up effort for correspondence. No response received.
Joseph Ontiveros Cultural Resources Department Soboba Band of Luiseño Indians	Letter dated November 13, 2012	Received letter from Mr. Ontiveros via e-mail. The Tribe requests (1) consultation with the Project Developer and Land owner; (2) progress reports of the project as soon as development occurs; (3) that the Tribe continues to act as a consulting tribal entity for the project; (4) a Native American Monitor from the Tribe's Cultural Resource Department be present during and ground disturbing proceedings, including testing; and (5) and that procedures (such as treatment and disposition of artifacts and/or remains) and requests of the Tribe be honored.

Name	Date & Time of Calls	Responses
William J. Pink	November 27, 2012	Emailed follow-up effort for correspondence. No response received.
John Marcus Chairman Santa Rosa Band of Mission Indians	November 27, 2012	Emailed follow-up effort for correspondence. No response received.
Joseph Hamilton Chairman Ramona Band of Cahuilla Mission Indians	November 27, 2012	Emailed follow-up effort for correspondence. No response received.

ADDENDUM 1
SUPPLEMENTAL PHASE I CULTURAL RESOURCES SURVEY OF 22.34 ACRES FOR THE BELLE TERRE PROJECT, SPECIFIC PLAN 00382, FRENCH VALLEY AREA, RIVERSIDE COUNTY, CALIFORNIA

USGS Winchester and Bachelor Mtn., CA 7.5' Quadrangles

Submitted to:
Lenny Dunn
Regent French Valley, LLC
11990 San Vicente Boulevard, Suite 200
Los Angeles, California 90049
310-806-9818

Prepared by:
Vanessa Mirro, M.A., RPA
Dennis McDougall
Applied EarthWorks, Inc.
3550 E. Florida Avenue, Suite H
Hemet, California 92544
951-766-2000
Fax: 951-766-0020

For Submittal to:
Riverside County Planning Department
4080 Lemon Street, 12th Floor
Riverside, California 92502
951-955-3025

April 2013

Keywords: Auld Valley/French Valley region; Specific Plan 00382; APNs 472130002, 472170003, 472170008, 472180002 through 472180005, 472180008 through 472180012, 472200001, 476020005, 476090003, and 476363002; 22.34 acres surveyed; Newly recorded resource: CA-RIV-11084 (33-021291); prehistoric bedrock milling feature; segment of the Second San Diego Aqueduct (CA-RIV-8195H; 33-015734)

CONTENTS

List of Figures

MANAGEMENT SUMMARY

This Addendum Report, prepared for Regent French Valley, LLC, documents the methods and results of a supplemental Phase I cultural resources survey on 22.34 acres (ac) of land by Applied EarthWorks, Inc. (*Æ*) in February, 2013, for the proposed residential development known as the Belle Terre Project (Specific Plan 00382). The cultural resources investigation was conducted in accordance with the California Environmental Quality Act (CEQA), as amended. The Belle Terre Project (Project) area is located approximately six miles south of the community of Winchester, and five miles northeast of Murrieta Hot Springs, in the unincorporated French Valley region of western Riverside County, California. As originally proposed, the Project area encompassed approximately 343.5 ac within portions of Sections 27, 28, and 34, of Township 6S, Range 2W, San Bernardino Baseline & Meridian (SBBM). The conceptual land use plan for the Project consisted of three different large tract areas: the Northeastern Tract, the Northwestern Tract, and the Southeastern Tract. The Northwestern Tract and the Southeastern Tract are within the Project's Area of Direct Impact (ADI) and will be developed, while the Northeastern Tract is slated as open space reserve outside of the ADI.

The initial Phase I cultural resources investigation of the Project area was conducted by *Æ* in November and December, 2012 (Smallwood 2012). At that time, only the Northwestern and Southeastern Tracts, located within the ADI, were surveyed for cultural resources. Because the entire Northeastern Tract was considered outside of the ADI, and no trails or other Project-related activities were proposed within the Northeastern Tract, this entire tract was not surveyed for cultural resources (Smallwood 2012). However, since the initial cultural resources surveys of the Project area, six additional parcels of land (designated herein as Areas 1–6) encompassing 22.34 ac that were not previously surveyed have been added to the Project's ADI to address various off-site impacts (i.e., roads, water storage, and riparian restoration activities). Area 1, Area 2, Area 5, and Area 6 are located outside of the original three tracts of land noted above, while both Area 3 and Area 4 are situated within the boundaries of the Northeastern Tract. Therefore, total Project area encompasses approximately 365.84 ac. This Addendum Report documents the Phase I cultural resources surveys of newly added Areas 1–6.

A Phase I cultural resources survey of Areas 1-6 resulted in the documentation of one prehistoric archaeological resource (CA-RIV-11084; 33-021291), a resource procurement/processing location containing two bedrock outcrops with three milling features. Since the archaeological data potential of CA-RIV-11084 is presently unknown, a Phase II testing and evaluation program is necessary to determine whether the site should be considered a "historical resource" under CEQA and eligible for inclusion in the California Register of Historical Resources (CRHR). In addition, a segment of the National Register of Historic Places (NRHP) and CRHR eligible Second San Diego Aqueduct (CA-RIV-8195H; 33-015734) has been recorded immediately adjacent to Area 5, and at the extreme southeastern end of Area 6. However, the Project has no potential to impact this resource; therefore no further management of CA-RIV-8195 is recommended.

Field notes documenting the current investigation are on file at *Æ*'s Hemet office, and a copy of this report and attached cultural resources DPR (California Department of Parks and Recreation) Forms will also be placed on file at the Eastern Information Center (EIC) for inclusion in the California Historical Resources Information System (CHRIS) database.

1
INTRODUCTION

This Addendum Report, prepared for Regent French Valley, LLC, documents the methods and results of a supplemental Phase I cultural resources survey on 22.34 acres (ac) of land by Applied EarthWorks, Inc. (*Æ*) in February 2013, for the proposed residential development known as the Belle Terre Project (Specific Plan 00382). The cultural resources investigation was conducted in accordance with the California Environmental Quality Act (CEQA), as amended. Vanessa Mirro, M.A., RPA, served as *Æ*'s Principal Investigator. The Belle Terre Project (Project) area is located south of Scott Road and primarily east of Washington Street approximately six miles south of the community of Winchester, and five miles northeast of Murrieta Hot Springs, in the unincorporated French Valley region of western Riverside County, California (Figure 1). As originally proposed, the Project area encompassed approximately 343.5 ac within portions of Sections 27, 28, and 34, of Township 6S, Range 2W (T6S / R2W), San Bernardino Baseline & Meridian (SBBM), as depicted on the Winchester and Bachelor Mtn., CA 7.5' USGS quadrangles (Figure 2).

The initial Phase I cultural resources investigation of the Project area was conducted by *Æ* in November and December, 2012 (Smallwood 2012). As shown in Figures 3 and 4, the Project consisted at that time of three different large tract areas: the Northeastern Tract (73.5 ac), the Northwestern Tract (215 ac), and the Southeastern Tract (55 ac). A thorough description of each of these areas is provided in *Æ*'s 2012 study (Smallwood 2012:1). The Northwestern Tract and the Southeastern Tract are within the Project's Area of Direct Impact (ADI) and are slated for low-, medium-, and high-density residential development, while the Northeastern Tract is proposed as open space reserve outside of the ADI. Generally speaking, the Project area encompasses gently sloping agricultural fields neighbored by steep, rocky hills. Elevations range from about 1,430 feet (ft) to 1,580 ft above mean sea level (amsl), with uphill slopes trending toward the east. The San Diego Aqueduct winds between the various tracts of the Project area.

At the 2012 study, only the Northwestern and Southeastern Tracts, located within the ADI, were surveyed for cultural resources. Because the entire Northeastern Tract was considered outside of the ADI, and no trails or other Project-related activities were proposed within the Northeastern Tract, this entire tract was not surveyed for cultural resources (Smallwood 2012). However, since the initial cultural resources surveys of the Project area, six additional parcels of land (designated herein as Areas 1–6) encompassing 22.34 ac that were not previously surveyed have been added to the Project's ADI to address various off-site impacts (i.e., roads, water storage, and riparian restoration activities) and extend the Project area into portions of Sections 22 and 33, T6S / R2W, SBBM (see Figure 2). Therefore, total Project area encompasses approximately 365.84 ac. Area 1, Area 2, Area 5, and Area 6 are located outside of the original three tracts of land noted above, while both Area 3 and Area 4 are situated within the boundaries of the Northeastern Tract (Figure 3). This Addendum Report documents the Phase I cultural resources surveys of newly added Areas 1–6 (described below).

1.1 SUPPLEMENTAL SURVEY AREAS

Area 1 is located within Assessor Parcel Number (APN) 472-130-002, and extends due east from Washington Street opposite the eastern end of Keller Road (locally an east-west trending two-lane dirt road) along the southwestern boundary of Section 22 and the northern edge of the

Figure 1 Project vicinity map.

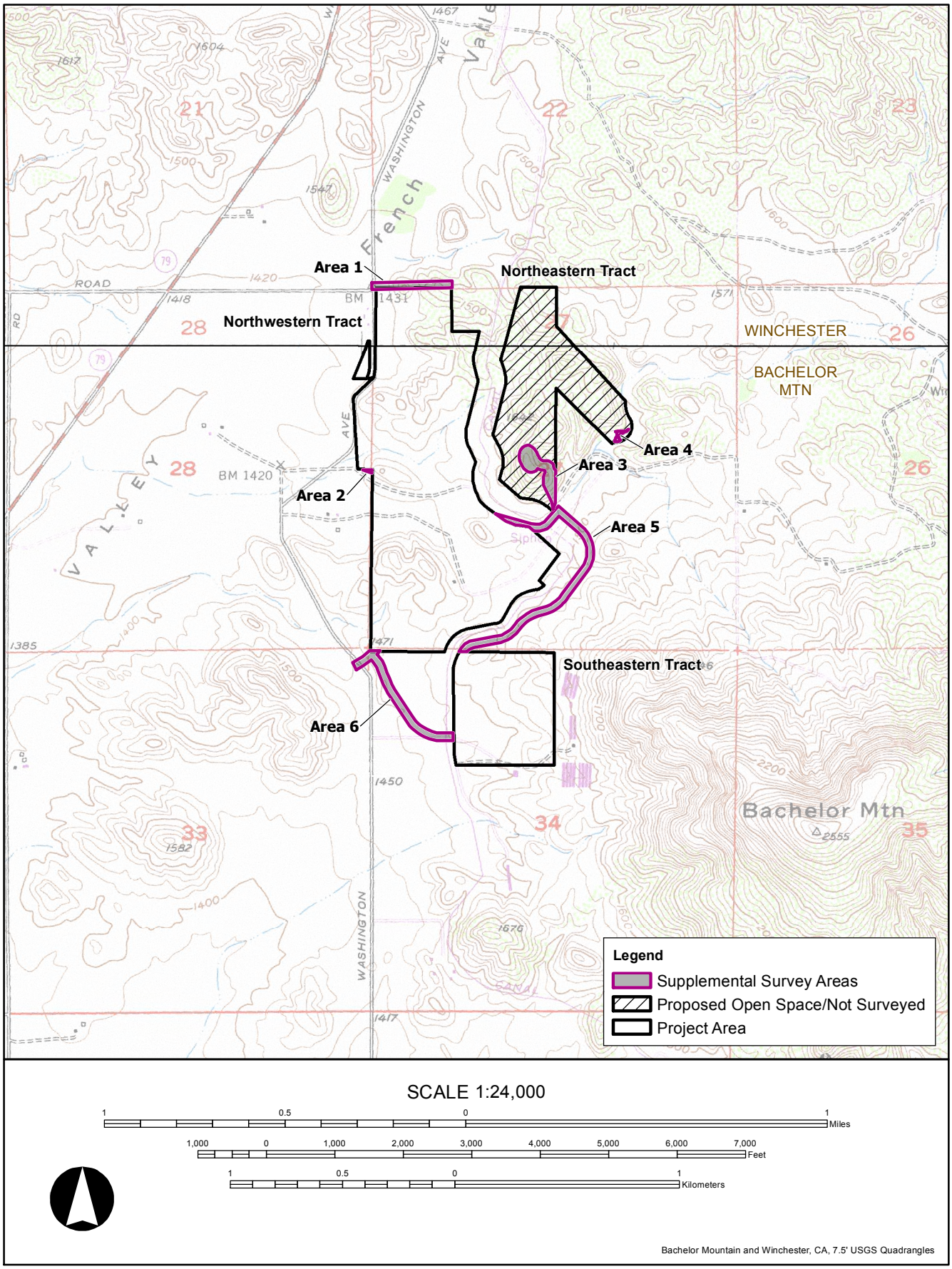


Figure 2 Project location map.

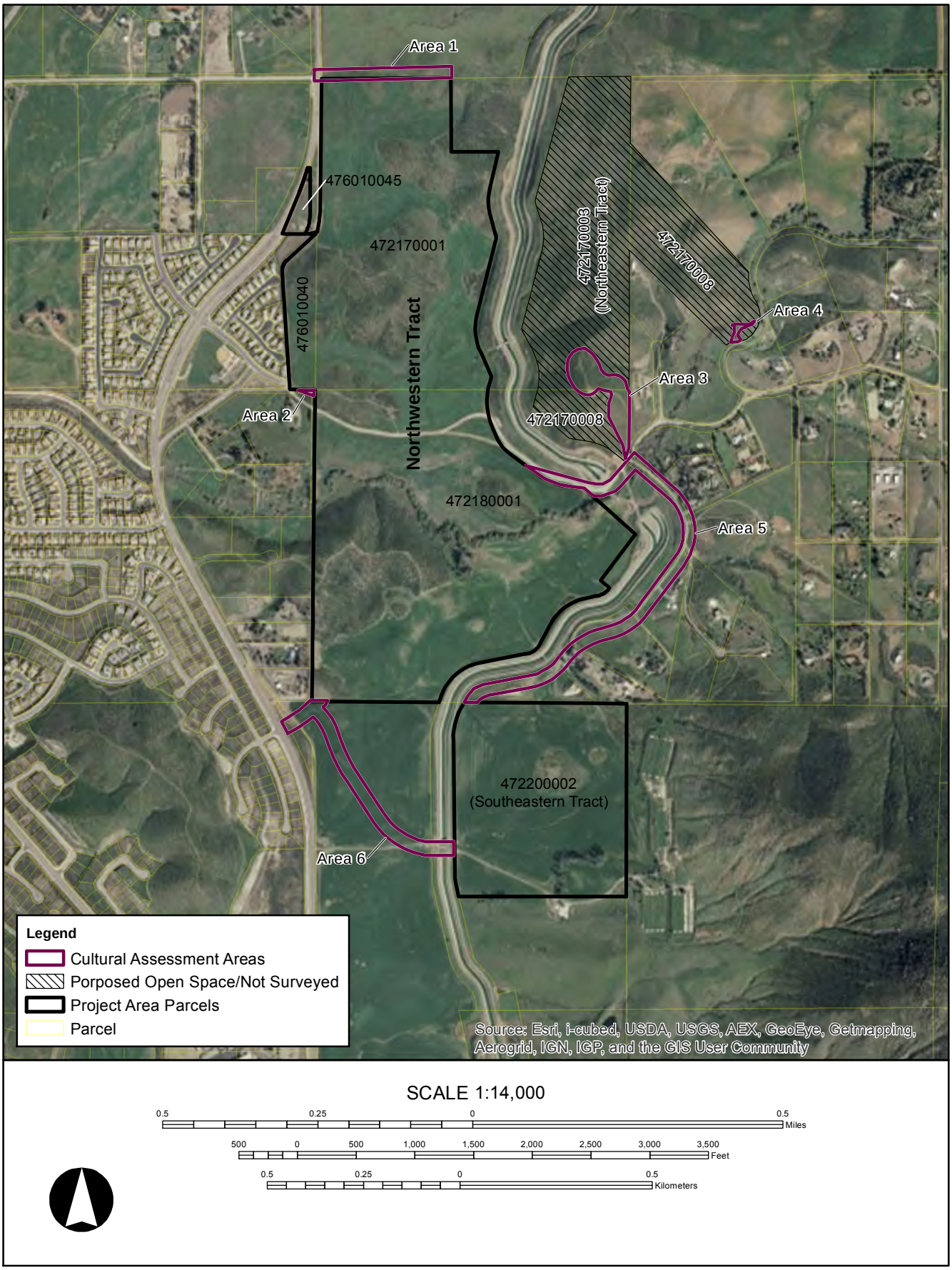


Figure 3 Project component map.

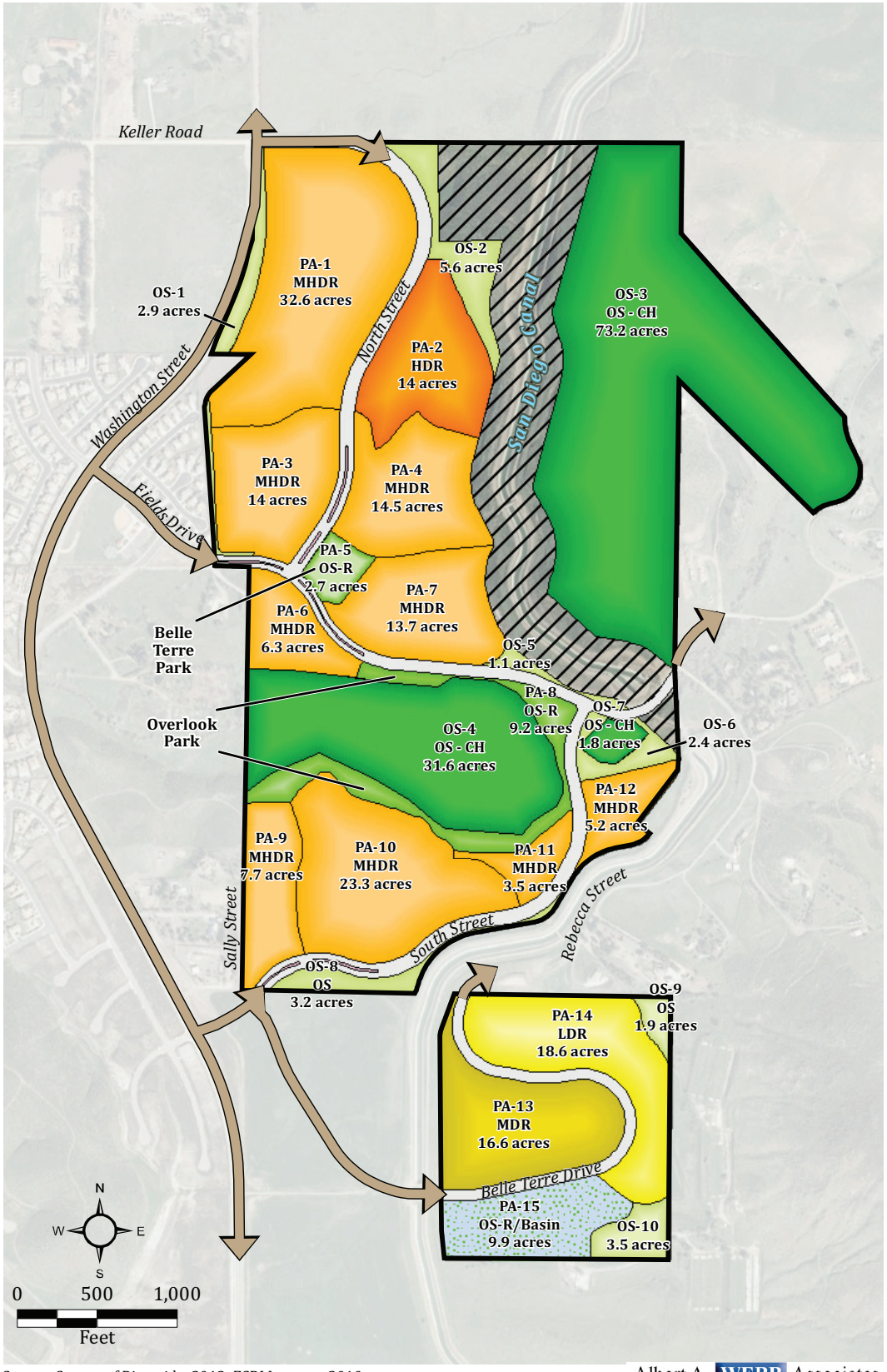


Figure 4 Project land use plan (courtesy of Albert A. Webb Associates).

Northwestern Tract. This parcel encompasses 2.61 ac within agricultural fields (within the western portion) and low, rolling hills with scattered bedrock outcrops of Bedford Canyon Formation quartzite and quartz and Riversidian sage-scrub vegetation communities (within the central and eastern portions) (Figure 5). Within Area 1, Keller Road will be extended farther east to improve local access.

Figure 5. Overview of Area 1 looking west toward Washington Street; Keller Road in background.

Area 2, located along the right-of-way of Fields Drive and extending into APN 476-090-003, encompasses 0.07 ac immediately north of Fields Drive along the central-eastern boundary of Section 28 and the central-western boundary of the Northwestern Tract. This small area includes the lower west- and southwest-facing slopes of a low knoll with Riversidian sage-scrub vegetation communities (Figure 6). This area will be graded during improvements to Fields Drive.

Figure 6. Overview of Area 2 along northern edge of Fields Drive; view to the southwest.

Area 3 is located north of Fields Drive within the central portion of Section 27 and the southern portion of the Northeastern Tract within APNs 472-170-003 and 472-180-003. This area encompasses 4.23 ac along the flat, previously graded top and generally east-facing slopes of a steep-sided, prominent knoll located at the southern end of a north-south trending ridgeline within Riversidian sage-scrub communities. An unimproved two-track dirt road winds up the east-facing slopes of the knoll from the eastern edge of the parcel to the graded knoll top (Figure 7). The road will be improved and a water storage tank will be constructed on top of the knoll.

Figure 7. Overview of Area 3 looking northwest from Fields Drive.

Area 4 is located within APN 472-170-008, north of Fields Drive within the northeastern portion of Section 27. This parcel encompasses 0.24 ac within the Northeastern Tract, and is situated within a meandering riparian creek drainage located along the eastern base of a prominent ridgeline (Figure 8). An existing culvert and dirt road crossing within the creek drainage will be removed at this location, and the area will be restored to a more natural state.

Figure 8. Overview of Area 4 looking north.

Area 5 encompasses 9.50 ac along the right-of-way Rebecca Street and within APNs 472-180-002, 472-180-004, 472-180-005, and 472-180-008 through 472-180-012. This linear parcel extends from Fields Drive within the central portion of Section 27 to the southeast and southwest, following the shoulders and right-of-way of Rebecca Street (a narrow, paved, residential access road) immediately adjacent to, east of, and basically paralleling the alignment of the San Diego Aqueduct and the Metropolitan Water District of Southern California Second San Diego aqueduct right-of-way (Figure 9). The extreme southwestern end of Area 5 connects to the northwest corner of the Southeastern Tract. With few exceptions, throughout most of its length Area 5 exhibits

Figure 9. Overview of Area 5 along Fields Drive; view to the southwest.

disturbance from prior road construction. One small area near its northern end cuts through the lower, undisturbed, southwest-facing slopes of a prominent hill with scattered quartzite outcrops and Riversidian sage-scrub communities. Where Rebecca Street terminates near Area 5's southwestern end, the alignment continues to parallel the aqueduct right-of-way, traversing a gentle north-facing slope that appears to have been plowed and/or disked in the past, and was almost void of vegetation during the current survey efforts. Within Area 5, Rebecca Street will be improved and extended to a standard two-lane paved road to improve access to the Southeastern Tract.

Area 6 encompasses 5.69 ac within Sections 33 and 34 within APNs 472-200-001, 476-020-005, and 476-363-002, and consists of a linear parcel extending from Washington Street for a short distance to the northeast to the extreme southwestern corner of the Northwestern Tract, and then to the southeast and east, passing through a crossing of the San Diego Aqueduct and connecting to the southern-western boundary of the Southeastern Tract. The northwestern portion of the alignment closest to Washington Street passes through a low ridgeline, while the southeastern portion traverses relatively flat valley floor areas (Figure 10). Throughout most of its entirety, the alignment is within areas that have been plowed and disked for agriculture. The extreme eastern end, however, follows the current path of an east-west trending, unnamed dirt road before reaching and passing through the graded area at the Aqueduct crossing. A standard two-lane paved road will be constructed within Area 6 to improve and facilitate access between the Southeastern Tract and Washington Street.

Figure 10. Overview of Area 6 from southeastern end looking northwest.

1.2 PREVIOUS INVESTIGATION

The archaeological literature and records search conducted at the Eastern Information Center (EIC), University of California, Riverside prior to the initial Project surveys indicate that added Areas 1–6 have not been previously surveyed for cultural resources, and that no cultural resources were known to be present within these parcels. However, a segment of the Second San Diego Aqueduct (CA-RIV-8195H; 33-015734) has been recorded immediately adjacent to (west of) Area 5, and at the extreme southeastern end of Area 6.

For detailed descriptions of: the regulatory context; the natural and cultural setting of the Project area and surrounding region; the results of the archaeological literature and records search; the results of Native American scoping conducted prior to the original survey; and the results of the original survey, the reader is referred to the report entitled *Phase I Cultural Resources Survey of 274.77 Acres for the Belle Terre Project, Specific Plan 00382, French Valley Area, Riverside County, California* (Smallwood 2012).

1.3 REPORT ORGANIZATION

This Addendum Report documents the methods and results of Æ's intensive supplemental Phase I cultural resources survey of the Project ADI. Chapter 1 has introduced the scope of the work, defined the Project boundaries, and provided pertinent information from the previous investigation of the Project area. Chapter 2 describes the methods and results of the pedestrian surveys. Chapter 3 evaluates resources identified during this study. Management recommendations are provided in Chapter 4, followed by bibliographic references. The State of California Department of Parks and Recreation (DPR) Archeological Site Forms for the archaeological resources identified during the current survey efforts are provided in Appendix A.

2
METHODS AND RESULTS

2.1 METHODS

The intensive supplemental cultural resources pedestrian survey of Areas 1 through 6 was conducted by Æ staff archaeologists Josh Smallwood and Dennis McDougall on February 15, 2013. Vanessa Mirro, M.A., RPA, served as Æ's Principal Investigator. The pedestrian survey was conducted by walking parallel transects spaced at 10 to 15 meter (m) (approximately 33 to 50 feet [ft]) intervals. All areas likely to contain or exhibit archaeologically or historically sensitive cultural resources were inspected carefully to ensure that visible, potentially significant cultural resources were discovered and documented. Additionally, surveyors paid special attention to any unusual landforms, soil changes, and geological features (e.g., bedrock outcrops, terraces adjacent to seasonal and/or intermittent creeks), and other potential cultural site markers. A Daily Work Record was completed documenting survey personnel, hours worked, ground surface visibility, and any cultural resources identified.

Generally speaking, ground visibility within Areas 1–6 ranged from poor to excellent. Within Areas 1, 2, 3, and 5 ground visibility ranged from moderate to excellent (50–90%). Within Area 4, visibility was poor (0–20%) due to dense riparian vegetation (stinging nettles and mule fat), much of which was dead and matted over the ground surface. Within Area 6, located primarily within active agricultural fields, ground visibility was also relatively poor (15–30%) due to a layer of manure fertilizer having been spread across the fields.

2.2 RESULTS

The supplemental cultural resources surveys of Areas 1-6 resulted in the identification and recordation of one prehistoric archaeological site, designated CA-RIV-11084 (33-021291), within Area 5 within APN 472-180-008. Additionally, as noted previously, the extreme southeastern end of Area 6 within APN 472-200-001 intersects a crossing of the Second San Diego Aqueduct, segments of which have been recorded previously as CA-RIV-8195H (33-015734). These resources are described further below. Locations of these resources are shown in Figure 11.

2.2.1 CA-RIV-11084 (33-021291)

Located within the SW ¼ of the SE ¼ of Section 27 (T6S / R2W; SBBM), CA-RIV-11084 is situated approximately 15 to 20 m (50-65 ft) east of Rebecca Street within scattered, highly-weathered quartzite outcrops located on the lower, southwest-facing slopes of a prominent ridgeline (Figure 12). The site measures 4.5 by 2.0 m (14.7 x 6.5 ft; E-W x N-S), and consists of a somewhat isolated prehistoric bedrock milling station containing two quartzite outcrops located adjacent to one another containing a total of three milling features. Outcrop 1 measures 1.8 by 1.4 by 0.5 m (L x W x H), and exhibits a single flat milling slick measuring 58 by 50 centimeters (cm) on the flat upper surface of the boulder. The slick is moderately ground/polished and moderately exfoliated. Outcrop 2 measures 1.6 by 1.5 by 0.7 m (L x W x H), and exhibits one moderately ground/polished, moderately exfoliated milling slick measuring 50 by 30 cm, and one basined milling slick or incipient mortar measuring 18 by 16 cm and 2 cm deep. No artifacts were observed within the vicinity of the outcrops and milling features. Additionally, the site is located

Figure 11(CONFIDENTIAL - Not for Public Distribution)

on a deflated, eroded hillslope, bedrock is exposed throughout the area, and there appears to be little potential for subsurface cultural deposits.

Figure 12. Overview of CA-RIV-11084 looking southwest toward Fields Drive in background; chalk outline is milling slick on Outcrop 1(CONFIDENTIAL - Not for Public Distribution) .

2.2.2 CA-RIV-8195H (33-015734)

The Second San Diego Aqueduct is a concrete-lined canal structure that was built by the Metropolitan Water District in 1957–1960. It diverts water from the Casa Loma Canal in San Jacinto to the Lake Skinner Reservoir located one mile to the southeast of the Project area. From Lake Skinner the water is piped to the Lower Otay Reservoir east of San Diego. For site detail, see DPR record for CA-RIV-8195H in Appendix A.

3
SIGNIFICANCE EVALUATIONS

As noted previously, the intensive-level Phase I cultural resources survey of Areas 1-6 resulted in the initial identification and documentation of CA-RIV-11084 (33-021291), a prehistoric bedrock milling station containing two outcrops with three milling features, within the Project ADI. Additionally, outside of the Project ADI but immediately adjacent to the extreme southeastern end of Area 6 is a segment of the Second San Diego Aqueduct (CA-RIV-8195H; 33-015734).

3.1 CA-RIV-11084 (33-021291)

Bedrock milling features such those found at CA-RIV-11084, with no associated surface artifacts, are quite common in western Riverside County and are often recorded as isolated features, although they may be situated within the realm of a much larger prehistoric resource procurement area often supporting one or more villages in the region. As noted in Section 3.2, the site is located on a deflated, eroded hillslope, bedrock is exposed throughout the area, and there appears to be little potential for subsurface cultural deposits. Therefore, the data potential of this resource appears to be limited. However, if subsurface deposits associated with the bedrock milling features do indeed exist at this location, the site *may be likely to yield information important in prehistory*. Therefore, the archaeological data potential of CA-RIV-11084 is unknown at this time, and further study is required to evaluate the site's historical significance under CRHR.

3.2 SAN DIEGO AQUEDUCT (CA-RIV-8195H; 33-015734)

A segment of the Second San Diego Aqueduct is located immediately adjacent to the Project area, but outside of the Project boundaries. This segment of the Aqueduct is a concrete-lined canal structure that was built by the Metropolitan Water District in 1957–1960. It diverts water from the Casa Loma Canal in San Jacinto to the Lake Skinner Reservoir located one mile to the southeast of the Project area. From Lake Skinner the water is piped to the Lower Otay Reservoir east of San Diego. The San Diego Aqueduct system was previously found eligible for the NRHP under Criterion A, and the CRHR under Criterion 1, for its direct association with the successful growth and development of the greater San Diego region (Easter and Beedle 2005). While a formal Determination of Eligibility has not been made by the State Office of Historic Preservation (OHP), this study concurs with the findings of Easter and Beedle (2005).

The significance of the Second San Diego Aqueduct stems from its association with an important historical event, namely as a driving and enabling force in the economic development of San Diego, which began with Naval expansion during and after World War II. As the region's population grew, the need for more water necessitated further aqueduct construction during the post-war era. As an engineered water conveyance system that traverses many miles across a range of different environmental settings that vary from rural to urban, the setting along the perimeter of the aqueduct does not play a substantial role in the measure of this resource's historical integrity. Residential and commercial development has occurred near its perimeter since its inception. Further development near its perimeter today, as long as it does not impede on the original engineering, design, or construction technique of the aqueduct, *would not cause a*

substantial adverse change in the significance of the San Diego Aqueduct system. Thus, the Project as currently proposed has no potential to directly or indirectly affect the significance of this resource, and therefore, the resource requires no further consideration.

4
MANAGEMENT RECOMMENDATIONS

Currently it remains undetermined whether buried cultural deposits associated with the two outcrops with bedrock milling features exist at site CA-RIV-11084. As such, the data potential of this site, its significance, and whether or not it meets criteria of the CRHR as a "historical resource" under CEQA, is currently unknown. Therefore, further study is required to evaluate the site's historical significance for the CRHR. A Phase II test excavation program is necessary to establish the presence or absence of buried cultural deposits at this location. The program would rely on hand-excavated shovel probes and/or test units to identify the presence or absence of any cultural soils, stratified deposits, artifacts, and features that may be present at this particular location surrounding the bedrock milling features. Additionally, the bedrock milling features at CA-RIV-11084 should be drawn to scale and documented fully on State of California DPR Milling Station Record Forms (DPR 523f) during the Phase II efforts. The testing program should occur prior to any type of Project-related construction activities in the area. A Native American monitor should be present during the Phase II investigations to observe the activities and be present for Tribal consultation in case of discoveries.

Because the significance of the Second San Diego Aqueduct stems from its association with an important historical event, and its setting does not play a substantial role in the measure of its historical integrity, residential and commercial development near its perimeter *would not cause a substantial adverse change* in the significance of the Second San Diego Aqueduct. Thus, the Project as currently proposed has no potential to directly or indirectly affect the significance of this resource, and thus, the resource requires no further management.

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.

SIGNED: 

PRINTED NAME: Vanessa Mirro, M.A., RPA (Riverside County Registration #109)

DATE: March 5, 2013

5
REFERENCES CITED

Easter, Pam, and Peggy Beedle

2005 DPR Building, Structure Object Record, 33-015734 (San Diego Aqueduct). On file, Eastern Information Center, Anthropology Department, Watkins Hall, University of California, Riverside.

Smallwood, Josh

2012 *Phase I Cultural Resources Survey of 274.77 Acres for the Belle Terre Project, Specific Plan 00382, French Valley Area, Riverside County, California.* Applied EarthWorks, Inc., Hemet, California. Prepared for Regent French Valley, LLC, Los Angeles, California.

APPENDIX A

DPR RECORDS (CONFIDENTIAL - Not for Public Distribution)

APPENDIX B

ATTACHMENT D

Attachment D

NOTIFICATION TO COUNTY OF RIVERSIDE OF CONSULTANT TO PREPARE ARCHAEOLOGICAL REPORT

Notification to the County of Riverside is hereby made that Mr. Daniel Gryczman - Regent Properties, project sponsor, has entered into a contract with Applied EarthWorks, Inc. for the preparation of an archaeological report to be submitted to the County of Riverside in satisfaction of a request made by the County for additional environmental information prior to completion of an environmental assessment for the property and development proposal, if any, described below:

Assessor's Parcel Number(s) (APN) :
476-010-040, 472-170-001, 472-180-001, 476-010-045, 472-200-002

Development Proposal Case Number(s): SP00382

In accordance with the notice of additional environmental information provided by the County, the scope of work for the report will be as follows:

Archaeological Reports (Standardized - Check those that apply):

X Phase 1 _____ Phase 2 _____ Phase 3 _____ Phase 4

Both the Consultant and the project sponsor acknowledge that the consultant may not submit reports to the County for use in completing initial environmental assessments or EIR's for development proposals unless the consultant has been previously qualified by the County to submit such reports and unless the consultant has entered into a Memorandum of Understanding (MOU) with the County governing the preparation and handling of such reports. The project sponsor hereby acknowledges that they have been furnished a copy of the MOU, have read it, and understand the responsibilities of both the county and the consultant as set forth therein.

Project sponsor acknowledges that the report for which notification is hereby made is the:

X 1st, _____ 2nd or _____ (specify number) archaeological report for which contractual arrangements have been made under the direction of the project sponsor for the property described above.

PROJECT SPONSOR AND CONSULTANT are to execute the following:

I hereby affirm that all information provided above, is, to the best of my knowledge, true, correct, and complete.

Project sponsor: _____ Dated: 10-16-12

Consultant: _____ Dated: 10-16-12

A Riverside County Planning Department "Date Received" stamp hereon shall acknowledge receipt of this Notice by the County.

Appendix E:

Geotechnical Resource Assessment

GEOTECHNICAL EXPLORATION
PROPOSED WATER TANK, BELLE TERRE - FORMER TTM 39883, FRENCH VALLEY AREA UNINCORPORATED RIVERSIDE COUNTY, CALIFORNIA

Prepared for

REGENT FRENCH VALLEY, LLC

11990 San Vicente Boulevard, Suite 200
Los Angeles, California 90049

Project No. 10034.003

February 23, 2015
Revised July 11, 2018

Leighton and Associates, Inc.
A LEIGHTON GROUP COMPANY

Leighton and Associates, Inc.
A LEIGHTON GROUP COMPANY

February 23, 2015
Revised July 11, 2018

Project No. 10034.003

Regent French Valley, LLC
11990 San Vicente Boulevard, Suite 200
Los Angeles, California 90049

Attention: Marinel Robinson

Subject: Geotechnical Exploration
Proposed Water Tank, Belle Terre - Former TTM 39883
Unincorporated Riverside County, California

In accordance with our December 19, 2014 proposal, authorized on January 7, 2015, Leighton and Associates, Inc. (Leighton) is pleased to present this geotechnical exploration report for the proposed welded steel water tank to be constructed on the east side of former TTM 39883, located in the French Valley area of unincorporated Riverside County, California. This report presents our findings and conclusions, and geotechnical recommendations for design and construction of this proposed water tank.

Based on the results of this geotechnical exploration, the site of the proposed tank consists of moderately to steeply sloping terrain underlain by Jurassic-Aged metasedimentary rock. The site is not located within a currently designated Alquist-Priolo Special Studies Zone or a Riverside County fault zone. This proposed water tank may be founded on conventional ring-wall footings, bearing directly on undisturbed bedrock. In addition, our slope stability analyses indicate that proposed cut and natural slopes should be stable under short- and long-term conditions.

We appreciate the opportunity to be of additional service. If you have any questions or if we can be of further assistance, please contact us at your convenience.

Respectfully Submitted,
LEIGHTON AND ASSOCIATES, INC.

Simon I. Saiid, GE 2641
Principal Engineer

PROFESSIONAL ENGINEER
SIMON I SAIID
2641
GEOTECHNICAL
STATE OF CALIFORNIA

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STATE OF CALIFORNIA

Distribution: (1) addressee (PDF via email)

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Appendices

1.0 INTRODUCTION

1.1 Site Location and Description

The proposed water tank is located on a ridge top along the eastern portion of former tentative tract map 29883, northwest of the intersection of the existing Fields Drive and Rebecca Street, unincorporated Riverside County, California *(see Site Location Map, Figure 1)*. This site is currently a vacant/undeveloped hilltop/ridgeline that slopes moderately to steeply in easterly and westerly directions. Site access is by a steep dirt road located to the east of the hillside. As shown on Figure 1, the site is located along the east side of the San Diego Aqueduct.

1.2 Proposed Water Tank

We understand that an approximately 200-foot diameter by 40-foot high welded steel water tank is proposed to be constructed at Site 1 as depicted on the provided conceptual grading plan (see Figure 3). Based on this plan, a desired pad elevation of 1,585 feet and cut slopes of up to 45 feet in height may be constructed to create the required pad. Site access is expected to extend from Fields Drive and will also require cut slopes up to 45 feet in height and fill slopes of up to 10 feet in height. For the purpose of bearing capacity evaluation and slope stability analyses, a static pressure of 2,500 pound-per-square-foot (PSF) is assumed to be exerted by the proposed tank.

1.3 Purpose and Scope of Work

The purpose of our geotechnical study is to explore subsurface conditions at this proposed tank site and provide geotechnical recommendations for design and construction. In accordance with our proposal, the scope of this exploration has included the following tasks:

- **Desktop Review**: We reviewed relevant geotechnical literature, reports and aerial photographs for this tank site. These documents are referenced at the end of this report.
- **Geologic Mapping**: On January 19, 2015, we performed a site reconnaissance to observe site conditions and map any pertinent geologic features (i.e. bedding, joints, foliation, etc.) in existing/exposed cut slopes or

natural bedrock exposures. We also collected surface samples for the purpose of laboratory testing and evaluation. Logs of two test pits from a previous exploration on this site are also included in Appendix A.

- **Geophysical Survey**: Three (3) seismic refraction lines were performed by our sub-consultant Southwest Geophysics, Inc. (SGI). The purpose of this survey is to obtain readings/points for both vertical and lateral velocities so "tomography models" can be provided. Tomography is an enhanced seismic refraction method that allows changes in layer velocity to be revealed as gradients rather than discrete contacts (such as previous survey). The seismic refraction survey report is presented in whole in Appendix B. The approximate locations of the survey transects are shown on Figure 3, Geotechnical Map. Two survey lines were conducted at the tank site and one survey line was conducted along the cut area for the planned access road.

- **Geotechnical Laboratory Testing**: Geotechnical laboratory tests were performed on surficial earth material collected during our site reconnaissance. Tests performed are included in Appendix A.

- **Geotechnical Analyses**: Data obtained from our background review, field exploration and geotechnical laboratory testing was evaluated to develop geotechnical conclusions and recommendations presented in this report. We performed a site-specific probabilistic seismic hazard analyses (PSHA) and developed site-specific response spectra to be used by the tank designer (see Appendix C). In addition, slope-stability analyses were performed for most critical slopes and results are presented in Appendix D.

- **Report Preparation**: Results of our geotechnical exploration have been summarized in this report to address geotechnical conditions encountered at the site, including our geotechnical findings, conclusions and recommendations for tank design and construction.

Important information about limitations of geotechnical reports is presented in Appendix E, *GBA Important Information About This Geotechnical Engineering Report*.

2.0 FINDINGS

2.1 Regional Geology/Settings

The subject property is located within a prominent natural geomorphic province in southwestern California known as the Peninsular Ranges. This province is characterized by steep, elongated ranges and valleys that generally trend northwestward. Tectonic activity along the numerous faults in the region has created the geomorphology present today. Specifically, the property is situated in the southern portion of the Perris Block, a stable, eroded mass of Cretaceous and older crystalline and metamorphic rock. Thin sedimentary, metamorphic and volcanic units locally mantle the bedrock with alluvial deposits filling in the lower valley and drainage areas. The Perris Block is bounded by the San Jacinto Fault Zone to the northeast, the Elsinore Fault Zone to the southwest, the Cucamonga Fault Zone to the northwest and the poorly-defined northern boundary of the Temecula Basin to the southeast. The Temecula segment of the active Lake Elsinore Fault Zone is located approximately 10 miles to the southwest.

2.2 Site Geology

As regionally mapped on Figure 2, the site is underlain by metasedimentary rock formation, locally known as Bedford Canyon Formation. Our field exploration indicates that this Formation is generally covered with a relatively thin layer of surficial soils as further described below.

2.2.1 Surficial Soils: Surficial soils including topsoil and localized artificial fill should be expected within the site. These soils are expected to be relatively shallow (<3 feet), but they may be deeper in localized areas such as current access road. Expansion Index (EI) testing was performed on a representative soil sample indicate that these materials (clayey/silty sand) possess a low expansion potential (EI=29). Test results are included in Appendix A.

2.2.2 Jurassic Metasedimentary Bedrock: Metamorphic Bedrock locally known as Bedford Canyon Formation is exposed on existing cuts and on steeper hillsides throughout the site. This slate-type metasedimentary bedrock is generally dark gray in color and well-foliated, or structured. Where seen in our test holes, the “near-surface” bedrock is moderately weathered and generally broke into small fragments (<12 inches) upon excavation. However, a very resistant steeply dipping quartzite bed is observed to cross the site and may produce some oversize fragments (> 12 inches) upon excavation.

Foliation within the bedrock is generally consistent across the site. Foliation, or relict bedding planes, follow a consistent northwest trend across the site and dip very steeply to both the north and south. Such an orientation produces "bedding" planes that are expected to dip more steeply than the proposed cut slope surfaces and should therefore be supported in the proposed west and south-facing cut slopes. However, bedrock cut slopes will need to be geologically mapped as they are excavated to confirm the anticipated structural pattern and long-term stability.

2.3 Rippability and Excavation Characteristics

Review of provided conceptual site design indicates cuts (excavation below existing ground surface) up to 45 feet may be required to create the tank pad and up to 20 feet for the proposed access road.

Based on our seismic refraction survey data performed by Southwest Geophysics, Inc. (Appendix B), rippable bedrock using Caterpillar D-9 dozer with a single shank should be anticipated to a depth of 10 to 25 feet BGS or may vary depending on location. However, very difficult ripping or blasting (or other rock reducing techniques) should be anticipated for deeper excavations or where measured shear wave velocities exceed 4,000 foot-per-second (fps) as shown on Figure 4. The relatively shallow and hard rock zones (Green Color – Figure 4) are likely due to resistant quartzite bed, buried corestones/ remnant boulders, dikes, and/or less weathering.

A summary of the seismic refraction survey including rippability criteria based a Caterpillar D-9 dozer with a single shank is further provided in Appendix B. Trench excavation characteristics using conventional excavators may vary based on the specific equipment used. It is important that a contractor with excavation experience in similar conditions be consulted for the proper excavation methodology, equipment, and production rate based on the findings of this report.

2.4 Surface and Groundwater

Surface water was not encountered on this site during our field exploration. Groundwater is not expected to be encountered within the depth of excavation. However, localized seeps may occur at Formation contacts or in fractured zones immediately after rain events.

2.5 Faulting and Seismicity

Seismic hazards in Southern California could include strong ground shaking and fault rupture. No currently-known active surface faults cross or trend towards this project site. The subject site is not included within an Earthquake Fault Zone as created by the Alquist-Priolo Earthquake Fault Zoning Act (Bryant and Hart, 2007). The nearest zoned active faults are the Temecula Segment of the Elsinore Fault Zone, approximately 9.8 miles southwest of the site and the Anza Segment of the San Jacinto Fault Zone is located approximately 12.5 miles northeast of the site (see Appendix C – EQFAULT program output). Historical records of seismic activity in the region indicate that a peak, horizontal ground acceleration (PHGA) of 0.21g has not been exceeded at this site in recent history and closest fault is approximately 5.7 miles away from the site (see Appendix C – EQSEARCH program output).

A detailed review of vertical, sequential, stereo aerial photograph pairs was conducted to identify possible geomorphic evidence of faulting and landsliding. Various photos taken between 1949 and 1997 were reviewed (see references). Our review of aerial photographs and subsequent field observations do not provide geomorphic evidence supporting the existence of faulting or reveal any photo-lineaments that are typically associated with faulting in this region. The recent (<11,000 years) geologic history of this area reflects that this site is undergoing a regressive, erosional sequence. As observed in the aerial photographs, there are several deeply cut active, drainage channels that do not show any horizontal displacement that may be associated with active faulting. Results of our site-specific ground motion analyses are presented in Section 3.2 of this report.

2.6 Secondary Seismic Hazards

In general, secondary seismic hazards for sites in the region could include soil liquefaction, earthquake-induced settlement, lateral displacement and landsliding. The potential for secondary seismic hazards at the site is discussed below.

2.6.1 Seismically Induced Settlement: Seismically induced settlement consists of dry dynamic settlement (above groundwater) and liquefaction-induced settlement (below groundwater). During a strong seismic event, seismically induced settlement can occur within loose to moderately dense sandy soil due to reduction in volume during and shortly after a large, long-duration local earthquake. Settlement caused by ground shaking is often non-uniformly

distributed, which can result in differential settlement. Based on the results of our exploration, seismic settlement is not considered a geotechnical constraint for this tank.

2.6.2 Seismically Induced Landslides: Based on the underlying bedrock formation and our review of aerial photographs and field observations, the site is not susceptible to seismically induced landslides.

2.7 Slope Stability

Our slope stability analyses were performed using *SLIDE* 6.0 software licensed to Leighton. Both static and pseudo-static analyses were performed. Our cross-sectional model was selected to represent worst case scenario or steepest/highest cut slope for circular type failures to simulate potential failure through surficial weathered rock. Analyses output and sections are included in Appendix D. Soil parameters used in our analysis are generally based on results of our laboratory direct shear testing and published data for similar soil types. A summary of soil parameters used in our analyses is tabulated below:

Table 1. Slope Stability Analyses Soil Parameters

Soil Description	Shear Strength		Moist Unit Weight (pcf)	Source/Reference
	Friction (Degrees)	Cohesion (psf)		
Surficial Soils (SM/ML)	30	100	120	Laboratory direct-shear testing (remolded samples) and published data
metasedimentary bedrock - weathered	37	200	130	

Stability analyses results are summarized in the following subsections:

2.7.1 Cut Slopes Stability: As presented in Appendix D, proposed cut slopes up to 45 feet in height at 2:1 and 1.5:1 (horizontal:vertical) gradients are considered grossly stable for static and pseudo-static conditions. Compacted fill slopes up to 15 feet in height at 2:1 (horizontal:vertical) gradients are also considered grossly stable for static and pseudo-static conditions. Cut slopes, especially the steeper 1.5:1 slopes, should be observed by an engineering geologist during grading to verify jointing or fracture patterns and recommend remedial measures, if needed.

2.7.2 Natural Slopes Stability: Natural slopes were also evaluated for short- and long-term stability incorporating the surcharge load exerted by the proposed tank. The results of our evaluation yielded adequate factor of safety for both static and pseudo-static conditions. Results of our analyses are presented in Appendix D.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Based on results of this geotechnical exploration, the proposed tank site pad is underlain by dense metasedimentary rock formation, locally known as Bedford Canyon Formation. The site is not located within a currently designated Alquist-Priolo Special Studies Zone or a Riverside County fault zone. However, as is the case for most of Southern California, strong ground shaking has and will occur at this site.

This proposed above-grade potable water tank may be founded on conventional ring-wall footings, bearing directly on undisturbed dense rock. In addition, our slope stability analyses indicate that proposed cut slopes should be grossly stable at 2:1 and 1.5:1 (horizontal:vertical) gradients, and fill slopes should be constructed no-steeper-than 2:1 (horizontal:vertical).

Our geotechnical recommendations for design and construction of this proposed water tank are presented in the following sections.

3.1 Tank Foundation Location

Due to potentially weathered bedrock material along the shallow cut (daylight) areas we recommend a setback of 15 feet horizontally from daylight to ring foundation.

3.2 Earthwork

Earthwork is expected to generally consist of cut pad and access road excavation, pad surface preparation, and footing and pipeline construction. In addition, minor filling (<15 feet) may be required on the downhill side for access road. Specific earthwork recommendations are provided in the following subsections:

3.2.1 Site Preparation: Based on proposed grading concept, the tank pad is expected to expose dense metasedimentary rock. If highly weathered bedrock/loose rocks or any undesirable geologic features are exposed within portions of the tank pad and/or subgrade for the access road, then such conditions should be addressed by the project geotechnical engineer or geologist prior to foundation construction.

3.2.2 Fill Placement and Compaction: Onsite low expansive (EI<51) soils free of organics, debris, and oversized material less than (≤) 3-inches in largest

dimension are suitable for use as structural fill on this site. Soils to be placed as fill, whether onsite or import material, should be reviewed by Leighton and tested if and as necessary.

To provide uniform subgrade and fill any potential voids created from removal of loose rock/materials, we recommend that a minimum of 6-inch layer consisting of granular base (Caltrans Class 2 or equivalent) be placed prior to construction of concrete floor slab. However, if removal of rock or loose material creates voids larger than 2 feet in depth, such areas should be subject to further evaluation as potentially needing additional filling procedures.

Where fill is being placed at slopes steeper-than (>) 5:1 (horizontal:vertical), proper surface preparations and benching should be implemented in accordance with latest edition of the "Greenbook", and approved by Leighton during construction. A 15-foot wide minimum fill slope keyway should be prepared to support the access road fill slope (see Figure 5). As such, all areas to receive fill, including processed areas, fill slope, and benches, should be observed, mapped, and approved or tested by Leighton prior to proceeding with placement of fill.

3.2.3 Utility Trench Backfill: Utility trenches should be backfilled with compacted fill in accordance with Sections 306-1.2 and 306-1.3 of the "Greenbook". Utility trenches can be backfilled with on-site soils free of debris, organic and oversized material up to (≤) 3-inches in largest dimension. Prior to backfilling trenches, pipes should be bedded in and covered with either:

- **Sand**: A uniform, granular material that has a Sand Equivalent (SE) of (≥) 30 or greater and a maximum particle size of ¾-inches (or as specified by the pipe manufacturer), water densified in place, or
- **CLSM**: One sack cement slurry/Controlled Low Strength Material (CLSM) conforming to Section 201-6 of the "Greenbook".

Pipe bedding should extend at least 4-inches below any pipeline invert and at least 12 inches over the top of the pipeline. Native soils can be used as backfill over the pipe bedding zone, and should be placed in thin lifts, moisture conditioned above optimum, and mechanically compacted to at least 90 percent relative compaction, relative to the ASTM D 1557 laboratory maximum density.

3.3 Seismic Design Parameters

It is our understanding that the proposed water tank will be constructed of steel and the structural design of the tank will follow ANSI/AWWA D100-11.

Therefore, the purpose of the seismic hazard evaluation is to identify and assess potential seismic hazards at the site in general accordance with the requirements of ANSI/AWWA D100, which generally follows the requirements of ASCE 7-10. Our seismic hazard evaluation also includes development of site specific ground motions in terms of peak ground accelerations (PGA) and design response spectra by using a seismic source model based on proximity of the site to active faults, major historical earthquakes, regional seismicity, and subsurface soil conditions at the site. Specifically, our scope includes estimation of peak horizontal ground acceleration and the response spectra at the site for the Maximum Considered Earthquake (MCE) and the Design Earthquake (DE) Site-specific ground motion parameters derived based on the requirements of ASCE 7-10, Chapters 11 and 21. At the discretion of the designing Structural Engineer, either of the following seismic design methodologies/ parameters can be used.

3.3.1 2016 CBC Seismic Parameters: Seismic design parameters per the 2016 Edition of the California Building Code (CBC) are provided in Table 2 below. These seismic coefficients were calculated utilizing an interactive program on current United States Geological Survey (USGS) website using ASCE 7-10 procedures (referred to as USGS General Procedure). Based on our site specific seismic refraction survey, this site is classified as a Class **B** site:

Table 2. 2013 CBC Site-Specific Seismic Parameters

2013 CBC Site-Specific Seismic Design Parameters	Value
Site Longitude (decimal degrees)	-117.0760
Site Latitude (decimal degrees)	33.6198
Site Class Definition	**B**
Mapped Spectral Response Acceleration at 0.2s Period, S_S	1.50
Mapped Spectral Response Acceleration at 1s Period, S_1	0.60
Short Period Site Coefficient at 0.2s Period, F_a	*1.0*
Long Period Site Coefficient at 1s Period, F_v	*1.0*
Adjusted Spectral Response Acceleration at 0.2s Period, S_{MS}	1.50
Adjusted Spectral Response Acceleration at 1s Period, S_{M1}	0.60
Design Spectral Response Acceleration at 0.2s Period, S_{DS}	**1.00**
Design Spectral Response Acceleration at 1s Period, S_{D1}	**0.40**
Long-Period Transitions, T_L	**8 sec**

The results of this analysis also indicate that the adjusted Peak Ground Acceleration (PGA_m) for the MCE_G is 0.5g.

3.3.2 Site-Specific Probabilistic Seismic Hazard Analysis: A site-specific probabilistic seismic hazard analysis was also performed using the computer

program EZ-FRISK (Risk Engineering, 2003) to estimate peak horizontal ground acceleration (PHGA) that could occur at the site, and to develop design response spectra. Various probabilistic density functions were used in this analysis to assess uncertainty inherent in these calculations with respect to magnitude, distance and ground motion. An averaging of the following four next-generation attenuation relationships (NGAs) was used with equal weights to calculate site-specific PHGA and spectra:

- Abrahamson-Silva (2008)
- Boore-Atkinson (2008),
- Campbell-Bozorgnia (2008), and
- Chiou-Youngs (2007)

The MCE Peak Horizontal Ground Acceleration (PHGA) for various probability of exceedance is presented in Table 3 below:

Table 3. Probabilistic PHGA Vs. Probability of Exceedance

Return Period (years)	Definition	Peak Horizontal Ground Acceleration (g)	Reference
1237	2% probability of exceedance in 25 years	0.50	Appendix C
2475	2% probability of exceedance in 50 years	0.61	Appendix C
3712	2% probability of exceedance in 75 years	0.69	Appendix C
4950	2% probability of exceedance in 100 years	0.74	Appendix C
475	10% probability of exceedance in 50 years	0.40	App. C, C-1
975	10% probability of exceedance in 100 years	0.46	Appendix C
2475	2% probability of exceedance in 50 years	0.50	PGA_m –USGS General Procedure,
2475	2% probability of exceedance in 50 years	0.54	PSH Deaggreg.

Probabilistic seismic hazard-analysis acceleration values and probabilities should only be considered reasonable best estimates. All of the influences affecting attenuation and occurrence rates are not yet known. Furthermore, there are uncertainties in every parameter used to obtain such results. At the present time, there is no test available to verify validity of these ground motions and probability data. Therefore, significant deviations from indicated values are possible due to geotechnical and geological uncertainties and other site-specific conditions.

3.3.3 Site-Specific Response Spectra: Site-specific response spectra for this proposed site was developed based on a uniform-hazard approach. The uniform-hazard approach assumes that the same level of hazard is uniformly applied to the entire response spectra. Spectral values for the DE and MCE

events were computed using the same probabilistic analysis approach described in previous section. Near-source and directivity effects were included using techniques proposed by Sommerville et al. (1997) and Abrahamson (2000). Response spectra values were calculated for 5% damping using the EZ-FRISK program.

The results of this analysis are presented in Appendix C. In accordance with ASCE 7-10, the site-specific Maximum Considered Earthquake (MCE_R) was derived as the lesser of the probabilistic and deterministic MCE_R (see Figures C-2 and C-3, Appendix C) and the site-specific design response spectrum curve is shown on Figure C-1, Appendix C. The MCE and DE seismic coefficients listed in Table 4 below are slightly lower than those derived from the USGS general procedure (Table 2). We recommend that the values presented below be used in structural design of the tank. However, the structural engineer may consider the values included in Table 2 for a more conservative approach.

Table 4. Seismic Coefficients per ASCE Chapter 21

Seismic Coefficient	Design Value (g)
Spectral Response Acceleration at 0.2s Period, S_s	**1.33**
Spectral Response Acceleration at 1s Period, S_1	**0.53**
Design Spectral Response Acceleration at 0.2s Period, S_{DS}	**0.89**
Design Spectral Response Acceleration at 1s Period, S_{D1}	**0.35**

* g- Gravity acceleration

Since the probabilistic spectrum is less than the deterministic spectrum, the site is governed by the probabilistic analysis and a moment magnitude of 6.85Mw is recommended for this site.

3.4 Tank Spread/Ring Footing Foundations

The proposed foundations and slabs should be designed in accordance with the structural consultants' design, the minimum geotechnical recommendations presented herein, and applicable ANSI/AWWA D100-11 requirements.

3.4.1 Minimum Embedment and Width: Conventional shallow spread/ring footings may be used to support the proposed tank, bearing solely on an undisturbed metasedimentary rock approved by the geotechnical consultant. Tank footings should be embedded at least 12-inch below lowest adjacent grade, with a minimum width of 12-inch. These footings should have a minimum of 15 feet setback from adjacent descending slope/daylight.

3.4.2 Allowable Bearing Pressure: An allowable bearing pressure of 4,000 pounds-per-square-foot (psf) may be used for static and sustained live loads, based on minimum embedment depth and widths recommended above. The bearing pressure value may be increased by 500 psf for each additional foot of embedment or each additional foot of width to a maximum vertical bearing value of 6,000 psf. These allowable bearing pressures are for total dead loads and frequently applied live loads, and can be increased by one-third for short duration wind and seismic loads. Where applicable, a modulus of subgrade reaction of 450 pci may be used for design of footings/pads or any appurtenant structures founded on this Formation.

All continuous footings should be reinforced with top and bottom reinforcing steel to provide structural continuity and to permit spanning of local irregularities. It is essential that we observe tank pad and footing excavations before reinforcing steel is placed.

3.4.3 Lateral Load Resistance: Lateral (horizontal) loads on foundations may be resisted by both frictional resistance along the base of the footing and passive resistance in properly compacted fill adjacent to the sides of footings. Frictional resistance between the base of footings poured (cast) directly on native rock or aggregate base may be computed using a coefficient of friction of 0.35, or 35-percent of sustained dead loads. Passive resistance may be computed using an equivalent fluid pressure of 300 pounds-per-cubic-foot (pcf) for undisturbed Pauba and/or new properly compacted fill. Passive pressure should not exceed 3,000 psf. These values may be increased by one-third when considering wind and seismic forces. Both friction and passive values have already been reduced by a factor-of-safety of 1.5, and can be used in combination.

3.4.4 Settlement Estimates: Based on the tank hydrostatic pressures presented in Section 1.2 (< 2,500 psf) and bearing on native rock, the settlement is expected to be less-than (<) ½-inch at the center of the tank and on the order of ¼-inch to negligible at the edge/perimeter.

3.5 Lateral Pressures for Retaining Structures

The lateral earth pressures below are provided for the design permanent retaining structures/walls. Earth pressures provided are ultimate values and a safety factor should be applied as appropriate.

Table 5. Static Lateral Earth Pressures

Conditions	Equivalent Fluid Weight (pcf)		
	Level Backfill[2]	2:1 Slope Backfill	1.5:1 Slope Backfill
Active (cantilever)	36	53	70
At-Rest (braced)	55	75	95
Passive[3]	250	-	-

Notes:
(1) Assumes drained condition
(2) Assumes a level condition behind and in front of wall foundation of project.
(3) Maximum passive pressure = 3,500 psf, level conditions.

Determination of appropriate design conditions (active or at-rest) depends on wall flexibility. If a rotation of more than 0.001 radian (0.06 degrees) is allowed, active pressure conditions apply; otherwise, at-rest condition governs.

Surcharge due to above grade loads on the wall backfill, such as traffic, should be considered in design of retaining walls. Vertical surcharge loads behind the retaining wall on or in the backfill within a 1:1 (horizontal:vertical) plane projection

up and out from the retaining wall toe, should be considered as lateral and vertical surcharge. Unrestrained (cantilever) retaining walls should be designed to resist one-third of these surcharge loads applied as a uniform horizontal pressure on the wall. Braced walls should also be designed to resist an additional uniform horizontal-pressure equivalent to one-half of uniform vertical surcharge-loads.

Additional lateral earth pressures due to seismic shaking should also be considered in the design. In accordance with current engineering practices and research, an increment of lateral earth pressure equal to $14H^2$ where H is the height of the wall, may be applied at a distance of 0.5H above the toe of the wall. If the wall is restrained, the above increment of lateral earth pressure should be doubled. Under the combined effects of static and earthquake loads on the wall, a factor of safety between 1.1 and 1.2 is acceptable when evaluating the stability (sliding, overturning) of the wall (NAVFAC DM 7.2).

Where applicable, a coefficient of friction of 0.35 may be considered between the concrete/shotcrete walls and the backfill surrounding the tank to estimate downward drag forces.

3.6 Asphalt Paving for Driveway / Access Road

Pavement construction associated with the proposed access road should conform to latest version of *Caltrans Standard Specifications* or the *Standard Specifications for Public Works Construction* (Greenbook), and applicable County Standards. Based on design procedures outlined in the current Caltrans *Highway Design Manual*, recommended flexible (asphalt) pavement section is tabulated below for an assumed Traffic Index (TI) of 4.0 and R-value of 40, assumed due to the presence of expansive clays.

Table 6. Preliminary Asphalt Pavement Section

Traffic Index	Thickness (inches)	
	Asphalt Concrete	Class 2 Aggregate Base
4.0	3.0	4.0

Representative samples of the actual subgrade materials for R-value testing, during subgrade preparation or prior to pavement construction, can be performed to refine this pavement design. An appropriate Traffic Index (TI) should be selected or verified by the project Civil Engineer prior to finalizing this pavement

section design, based on anticipated truck traffic. This TI is based on only light auto and pickup-truck traffic.

Pavement subgrade soils should be prepared in accordance with Section 3.1 above. The Aggregate Base (AB) should be compacted to a minimum of 95 percent relative compaction (modified Proctor, ASTM D 1557).

3.7 Soil Corrosivity

3.7.1 Sulfate Attack: Sulfate ions in the soil can lower soil resistivity and can be highly aggressive to Portland cement concrete by combining chemically with certain constituents of the concrete, principally tricalcium aluminate. This reaction is accompanied by expansion and eventual disruption of the concrete matrix. Potentially high sulfate content could also cause corrosion of the reinforcing steel in concrete. The table below summarizes current standards for concrete exposed to sulfate-containing solutions:

Table 7. Sulfate Concentration and Sulfate Exposure

Sulfate In Water (parts-per-million)	Water-Soluble Sulfate (SO4) in soil (percentage by weight)	Sulfate Exposure
0-150	0.00 - 0.10	Negligible
150-1,500	0.10 - 0.20	Moderate (Seawater)
1,500-10,000	0.20 - 2.00	Severe
>10,000	Over 2.00	Very Severe

3.7.2 Ferrous Corrosivity: Many factors can affect corrosion potential of soil including soil moisture content, resistivity, permeability and pH, as well as chloride and sulfate concentration. In general, soil resistivity, which is a measure of how easily electrical current flows through soils, is the most influential factor. Based on the findings of studies presented in ASTM STP 1013 titled “Effects of Soil Characteristics on Corrosion” (February, 1989), the relationship between soil resistivity and soil corrosiveness was developed as tabulated below:

Table 8. Relationship between Soil Resistivity and Soil Corrosivity

Soil Resistivity (ohm-cm)	Classification of Soil Corrosiveness
0 to 900	Very Severely Corrosive
900 to 2,300	Severely Corrosive
2,300 to 5,000	Moderately Corrosive
5,000 to 10,000	Mildly Corrosive
10,000 to >100,000	Very Mildly Corrosive

Acidity is an important factor of soil corrosivity. The lower the pH (the more acidic the environment), the higher the soil corrosivity will be with respect to buried metallic structures and utilities. As soil pH increases above 7 (the neutral value), the soil is increasingly more alkaline and less corrosive to buried steel structures, due to protective surface films, which form on steel in high pH environments. Chloride and sulfate ion concentrations, and pH appear to play secondary roles in affecting corrosion potential. High chloride levels tend to reduce soil resistivity and break down otherwise protective

surface deposits, which can result in corrosion of buried steel or reinforced concrete structures.

3.7.3 Soil Corrosivity Test Results Summary: As a preliminary screening process for sulfates in soils, we have performed laboratory tests on a representative surface soil-sample. As summarized in Table 9 (below), our laboratory test results indicated negligible concentration of soluble sulfates. No special measures to mitigate sulfate exposure are recommended based on the test results. Import soils (if any) should also be tested for sulfate content.

Based on minimum-resistivity laboratory test results, the onsite soil is generally considered severely-corrosive to ferrous metals. Ferrous pipe can be protected by polyethylene bags, tape or coatings, di-electric fittings, concrete encasement or other means to separate the pipe from wet onsite clayey soils. Further testing of import and possibly site soil corrosivity could be performed and specific recommendations for corrosion protection may need to be provided by a qualified corrosion engineer.

Table 9. Soil Corrosivity Test Results Summary

Boring Number	Sample Depth (feet)	Sulfate Content (ppm)	Chloride Content (ppm)	pH	Resistivity (ohm-cm)
S-1	0 to 2	**80**	**122**	6.6	2,080

4.0 CONSTRUCTION CONSIDERATIONS

4.1 Trench Excavations

Based on our field observations, caving of cohesionless and sandy soils will likely be encountered in unshored trench excavations. To protect workers entering excavations, excavations should be performed in accordance with OSHA and Cal-OSHA requirements, and the current edition of the California Construction Safety Orders, see:

http://www.dir.ca.gov/title8/sb4a6.html

Contractors should be advised that fill and cohesionless alluvial/colluvial soils should be considered Type C soils as defined in the California Construction Safety Orders. As such, excavations less-than (<) 20 feet deep within Type C soils should be sloped back no steeper than 1½:1 (horizontal:vertical), where workers are to enter the excavation. Weathered rock within upper 10 feet BGS may be classified as OSHA soil Type A. Therefore, unshored temporary cut slopes should be no steeper than ¾:1 (horizontal:vertical), for a height no-greater-than (≤) 10 feet. These recommended temporary cut slopes assume a level ground surface for a distance equal to one-and-a-half (x1.5) the depth of excavation. However, unshored excavations may be impractical near adjacent existing utilities and structures; so shoring may still be required depending on trench locations.

During construction, soil conditions should be regularly evaluated to verify that conditions are as anticipated. The contractor is responsible for providing the "competent person" required by OSHA standards to evaluate soil conditions. Close coordination between the competent person and Leighton. should be maintained to facilitate construction while providing safe excavations.

4.2 Temporary Trench Shoring

Typical cantilever shoring can be designed based on the active equivalent fluid pressure of 30 pounds-per-cubic-foot (pcf) where there is no adverse bedding. If excavations are braced at the top and at specific depth intervals, then braced earth pressure may be approximated by a uniform rectangular soil pressure distribution. This uniform pressure expressed in pounds-per-square-foot (psf), may be assumed to be 20 multiplied by H for design, where H is equal to the

depth of the excavation being shored, in feet. These recommendations are valid only for trenches not exceeding 10-feet in depth at this site.

4.3 Geotechnical Services during Construction

Our geotechnical recommendations presented in this report are based on subsurface conditions as interpreted from limited subsurface explorations and limited geotechnical laboratory testing. Our geotechnical recommendations provided in this report are based on information available at the time the report was prepared and may change as plans are developed. Additional geotechnical exploration, testing and/or analysis may be required based on final plans. Leighton and Associates, Inc. should review site grading, foundation and shoring (if any) plans when available, to comment further on geotechnical aspects of this project and check to see general conformance of final project plans to recommendations presented in this report.

Leighton and Associates, Inc. should be retained to provide geotechnical observation and testing during excavation and all phases of earthwork. Our conclusions and recommendations should be reviewed and verified by us during construction and revised accordingly if geotechnical conditions encountered vary from our findings and interpretations. Geotechnical observation and testing should be provided:

- During all cut excavation,
- During compaction of all fill materials,
- After excavation of all footings and prior to placement of concrete,
- During utility trench backfilling and compaction,
- During pavement subgrade and base preparation (if any), and/or
- If and when any unusual geotechnical/geologic conditions are encountered.

5.0 LIMITATIONS

This report was necessarily based in part upon data obtained from a limited number of observances, site visits, soil samples, tests, analyses, histories of occurrences, spaced subsurface explorations and limited information on historical events and observations. Such information is necessarily incomplete. The nature of many sites is such that differing characteristics can be experienced within small distances and under various climatic conditions. Changes in subsurface conditions can and do occur over time. This exploration was performed with the understanding that this subject site is proposed for development as described in Section 1.2 of this report. Please refer to Appendix E, ASFE's *Important Information About Your Geotechnical Report*, prepared by the Associated Soil and Foundation Engineers (ASFE) presenting additional information and limitations regarding geotechnical engineering studies and reports.

This report was prepared for Regent French Valley, LLC based on their needs, directions and requirements at the time of our exploration. This report is not authorized for use by, and is not to be relied upon by any party except Regent French Valley, LLC, and their successors and assigns, with whom Leighton has 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 Leighton 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 Leighton.

R E F E R E N C E S

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Aerial Photos Reviewed:

9-11-97 C116-40 204-205

10-12-90 90 205 – 140

2-8-88 88045 – 38-39

5-9-67 1HH – 98-99

5-23-49 10F – 86-88

Project: 10034.003	Eng/Geol: SIS/RFR
Scale: 1 " = 2,000 '	Date: January 2015

Base Map: ESRI ArcGIS Online 2015
Thematic Information: Leighton
Author: Leighton Geomatics (mmurphy)

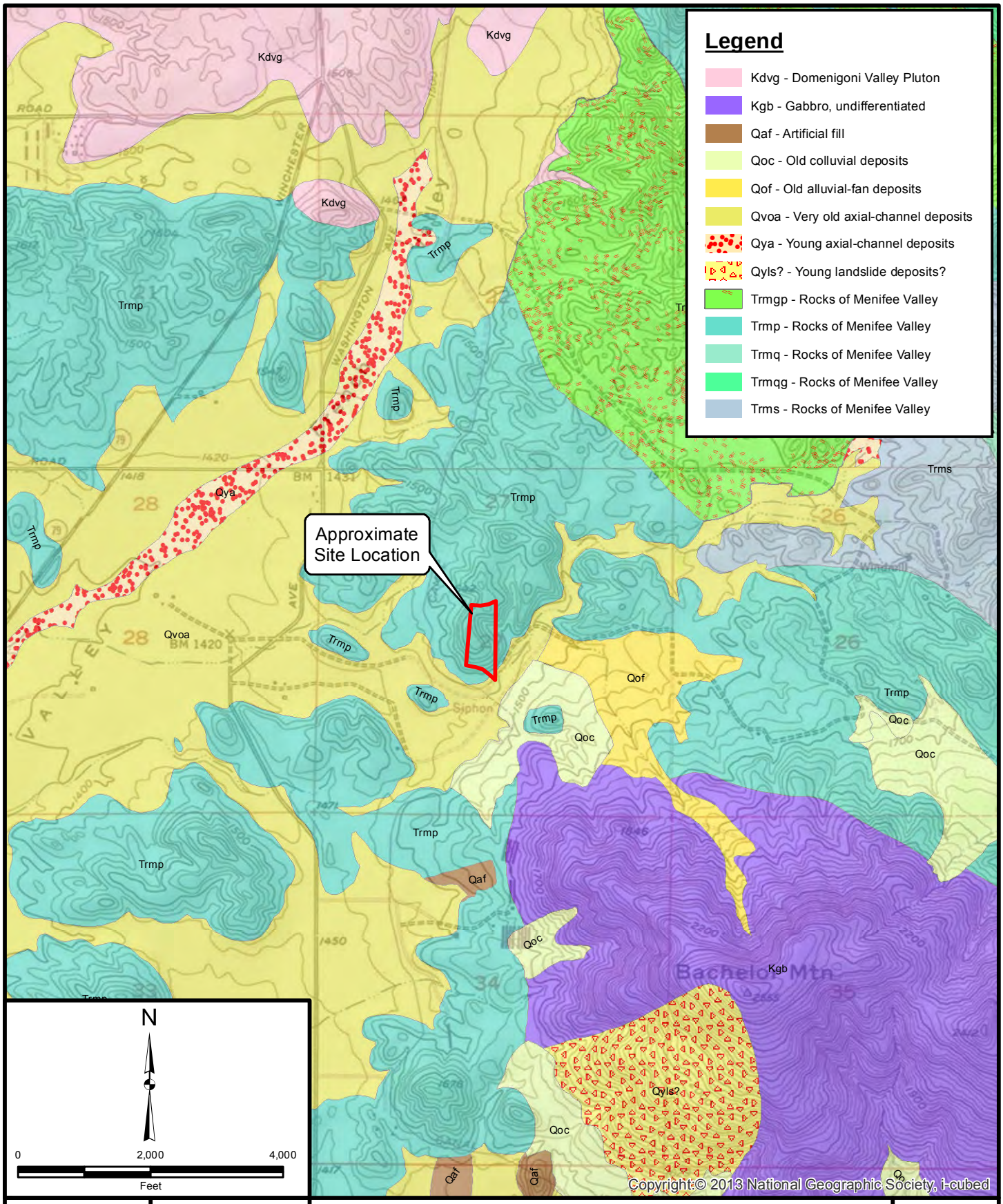
SITE LOCATION MAP

French Valley North - Belle Terre Tanksite
French Valley Area, California

Figure 1

Leighton

Map Saved as V:\drafting\10034\003\Maps\10034.003_Fig1_SLM_2015-01-26.mxd on 1/26/2015 11:01:46 AM



Project: 10034.003	Eng/Geol: SIS/RFR
Scale: 1 " = 2,000 '	Date: January 2015

Base Map: ESRI ArcGIS Online 2015
Geology: USGS, 2006, Geologic map of the San Bernardino Sand anta Ana 30'x60' quadrangles, California, Version 1.0, Open File Report 2006-1217
Author: Leighton Geomatics (mmurphy)

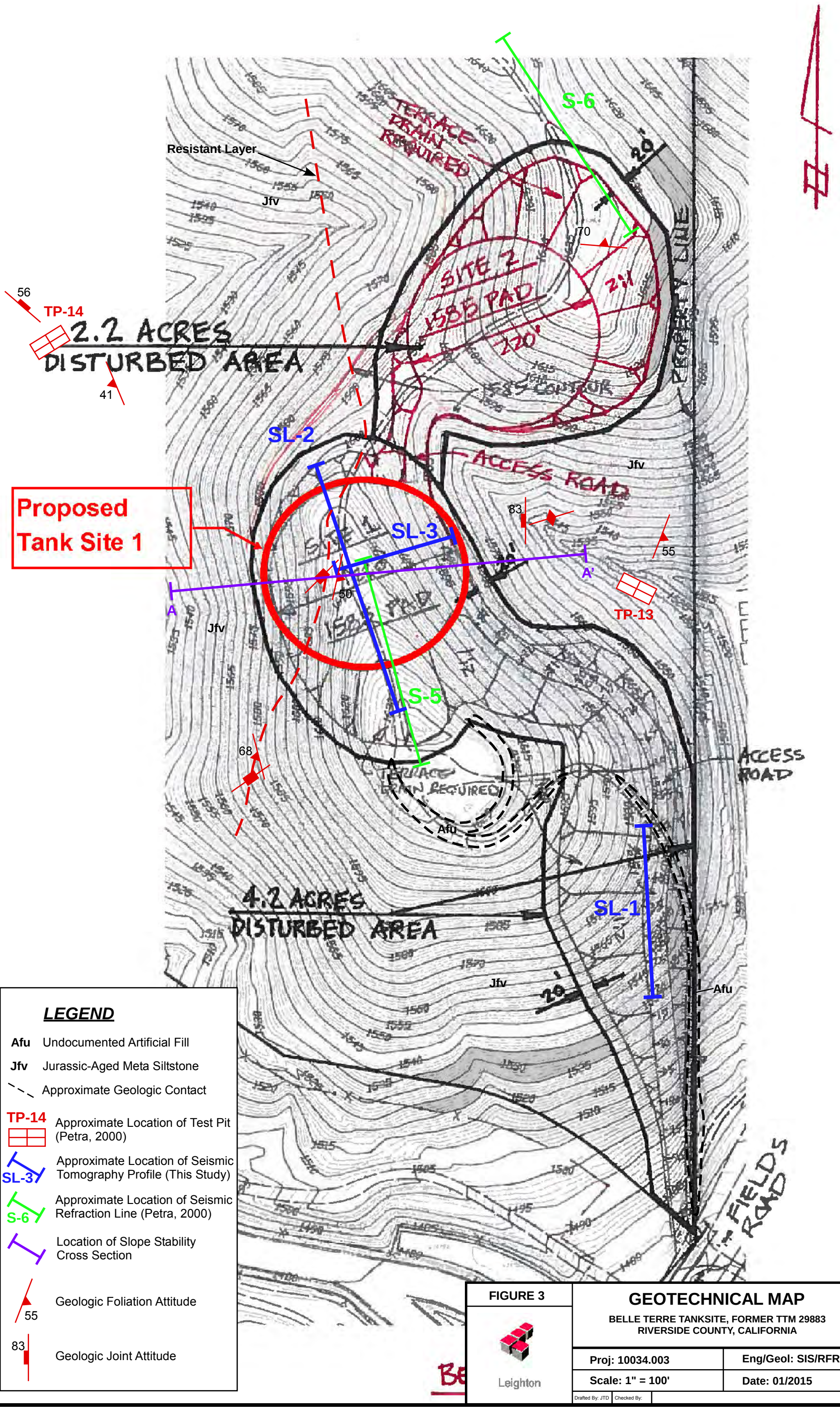
REGIONAL GEOLOGY MAP

French Valley North - Belle Terre Tanksite
French Valley Area, California

Figure 2

Leighton

Map Saved as V:\drafting\10034\003\Maps\10034.003_Fig2_RGM_2015-01-26.mxd on 1/26/2015 11:21:21 AM



LEGEND

Afu	Undocumented Artificial Fill
Jfv	Jurassic-Aged Meta Siltstone
	Approximate Geologic Contact
TP-14	Approximate Location of Test Pit (Petra, 2000)
SL-3	Approximate Location of Seismic Tomography Profile (This Study)
S-6	Approximate Location of Seismic Refraction Line (Petra, 2000)
	Location of Slope Stability Cross Section
55	Geologic Foliation Attitude
83	Geologic Joint Attitude

FIGURE 3

Leighton

GEOTECHNICAL MAP

BELLE TERRE TANKSITE, FORMER TTM 29883
RIVERSIDE COUNTY, CALIFORNIA

Proj: 10034.003	**Eng/Geol: SIS/RFR**
Scale: 1" = 100'	**Date: 01/2015**

Drafted By: JTD | Checked By:

Appendix F:

Phase 1 ESA

GRS GROUP

LOCAL KNOWLEDGE | GLOBAL PERSPECTIVE

877 GRS CRE1
+1 213 908 2173
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Los Angeles
New York
Chicago
San Francisco
San Diego
Atlanta
Dallas
Frankfurt
London
Tokyo

Due Diligence

Project Management
Financial Advisory
Strategic Asset Solutions

PHASE I
ENVIRONMENTAL SITE ASSESSMENT

PROPERTY REFERENCE:
SEC OF KELLER ROAD AND WASHINGTON STREET,
RIVERSIDE COUNTY, CA

LOCAL KNOWLEDGE | GLOBAL PERSPECTIVE

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Prepared for:

Regent Properties
11990 San Vicente Blvd., Suite 200
Los Angeles, CA 90049

Property Identification

French Valley
SEC of Keller Road and Washington Street
Riverside County, CA 92563

Prepared by:

Global Realty Services Group
325 Center Street, Laguna Beach, California 92651
877 GRS CRE1 | +1 213 908 2173 | www.grs-global.com

Report Date: March 22, 2011
GRS Project #: 11-08924.05

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Overview

Property Name	French Valley
Property Address	SEC of Washington Street & Keller Road, Murrieta, California 92596
Building Area	No buildings or structures on the Property
Units	Not applicable
Property Area	341 acres
Year Built	No buildings or structures on the Property
Current Use	Agricultural and undeveloped
Historical Use	Agricultural and undeveloped
Known Release	None
Suspected Release	None
Regulatory Records	No Regulatory Records were identified for the subject Property.
AULs	No Activity and Use Limitations were identified.
Engineering Controls	No Engineering Controls were identified.
Environmental Liens	No Environmental Liens were reported by the client.

Conclusions	**Summary**	**Action Recommended?**	**Cost**
REC	None	None	$0
HREC	None	None	$0
Opinion	Identified conditions do not indicate environmental impact to the Property.	None	$0
Data Gaps	No data gaps were identified which would be likely to impact our conclusions.	None	$0

ADDITIONAL SERVICES			
Issue	**Summary**	**Action Recommended?**	**Cost**
Asbestos	No structures on the Property.	None	$0
Lead- Based Paint	No structures on the Property.	None	$0
Drinking Water	No drinking water supply services are currently on the Property.	None	$0
Radon	Property is in Zone 2.	None	$0
Mold	No structures on the Property.	None	$0
Wetlands	None identified. The aqueduct is fenced with signage indicating Riverside County Wildlife Conservation Area Boundary.	None	$0

Data Gaps

No significant data gaps were encountered during completion of this assessment. Data gaps occur when, despite good faith efforts, the consultant is unable to identify information required to satisfy objectives of the assessment. Data gaps may result from incompleteness in any of the activities required by the ESA Standard, or by limiting conditions encountered during completion of the work. The ESA Standard requires that data gaps be identified in the report when they significantly impact the ability of the consultant to identify Recognized Environmental Conditions at the Property. Limiting Conditions identified in this report are not considered to significantly impact our ability to satisfy the objectives of this assessment.

Limiting Conditions

GRS Group encountered the following limiting conditions in completion of the work:

- Site observations were limited to those areas identified in Section 5. Unidentified conditions may exist in areas not observed.

Findings and Opinions

No Recognized Environmental Conditions were identified as a result of our assessment.

The Property consists of approximately 341 acres and is currently vacant land and agricultural land. An aqueduct bisects the northeast portion of the Property in a north-south direction. In addition, the aqueduct is located along the southeast Property boundary. No evidence of the use, storage or disposal of hazardous materials observed.

The Property was mostly undeveloped wooded land, agricultural land with small structures on southern portion and undeveloped roads and seasonal creek/drainage from prior to 1901 through 1967. Sometime prior to 1967, an aqueduct was contstructed in the area part of which is traversing through the northern portion and bordering the southeastern portion of the Property. By 1980 the small structures on the southern portion were not present on the Property. From the late 1980s to present the Property has generally remained the same as undeveloped and agricultural land with trails and undeveloped roads traversing through it.

The general vicinity of the Property consisted of mainly of agricultural land, vacant land, and rural residential. The surrounding area gradually increased in agricultural and rural residential developement from prior to 1938 through present. An aqueduct was constructed in the property area sometime prior to 1967 traversing in generally north-south direction. Historically, undeveloped pathways and stream has been present on the nearby properties. No impact is expected from the historical use of the nearby properties.

No regulatory records were identified for the Property and adjoining properties.

No data gaps were identified that would significantly impact the conclusions of the assessment.

Conclusions

Recognized Environmental Conditions

A Recognized Environmental Condition (REC) is identified when the Assessment finds the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-05 of SEC of Keller Road and Washington Street, Riverside County, CA, the Property. Any exceptions to or deletions from this practice are described in Section 1.7 of this report. This assessment has revealed no evidence of Recognized Environmental Conditions in connection with the Property.

Historical Recognized Environmental Conditions

Findings which would once have been classified as Recognized Environmental Conditions, but are no longer of concern are classified as Historical Recognized Environmental Conditions. For example, a past release which has been corrected may be classified as an HREC.

- No Historical Recognized Environmental Conditions were identified as a result of activities or conditions at the subject or nearby properties.

De Minimis Environmental Conditions

De minimis environmental conditions indicate a release which generally would not represent a threat to human health and would generally not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

- No de minimis environmental conditions were identified as a result of activities or conditions at the subject or nearby properties.

Additional Services

Additional services were provided to evaluate non-ASTM considerations as identified in Section 1.3. No evidence of related conditions of concern was identified during completion of the Assessment.

Recommendations

No additional action or assessment is recommended as a result of this Assessment.

1.0 Introduction

This Phase I Environmental Site Assessment was performed by Global Realty Services Group (GRS Group) for Regent Properties and was prepared by Matt Hohne, one of GRS Group's Field Professionals and was reviewed by one of our senior reviewers, Hitesh Patel.

1.1 Purpose and Use

This assessment along with findings, conclusions and recommendations (collectively, the Assessment) are intended to support evaluation of the property by our Client prior to acceptance of the Property as collateral to support a real estate secured loan. This report may not be used by any party with an existing or contemplated ownership interest in the Property. GRS Group has performed the agreed services in order to identify Recognized Environmental Conditions (RECs); the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. The supporting work was not intended to be exhaustive or to guarantee of the identification of every possible issue of potential concern, and may not be construed as a warranty or guarantee of any kind.

Unless expressly identified herein, all opinions, conclusions, and recommendations provided presume that the property occupancy and use will remain as observed at the time of our site reconnaissance and that no significant renovation, subdivision, conversion to condominiums or similar change will occur. This report will be invalidated in the event of such activities.

This report is the intellectual property of Global Realty Services Group, GRS Group, and may not be used or relied upon without GRS Group's express written authorization. Unauthorized use of this report is a violation of GRS Group's legal rights. Any unauthorized user of this report shall be subject to civil and criminal penalties and shall be responsible to indemnify, defend and hold GRS Group harmless from any and all losses, damages and claims arising, in any part, from such use. When allowable under contract, GRS Group may authorize additional parties to rely on the results of this assessment. Unless otherwise agreed in writing, such parties shall be considered as parties to the agreement under which the work was performed.

1.2 Scope of Assessment

This assessment was conducted in accordance with an agreement governing the nature, scope intent and purpose of the work and in general accordance with ASTM E 1527-05, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, the ESA Standard and any additional requirements identified in the agreement under which the work was performed.

Since GRS Group's responsibilities are limited by the agreed scope of work, an understanding of activities not included within that scope of work is important to proper use of the information contained in this Report. Some clarification of the work performed is provided below, but a more complete list of inherent limitations is provided at Appendix C.

- No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. The ESA Standard identifies a balance between competing goals to reduce uncertainties within reasonable constraints of time and cost, and this assessment is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property within reasonable limits of time and cost. The reader should be thoroughly familiar with the ESA Standard in order to assure an appropriate understanding of limitations inherent in the agreed scope of services.

- In some cases conditions encountered during completion of the Assessment, for example limited access portions of the Property, can influence our ability to fulfill the objectives of the assessment. Where applicable, such limiting conditions are identified later in this section of the report. Also, certain work is specifically excluded by the ESA Standard. Unless expressly identified in the agreement for services, all tasks identified by the ESA Standard as "Non- Scope Considerations" are excluded from this Assessment.

- Reconnaissance conducted during this assessment was limited to accessible areas of the property and specific areas identified in this Report. Accordingly, conditions may exist which were not identified as a result of our assessment and which may impact our conclusions concerning the condition of the Property. Any conditions known or discovered which were not identified during the completion of this assessment should be reported to GRS Group upon discovery and may impact the conclusions and recommendations of this Report.

- When provided by the client, GRS Group has considered "User Provided Information" in completion of this Assessment; however GRS Group has no control over such information and cannot guarantee the User's satisfaction of requirements for All Appropriate inquiry.

- Limited information concerning regulatory compliance was utilized in preparation of this Assessment; however the work is not intended as a compliance audit and may not be relied upon or utilized as evidence regulatory compliance.

1.3 Additional Services

The presence of 'environmental' conditions such as asbestos containing materials, lead- based paint, lead in drinking water, wetlands, endangered species, elevated radon concentrations, vapor encroachment conditions, etc. can result in liabilities for property owners and disrupt planned operations or cash flow and is generally beyond the scope of a Phase I assessment as defined by the ESA standard. The following additional services have been performed at the request of our Client. Any services not identified below are expressly excluded from this assessment. All work described is in the context of and subject to the principles underlying the ESA Standard.

Recommendations

Many clients look to the consultant for recommendations based on the results of the assessment. This can be problematic since the reason for engaging the assessment and risk appetite can vary significantly from client to client. Some clients are primarily concerned with the identification of direct evidence of a release, while others are concerned to understand every possibility of a release. This distinction can significantly impact the consultant's recommendations. In simplified form, the ESA Standard defines a recognized environmental condition as the likely release of hazardous substances. A recognized environmental condition is neither restricted to known releases nor intended to include any possibility of a release. Unless otherwise requested by the client, our report will include recommendations as required by the ESA Standard along with our opinion of additional assessment necessary to assess the significant release or likely release of a hazardous substance or petroleum product at the property. The Client should carefully review and consider all recommendations to assure an understanding of the underlying concerns and verify that any recommendations are consistent with their unique appetite for risk.

Asbestos Containing Building Materials

During completion of the site reconnaissance, GRS Group looked for building materials commonly found to contain asbestos. No sampling was conducted. This assessment is intended as a limited screen to facilitate a real estate transaction and may not be used to satisfy regulatory requirements concerning the management or demolition of asbestos- containing materials.

Lead- based Paint

During completion of the site reconnaissance, GRS Group looked for surfaces painted prior to 1978. No sampling was conducted. This assessment is intended as a limited screen to facilitate a real estate transaction and may not be used to satisfy regulatory requirements concerning the management or demolition of suspect materials.

Drinking Water

GRS Group contacted the drinking water supplier to obtain information concerning compliance with applicable Federal regulations. No related sampling activities were conducted.

Radon

GRS Group has reviewed Radon maps and other necessary and readily available information concerning average radon concentrations in the area of the property. No site- specific sampling was completed to verify radon concentrations at the Property.

Mold
Material and readily apparent evidence of the presence of mold which is identified during completion of the Assessment is described in the report. No comprehensive mold assessment has been conducted. Our assessment is based solely upon observations made during completion of this ESA. A mold and moisture survey should be completed if more comprehensive information is desired.

1.4 Reliance

RESTRICTED USE AND RELIANCE - THIS REPORT WAS PREPARED BY GLOBAL REALTY SERVICES GROUP FOR THE SOLE USE AND BENEFIT OF OUR CLIENT AND MAY NOT BE USED OR RELIED UPON BY ANY THIRD- PARTY WITHOUT THE EXPRESS WRITTEN CONSENT OF GLOBAL REALTY SERVICES GROUP.

1.5 Methodology

Recognized Environmental Condition

Criteria for the identification of Recognized Environmental Conditions vary substantially across the industry. Some Environmental Professionals identify Recognized Environmental Conditions whenever there is a possibility of impact to a property, while others recognize Recognized Environmental Conditions only when presented with direct evidence that a release has occurred. The ESA Standard defines a REC in terms of the "presence or likely presence" of hazardous materials under conditions that indicate an existing, past, or threatened release. By this definition the mere possibility of a release fails to fulfill the definition of a REC. A requirement for the discovery of direct evidence before identification of a REC is equally unsupportable. GRS Group considers both the known and likely presence and release of hazardous materials in identifying Recognized Environmental Conditions.

Historical Recognized Environmental Condition

The ESA Standard allows for reclassification of RECs as Historical Recognized Environmental Conditions. By example, the ESA Standard cites a situation in which a release was identified, cleanup has occurred and regulatory approval of cleanup operations has been granted, though the ESA Standard is careful to leave the final determination of HREC status to the discretion of the environmental professional. It is also possible to reclassify a REC when additional assessment reveals no evidence of a release. Since the definition of a REC requires the presence or likely presence of a release, the demonstration that no release has occurred would expunge the initial classification.

1.6 Terminology

Hazardous Material - The ESA Standard defines the terms *hazardous substance* and petroleum products, however the terms are often used in conjunction, resulting in an awkward phrase where a simpler term would be desirable. The term hazardous material is used in this report to include both hazardous substances and petroleum products as those terms are defined by the ESA Standard.

Material Threat of a Release - There is sometimes confusion regarding the meaning of the phrase "material threat of release." A *material threat* is defined within the context of the ESA Standard as "a physically observable or obvious threat which is reasonably likely to lead to a release..." The material threat of a release is used in consideration of the likelihood of a future release and has no application in consideration of an historical release.

1.7 Deviations

The ESA Standard characterizes issues which are beyond the scope of assessment as Non-Scope Considerations. Any inclusion of these issues or considerations in this assessment is described earlier in this Section: Scope of Assessment. Inclusion of this work is limited to the scope identified in the agreement under which the work was performed, is subject to underlying principles and limitations of the ESA Standard, and shall not be construed as evidence of a responsibility to evaluate other such issues or considerations.

The ESA Standard allows written interview of property owners and occupants, but is structured in a way which promotes oral interview of State and/or Local Government Officials. Nonetheless, many state and governmental officials will provide information only upon receipt of written requests submitted under the Freedom of Information Act. Information requested or received as a result of such requests may be employed in this assessment in lieu of oral interview of state and local government officials.

1.8 Special Terms and Conditions

This Assessment has been performed in accordance with an agreement governing the nature, scope, extent and purpose of the work. Any conflicting provisions of that agreement supersede the provisions of other requirements referenced herein.

2.0 Property Description

The Property is currently vacant land, utilized for agricultural purposes. An aqueduct bisects the northeast portion of the Property in a north-south direction. In addition, the aqueduct is located along the southeast Property boundary.

Property Name	French Valley
Property Address	SEC of Washington Street & Keller Road, Murrieta, California 92596
Building Area	No buildings or structures on the Property
Property Area	341 acres
Year Built	No buildings or structures on the Property
Current Use	Agricultural and undeveloped
Number of Buildings	None
Access	Via Washington Street and Fields Drive

2.1 Legal Description

No legal description was provided for our consideration. Property boundaries were identified by review of a survey provided by the client.

2.2 Reconciliation of Property Data

Improvements observed at the property are consistent with information provided at the time of our engagement. No significant deviations were identified.

2.3 Site and Vicinity General Characteristics

The Property and vicinity has been utilized for agricultural purposes and rural residential purposes since at least the 1930's. The terrain is characterized as rolling hills, a seasonal drainage creek bisects the Property in an east-west direction and an aqueduct bisects the northeast portion of the Property in a north-south direction. In addition, the aqueduct is located along the southeast Property boundary.

2.4 Current Use

The Property is currently vacant land and agricultural land.

2.5 Description of Improvements

DESCRIPTION OF IMPROVEMENTS	
Building	Property is vacant land. No buildings on the Property.
Construction	None
Exterior Finishes	None
Interior Finishes	None
Parking	No parking areas were observed on the Property.
Amenities	None
Heating Fuel	None
Source of Drinking Water	None
Waste Water Disposal	None
Solid Waste Disposal	None

2.6 Potentially Sensitive Improvements

The Property is currently vacant land, and utilized for agricultural purposes.

No improvements of environmental concern were identified at the Property.

2.7 Adjoining Properties

The following activities were observed at adjoining properties.

Direction	Activities	Comments
North	Agricultural and aqueduct	No impact is expected.
South	Agricultural	No impact is expected.
East	Aqueduct, agricultural and rural residential	No impact is expected.
West	Agricultural and residential	No impact is expected.

3.0 Client Provided Information

In order to qualify for defenses to CERCLA liability, a defendant must demonstrate the completion of "all appropriate inquiry." As defined by EPA, all appropriate inquiry includes an assessment performed by an environmental professional, in addition to the identification and consideration of certain information not within the scope of a Phase I assessment. The ESA Standard requires the client to provide this information to the environmental professional. When not provided, the missing information must be considered as a possible Data Gap. Information required to be provided by the client includes:

- Research into the existence of environmental cleanup liens and Activity and Use Limitations
- Any specialized knowledge or experience of the "user"
- Commonly known or reasonably ascertainable information about the property
- Relationship of the purchase price to fair market value, and
- The degree of obviousness of the presence or likely presence of contamination.

Consideration	Response
Is the Client aware of Environmental Cleanup Liens which affect the property?	No
Is the Client aware of Activity and Use Limitations which affect the property?	No
Is the Client aware of Commonly Known or Reasonably Ascertainable Information which indicates a potential release at the property?	No
Is the Client aware of any discount to property value resulting from a current or past release at the property?	No
Is the Client aware of any obvious evidence of a potential release at the property?	No

The client disclosed no information concerning user-required which would impact the results of our assessment.

3.1 Owner, Property Manager, and Occupant Information

The following additional information, discussed in relevant sections of the report, was provided by the Property Owner:

- French Valley Alternative 2 Revised Site Plan (dated 2005)
- Phase I ESA, Parcel Nos. 472-170-003, 472-170-008 and 472-180-003 (dated 2008)

4.0 Records Review

4.1 Regulatory Records

Regulatory records provide an important source of information concerning the current and historical use of hazardous materials at the subject and nearby properties. In order to satisfy ESA Standard requirements for the review of regulatory information, GRS Group obtained aggregated data from a commercial service specializing in the organization and reporting of regulatory information.

Map Findings Summary

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		1	0	0	0	0	NR	0
DELISTED NPL		1	0	0	0	0	NR	0
CERCLIS		0.5	0	0	0	NR	NR	0
CERCLIS- NFRAP		0.5	0	0	0	NR	NR	0
CORRACTS		1	0	0	0	0	NR	0
RCRA- TSDF		0.5	0	0	0	NR	NR	0
RCRA- LQG		0.25	0	0	NR	NR	NR	0
RCRA- SQG		0.25	0	0	NR	NR	NR	0
US ENG CONTROLS		0.5	0	0	0	NR	NR	0
US INST CONTROL		0.5	0	0	0	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
US BROWNFIELDS		0.5	0	0	0	NR	NR	0
LUST		0.5	0	0	0	NR	NR	0
UST		0.25	0	0	NR	NR	NR	0
HIST UST		0.25	0	1	NR	NR	NR	1
AST		0.25	0	0	NR	NR	NR	0
VCP		0.5	0	0	0	NR	NR	0
INDIAN LUST		0.5	0	0	0	NR	NR	0
INDIAN UST		0.25	0	0	NR	NR	NR	0
INDIAN VCP		0.5	0	0	0	NR	NR	0
INDIAN ODI		0.5	0	0	0	NR	NR	0
INDIAN RESERV		1	0	0	0	0	NR	0

The column for Target Property is blank if no records were found.

4.1.1 Subject Property

No regulatory records for the subject Property were identified during our review. Further, no information was discovered during completion of this Assessment which would lead GRS Group to suspect that records should have been included in the information reviewed. As a result, no additional related Assessment appears warranted.

4.1.2 Off-Site Properties

A release resulting from activities at nearby properties can sometimes impact surrounding properties. Regulatory records concerning nearby properties are reviewed in order to identify a release of hazardous materials which would be expected to impact conditions at the subject Property. The evaluation of nearby properties is a two-fold process, evaluating both identified releases of hazardous materials, and the potential for such releases to impact the subject Property.

Properties of Potential Concern

No properties were identified which are considered likely to result in a release of hazardous materials to the subject Property.

Properties of No Further Concern

No other regulatory listings were identified in completion of our Assessment.

No regional contamination has been identified within the target search area.

No regulatory records were identified for adjoining properties.

Unmapped Records

Reports of regulatory records for the subject and surrounding Properties are compiled from data files published by public agencies. Data contained in those records is not always adequate to allow available mapping programs to correctly identify the property.

Review of the names and address information for unmapped properties revealed no evidence of records likely to be associated with the subject Property.

4.1.3 Additional Environmental Record Sources

The following additional environmental record sources were reviewed:

Source	Comments
Fire Department	No records identified for the Property.
Oil and Gas	No records identified for the Property.
Exploration Maps	No records identified for the Property.
Bureau of Mines	No records identified for the Property.

4.2 Physical Setting

4.2.1 Topography

Topography		
Description	**Findings**	**Source**
Configuration	Rolling hills	Site Observations, Topographic Maps
Elevation	Ranges from 1,300 - 1,600 feet above mean sea level	Topographic Maps
Surface Water	A seasonal drainage creek bisects the Property in an east-west direction and an aqueduct bisects the northeast portion of the Property in a north-south direction. In addition, the aqueduct is located along the southeast Property boundary.	Site Observations, Topographic Maps

4.2.2 Geology

Geology		
Description	**Findings**	**Source**

Description	Findings	Source
Formation	Cenozoic Quaternary- aged	Geologic Map Of California, Division of Mines and Geology, CA, 1977.
Permeability	Moderate	Geologic Map Of California, Division of Mines and Geology, CA, 1977.

4.2.3 Hydrology

Hydrology		
Description	**Findings**	**Source**
Primary Aquifer	Coastal Plain	Ground Water Atlas of the United States, HA- 730- B
Estimated first depth to groundwater	Greater than 10 feet below ground surface	State Water Resources Control Board
Gradient	Toward the southwest	Inferred from elevation, site observations and proximity to surface water.

4.3 Historical Use

4.3.1 Summary

The Property was mostly undeveloped wooded land, agricultural land with small structures on southern portion and undeveloped roads and seasonal creek/drainage from prior to 1901 through 1967. Sometime prior to 1967, an aqueduct was contstructed in the area part of which is traversing through the northern portion and bordering the southeastern portion of the Property. By 1980 the small structures on the southern portion were not present on the Property. From the late 1980s to present the Property has generally remained the same as undeveloped and agricultural land with trails and undeveloped roads traversing through it.

The general vicinity of the Property consisted of mainly of agricultural land, vacant land, and rural residential. The surrounding area gradually increased in agricultural and rural residential developement from prior to 1938 through present. An aqueduct was constructed in the property area sometime prior to 1967 traversing in generally north- south direction. Historically, undeveloped pathways and stream has been present on the nearby properties. No impact is expected from the historical use of the nearby properties.

Fill Materials - No evidence of the historical placement of fill materials was identified during our review of historical information. Though the placement of fill materials cannot be ruled out, no significant depressions, pits or other features suggestive of the likely placement of fill were identified in review of historical topographic maps and aerial photos.

Historical Agricultural Use - Agricultural activities can result in environmental impacts as a result of the application of pesticides and herbicides and sometimes involve on- site store of significant quantities of hazardous materials, as well as maintenance, repair and operation of farm equipment. No direct evidence of these activities was identified at the property, however it would be unusual if pesticides and herbicides have not been applied at the Property. Such applications are permissible under applicable regulations, but can result in a build- up of contaminants over time, which can be significant when a change in property use occurs. Redevelopment of the Property will likely result in the removal of soils within 3 - 6 inches of the ground surface, and redistribution of remaining near- surface soils. In the absence of evidence of a significant release of agricultural chemicals, there is no regulatory requirement for sampling at the Property. As a result, no significant impact to the Property is expected.

Standard Historical Source	Reviewed?	Concerns?	Description of Concerns
Aerial Photographs	Yes	No	
Fire Insurance Maps	No		
Property Tax Files	Yes	No	
Recorded Land Title Records	Yes	No	
USGS Topographic Map	Yes	No	
Local Street Directories	No		
Building Department Records	No		
Zoning/Land Use Records	Yes	No	
Other Historical Sources	No		
Prior Assessments	No	No	

4.3.2 Aerial Photographs

The following aerial photographs were reviewed:

Source	Year	Scale
EDR	1938	555
EDR	1953	555
EDR	1967	555
EDR	1980	600
EDR	1989	666
EDR	1994	666
EDR	2002	666
EDR	2005	604

Subject Property - The Property consisted mostly of undeveloped wooded land, agricultural land, small structures on southern portion with undeveloped roads and a seasonal creek/drainage can be seen bisecting in an east- west direction traversing through the Property in 1938, 1953 and 1967 photographs, except an aqueduct is shown traversing through the northern portion and bordering the southeastern portion of the Property. In 1980 photograph, the structures on the southern portion of the Property are not present. In 1989 through 2005 aerial photographs, the Property generally the same with trails and undeveloped roads traversing through it.

Nearby Properties

The general vicinity of the Property consisted of agricultural and vacant land, and rural residential. The surrounding area appears to gradually increase in agricultural and rural residential developement throughout the research period.

4.3.3 Fire Insurance Maps

GRS Group contacted the current owner of the Sanborn Fire Insurance Map collection to identify records for the Property and surrounding area. No fire insurance maps were reported to be available for the Property.

4.3.4 Property Tax Files

Comparing the survey to Riverside County Assessor rcords, the Property includes the following parcel numbers:

476- 010- 040- 4
476- 010- 045- 9
472- 170- 001- 6

472-170-003-8
472-170-008-3
472-180-001-7
472-180-003-9
472-200-002-9

4.3.5 Recorded Land Title Records

No environmental liens or activity and use limitations resulting from a release of hazardous materials were found as a result of the review of title documents completed by counsel engaged by the client.

4.3.6 USGS Topographic Maps

The following topographic maps were reviewed:

Quad	Year	Scale
SOUTHERN CA SHEET 1	1901	1:250000
ELSINORE	1901	1:125000
MURRIETA	1947	1:50000
WINCHESTER	1953	1:24000
BACHELOR MOUNTAIN	1953	1:24000
WINCHESTER	1973	1:24000
BACHELOR MOUNTAIN	1973	1:24000
WINCHESTER	1979	1:24000

Subject Property - The Property is shown as mostly as undeveloped and wooded land since prior to 1901. Undeveloped roads are shown traversing the Property. In 1947 a stream is shown traversing the southern portion of the Property. In 1973 and 1979 an aqeduct is shown traversing the northern portion of the Property.

Nearby Properties - The nearby properties consisted of undeveloped land and rural residential with undeveloped pathways, stream and an aqeduct.

4.3.7 Local Street Directories

The following street directories were reviewed in completion of this Assessment:

- Hanes Criss-Cross Directories - 1974, 1982, 1988, 1996, 2000, 2007

Subject Property - No lisitngs for the Property.

Nearby Properties - Residential listings for nearby properties on Rebecca Street. No impact is expected.

4.3.8 Building Department Records

The Property consists of 341 acres of agricultural and vacant land with aqueduct.

Information concerning the historical use of the Property was developed from other Standard Historical Sources.

4.3.9 Zoning/Land Use Records

Zoning maps reviewed on-line show the Property to be zoned for agricultural and residential use. No information was available concerning historical zoning of the Property.

4.3.10 Other Historical Sources

A Google search of .gov sites for the subject address revealed no matching entries. A search of additional domains revealed no evidence of a known release at the property within the first twenty search results.

4.3.11 Prior Assessments

The following prior assessment was provided for our consideration:

- Phase I ESA, Parcel Nos. 472-170-003, 472-170-008 and 472-180-003 (dated 2008)

The report describes the property as consisting of 66 acres of vacant, undeveloped land. No current or historical recognized environmental conditions were identified; however, the site plan attached to the report incorrectly identifies the property. As a result., the report is not considered as a valid source of historical information.

4.3.12 Data Failure

Data failure was encountered during completion of our assessment.

- The property was not undeveloped at the earliest research date. Because no environmentally sensitive operations were identified at the subject or nearby properties at the earliest research date, this data failure is not expected to significantly impact our ability to identify Recognized Environmental Conditions in connection with the property. As a result, this data failure does not constitute a Data Gap.

- Research intervals of more than five years were encountered during our review of historical sources; however, activities at the property were found to be consistent at the beginning and end of these extended research intervals. In accordance with ASTM criteria, such intervals do not constitute data failure.

5.0 Site Reconnaissance

No conditions or improvements of environmental concern were observed during our reconnaissance of the property. The site reconnaissance was performed by Matt Hohne on March 1, 2011. We were unaccompanied during the site reconnaissance. Weather at that time was clear and provided no obstacle to completion of the reconnaissance.

GRS Group's site reconnaissance of exterior areas included observation of the Property from nearby streets, driveways, and along the perimeter of the property. Open areas of the property were traversed via available roads and on foot, at intervals of approximately 1,000 feet.

5.1 Common Concerns

No improvements, features or activities were identified which would be expected to indicate the use, storage or disposal of hazardous materials.

Concern	Present?	Comments
Above Ground Storage Tanks	No	
Discharge Features	No	
Equipment Likely to Contain PCBs	No	
Hydraulic Equipment	No	
Hazardous Material Use	No	
Other Suspect Containers	No	
Petroleum Products	No	
Pits, Ponds, and Lagoons	No	
Processes of Concern	No	
Solid Waste Dumping/Landfills	No	
Stained Soil/Stressed Vegetation	No	
Staining/Corrosion	No	
Stockpiled Soils	No	
Subsidence	No	
Surface Repairs (e.g. UST removal)	No	
Underground Storage Tanks	No	
Wells	No	

5.2 Additional Concerns

No additional concerns were identified during site reconnaissance.

5.3 Adjoining Properties

The following activities and improvements were observed at adjoining properties.

North - The north-adjoining property is vacant land utilized for agricultural purposes. No related Recognized Environmental Conditions have been identified.

South - The south-adjoining property is vacant land utilized for agricultural purposes. No related Recognized Environmental Conditions have been identified.

East - The east-adjoining property is occupied by the San Diego Aqueduct and by rural residential and vacant land utilized for agricultural purposes. No related Recognized Environmental Conditions have been identified.

West - The west-adjoining property is occupied by Washington Street (a main public thoroughfare), single-family residential and vacant land utilized for agricultural purposes. No related Recognized Environmental Conditions have been identified.

No activities or improvements were observed which would be expected to have resulted in impact to environmental conditions at the subject Property. No hazardous materials were observed to be used or stored near the property line and no staining or other evidence indicating likely impact to the Property was found.

6.0 Interviews

The Property consists of 341 acres of vacant land, utilized for agricultural purposes.

Position	Name	Company	Title	Contact Information	Interview Date
Current Owner		The Garrett Group, LLC		(951) 506-6556	
Key Site Manager		The Garrett Group, LLC		(951) 506-6556	

Key Site Manager

The key site manager, property owner, has been associated with the property since the 2000's. No knowledge of past contamination or cleanup activities was reported, and they were unaware of any release or areas of concern associated with the property.

Current Occupants

Interview of current occupants is not required for residential properties. Since GRS Group found no areas in which such interviews would be expected to provide meaningful information, interviews were not conducted with current and past occupants.

Past Owners and Occupants

Interview of past owners and occupants is typically performed when adequate information concerning past activities at the Property is not available from other sources. No interview of past owners or occupants was necessary in completion of this assessment.

Neighboring Property Owners and Occupants

Interview of neighboring property owners was not necessary in our assessment of historical activities at the Property.

7.0 Additional Services

Assessment of the following Non-ASTM considerations was performed:

Asbestos Containing Building Materials

There are no structures on the Property.

Lead-Based Paint

There are no structures on the Property.

Drinking Water

There are no structures on the Property.

Radon

The Property is located in Zone 2, a predicted average indoor radon concentration between 2.0 and 4.0 pCi/L, below the concentration at which EPA typically recommends additional action. No sampling was performed to determine site-specific radon concentrations.

Mold

There are no structures on the Property.

Wetlands

No wetlands were identified at the subject property.

An aqueduct bisects the northeast portion of the Property in a north-south direction. In addition, the aqueduct is located along the southeast Property boundary.

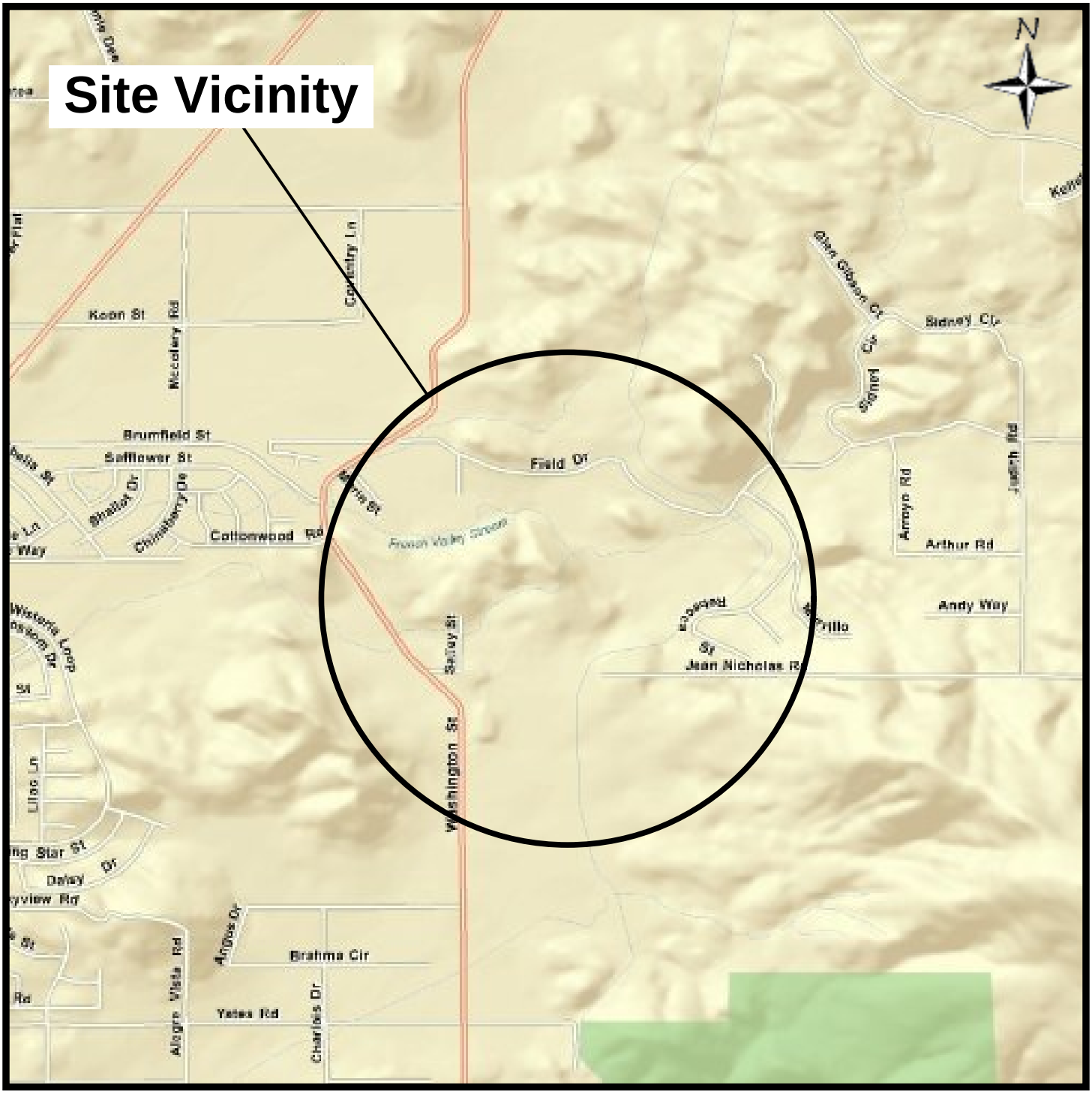
8.0 Certification

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in section 312.10 of 40 CFR 312, and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject Property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Matt P. Hohne, REA
Field Professional

Hitesh Patel
Associate Director

A: Site Location and Site Plan



GRS GROUP	**SITE LOCATION MAP** **Riverside County, CA**
	GRS Reference #: 11-08924.05

GRS GROUP

SITE PLAN
French Valley
341 Acres
SEC of Washington Street and Keller Road
Murrieta, California 92596

PROJ. #: 11-08924.5

B: Photographs

View of NWC of intersection of Keller Road and Washington Street.

View of SEC of intersection of Keller Road and Washington Street.

View of NEC of intersection of Keller Road and Washington Street.

View of north side of Property, facing east.

View of SWC of intersection of Keller Road and Washington Street.

View of west side of Property, facing east.

View of Property, facing south.

View of Benchmark located at intersection of Keller Road and Washington Street.

View of Property, facing north.

View of typical adjoining residential properties, facing northwest along Fields Drive.

View of Property, facing east.

View of Property, facing north.

View of east adjoining rural residential properties.

View of Property, facing southwest.

View of Property, facing southwest from Rebecca Street.

View of Property, facing southwest from Rebecca Street.

View of Property, facing southwest from Rebecca Street.

View of Property, facing southwest from Rebecca Street.

View of Property, facing east across Washington Street.

View of Property, facing east across Washington Street.

View of Property, facing south along Washington Street.

View of Property, facing southeast along Washington Street.

View of west adjoining property, facing northwest across Washington Street.

View of Property, facing north along Washington Street.

View of Property, facing east.

View of Property, facing east.

View of Property, facing north.

View of Property, facing west.

View of aqueduct, facing north.

View of Property, facing north.

View of aqueduct, facing north.

View of Property, facing northwest.

View of Riverside County Wildlife Conservation Area Boundary signage, located adjacent to aqueduct.

C: Scope of Work

Exclusions from and Limitations of the ESA Standard

General

The following information concerning exclusions from the ESA standard is provided for clarification and is not intended to reduce or limit similar clarifications contained within the ESA Standard. Certain inherent limitations in the ESA Standard are discussed here; however the reader should review the full standard in order to assure an appropriate understanding of work.

Principles of the ESA Standard

Considerations Beyond Scope—The use of this practice is strictly limited to the scope set forth in this section. Section 13 of this practice identifies, for informational purposes, certain environmental conditions (not an all-inclusive list) that may exist on a property that are beyond the scope of this practice but may warrant consideration by parties to a commercial real estate transaction. The need to include an investigation of any such conditions in the environmental professional's scope of services should be evaluated based upon, among other factors, the nature of the property and the reasons for performing the assessment (for example, a more comprehensive evaluation of business environmental risk) and should be agreed upon between the user and environmental professional as additional services beyond the scope of this practice prior to initiation of the environmental site assessment process

CERCLA Requirements Other Than Appropriate Inquiry—This practice does not address whether requirements in addition to all appropriate inquiry have been met in order to qualify for the LLPs (for example, the duties specified in 42 U.S.C. §9607(b)(3)(a) and (b) and cited in Appendix X1, including the continuing obligation not to impede the integrity and effectiveness of activity and use limitations (AULs), or the duty to take reasonable steps to prevent releases, or the duty to comply with legally required release reporting obligations).

Other Federal, State, and Local Environmental Laws—This practice does not address requirements of any state or local laws or of any federal laws other than the all appropriate inquiry provisions of the LLPs. Users are cautioned that federal, state, and local laws may impose environmental assessment obligations that are beyond the scope of this practice. Users should also be aware that there are likely to be other legal obligations with regard to hazardous substances or petroleum products discovered on the property that are not addressed in this practice and that may pose risks of civil and/or criminal sanctions for non-compliance.

Practically Reviewable—information that is practically reviewable means that the information is provided by the source in a manner and in a form that, upon examination, yields information relevant to the property without the need for extraordinary analysis of irrelevant data. The form of the information shall be such that the user can review the records for a limited geographic area. Records that cannot be feasibly retrieved by reference to the location of the property or a geographic area in which the property is located are not generally practically reviewable. Most databases of public records are practically reviewable if they can be obtained from the source agency by the county, city, zip code, or other geographic area of the facilities listed in the record system. Records that are sorted, filed, organized, or maintained by the source agency only chronologically are not generally practically reviewable. Listings in publicly available records which do not have adequate address information to be located geographically are not generally considered practically reviewable. For large databases with numerous records (such as RCRA hazardous waste generators and registered underground storage tanks), the records are not practically reviewable unless they can be obtained from the source agency in the smaller geographic area of zip codes. Even when information is provided by zip code for some large

databases, it is common for an unmanageable number of sites to be identified within a given zip code. In these cases, it is not necessary to review the impact of all of the sites that are likely to be listed in any given zip code because that information would not be practically reviewable. In other words, when so much data is generated that it cannot be feasibly reviewed for its impact on the property, it is not practically reviewable.

Reasonably Ascertainable—information that is (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints, and (3) practically reviewable.

Non-Scope Considerations

(Excerpted from the ESA Standard)

The following are identified as "Non-Scope Considerations under the ESA Standard. Unless the expressly identified in the agreed proposal for services, all tasks identified below are excluded from this Assessment.

13.1 General:

13.1.1 Additional Issues—There may be environmental issues or conditions at a property that parties may wish to assess in connection with commercial real estate that are outside the scope of this practice (the non-scope considerations). As noted by the legal analysis in Appendix X1 of this practice, some substances may be present on a property in quantities and under conditions that may lead to contamination of the property or of nearby properties but are not included in CERCLA's definition of hazardous substances (42 U.S.C. §9601(14)) or do not otherwise present potential CERCLA liability. In any case, they are beyond the scope of this practice.

13.1.2 Outside Standard Practices—Whether or not a user elects to inquire into non-scope considerations in connection with this practice or any other environmental site assessment, no assessment of such non-scope considerations is required for appropriate inquiry as defined by this practice.

13.1.3 Other Standards—There may be standards or protocols for assessment of potential hazards and conditions associated with non-scope conditions developed by governmental entities, professional organizations, or other private entities.

13.1.4 Compliance With AULs—Parties who wish to qualify for one of the LLPs will need to know whether they are in compliance with AULs, including land use restrictions that were relied upon in connection with a response action. A determination of compliance with AULs is beyond the scope of this practice.

13.1.5 List of Additional Issues—Following are several non-scope considerations that persons may want to assess in connection with commercial real estate. No implication is intended as to the relative importance of inquiry into such non-scope considerations, and this list of non-scope considerations is not intended to be all-inclusive:

13.1.5.1 Asbestos-Containing Building Materials,

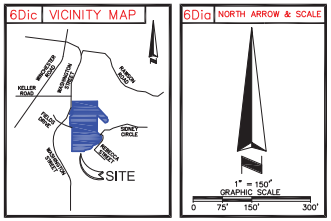
13.1.5.8 Industrial hygiene,

13.1.5.2 Radon,
13.1.5.3 Lead-Based Paint,
13.1.5.4 Lead in Drinking Water,
13.1.5.5 Wetlands,
13.1.5.6 Regulatory compliance,
13.1.5.7 Cultural and historic resources,
13.1.5.9 Health and safety,
13.1.5.10 Ecological resources,
13.1.5.11 Endangered species,
13.1.5.12 Indoor air quality,
13.1.5.13 Biological agents, and
13.1.5.14 Mold.

Activity Exclusions

- Accessing manholes or utility pit
- Entering of plenum, crawl, or confined space areas (however, the field observer should observe conditions to the extent easily visible from the point of access to the crawl or confined space areas, provided such points of access are readily accessible), determination of previous substructure flooding or water penetration unless easily visible or if such information is provided
- Walking on pitched roofs, or any roof areas that appear to be unsafe, or roofs with no built-in access, or determining any roofing design criteria
- Testing and design of equipment
- Collection of samples except as identified in the agreement under which the work is performed.
- Removing, relocating, or repositioning of materials, ceiling, wall, or equipment panels, furniture, storage containers, personal effects, debris material or finishes; conducting exploratory probing or testing; dismantling or operating of equipment; or disturbing personal items or property, that obstructs access or visibility,
- Preparing engineering calculations to determine any the adequacy or compliance of systems and components,
- Reporting on subterranean conditions
- Entering or accessing any area of the premises deemed to potentially pose a threat of dangerous or adverse conditions with respect to the field observer's health or safety, or to perform any procedure, that may damage or impair the physical integrity of the property, any system, or component.
- Compliance with any federal, state, or local statute, ordinance, rule or regulation including, but not limited to, fire and building codes, life safety codes, environmental regulations, health codes, zoning ordinances, compliance with trade design standards, or standards developed by the insurance industry.
- Compliance of any material, equipment, or system with any certification or actuation rate program, vendor's or manufacturer's warranty provisions, or provisions established by any standards that are related to insurance industry acceptance/approval, such as FM, State Board of Fire Under- writers, etc.

D: Property Data



6Dic VICINITY MAP

6Dia NORTH ARROW & SCALE

5C SURVEYOR OBSERVED POSSIBLE ENCROACHMENTS

Ⓐ FENCE APPEARS TO CROSS OVER NORTH BOUNDARY LINE BY 27.1' AT MOST

3 FLOOD INFORMATION

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE "D" OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 06065C2730G, WHICH BEARS AN EFFECTIVE DATE OF (PANEL NOT PRINTED), NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE. ZONE "D" DENOTES AREAS WHERE THERE ARE POSSIBLE, BUT UNDETERMINED, FLOOD HAZARDS, NO ANALYSIS OF FLOOD HAZARDS HAS BEEN CONDUCTED.

6Dia LEGEND & ABBREVIATIONS

▨	CONCRETE
— x —	FENCE LINE
— OHU —	OVERHEAD POWER LINES
✹	FIRE HYDRANT
⊸	POWER POLE
WV ⋈	WATER VALVE
✹	FIRE HYDRANT
○	FOUND 3" IRON PIPE (NO ID)
◉	FOUND NAIL & DISK (RCE 25742)

22 ZONING INFORMATION

ITEM	REQUIRED	REQUIRED	REQUIRED	REQUIRED	OBSERVED
PERMITTED USE	R-A-2 1/2	A-1-10	A-1-5	R-R	VACANT LAND
MINIMUM LOT AREA	20,000	20,000	20,000	1/2 AC	85,000
MINIMUM FRONTAGE	100'	100'	100'	80'	424'
MINIMUM LOT WIDTH	100'	100'	100'	80'	267'
MAX. BUILDING COVERAGE	NONE	NONE	NONE	NONE	0%
MAX. BUILDING HEIGHT	50'	50'	50'	50'	NONE
MINIMUM SETBACKS					
FRONT	20'	20'	20'	NONE	NONE
SIDE	NONE	5'	5'	NONE	NONE
REAR	NONE	10'	10'	NONE	NONE

ZONING INFORMATION SHOWN HEREON WAS NOT PROVIDED BY INSURED, INFORMATION WAS OBTAINED BY ASM, INC.	CONTACT: LEWIS (PLANNING) DATE CONTACTED: 03/01/2011 PHONE/FAX/EMAIL:

RIVERSIDE COUNTY ZONING 951-955-3200

www.tlma.co.riverside.ca.us/planning/content/zoning

PARKING REQUIREMENTS N/A

NOTES: R-A-2 1/2 (RESIDENTIAL AGRICULTURAL), R-R (RURAL RESIDENTIAL), A-1-5 & A-1-10 (LIGHT AGRICULTURE)

6B RECORDED SETBACKS/RESTRICTIONS

NONE PROVIDED

5Ei SCHEDULE "B" ITEMS

(10) — WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT SHOWN BY PUBLIC RECORDS. (NOT PLOTTED, DOCUMENT NOT PROVIDED)

(11) — RIGHTS OF THE PUBLIC IN AND TO THAT PORTION OF THE LAND LYING WITHIN WASHINGTON STREET. (NOT PLOTTED, DOCUMENT NOT PROVIDED)

(12) — AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED JANUARY 29, 1947 IN BOOK 819 PAGE 97 OF OFFICIAL RECORDS. IN FAVOR OF: CALIFORNIA ELECTRIC POWER COMPANY. (BENEFITS PROPERTY, DOES NOT LIE ON SUBJECT PROPERTY)

(13) — AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED AUGUST 25, 1960 AS INSTRUMENT NO. 75219 OF OFFICIAL RECORDS. IN FAVOR OF: CALIFORNIA WATER AND TELEPHONE COMPANY. (AFFECTS, AS SHOWN)

(14) — AN EASEMENT FOR INGRESS, EGRESS AND INCIDENTAL PURPOSES, RECORDED JULY 2, 1964 AS INSTRUMENT NO. 81236 OF OFFICIAL RECORDS. IN FAVOR OF: SHANNON MANAGEMENT COMPANY, AN ARIZONA CORPORATION. (AFFECTS, AS SHOWN)

(15) — AN EASEMENT FOR INGRESS, EGRESS AND INCIDENTAL PURPOSES, RECORDED AUGUST 3, 1973 AS INSTRUMENT NO. 102366 OF OFFICIAL RECORDS. IN FAVOR OF: SIDNEY O. FIELDS, A SINGLE MAN AND LEE TULLY, A MARRIED MAN AS TENANTS IN COMMON. (AFFECTS, AS SHOWN)

5Ei SCHEDULE "B" ITEMS CONTINUED

(16) — AN OFFER OF DEDICATION FOR PUBLIC ROADS AND INCIDENTAL PURPOSES, RECORDED JANUARY 11, 1978 AS INSTRUMENT NO. 5400 OF OFFICIAL RECORDS. TO: THE COUNTY OF RIVERSIDE. (AFFECTS, AS SHOWN)

(17) — THE TERMS AND PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "RESOLUTION NO. 2002-238" RECORDED JULY 12, 2002 AS INSTRUMENT NO. 2002-382638 OF OFFICIAL RECORDS. (AFFECTS, BLANKET IN NATURE)

(18) — THE TERMS AND PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "EASEMENT AGREEMENT" RECORDED APRIL 1, 2004 AS INSTRUMENT NO. 2004-0231200 OF OFFICIAL RECORDS. (AFFECTS PARCEL A-1, BLANKET IN NATURE)

(19) — THE EFFECT OF A MAP PURPORTING TO SHOW THE LAND AND OTHER PROPERTY, FILED BOOK 16, PAGE 72 OF RECORD OF SURVEYS. (AFFECTS PARCEL A-1, BLANKET IN NATURE)

(20) — WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS. (NOT PLOTTED, DOCUMENT NOT PROVIDED)

(21) — THE LACK OF A RIGHT OF ACCESS TO AND FROM THE LAND. NOTICE: PARAGRAPH 4 OF THE INSURING PROVISIONS ON THE FACE PAGE OF THE POLICY WILL BE DELETED FROM THE POLICY TO BE ISSUED. (DOES NOT AFFECT)

(22) — AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED JANUARY 9, 1947 IN BOOK 760, PAGE 293 OF OFFICIAL RECORDS. IN FAVOR OF: CALIFORNIA ELECTRIC POWER COMPANY. (AFFECTS, AS SHOWN)

(23) — AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED AUGUST 25, 1960 AS INSTRUMENT NO. 75219 OF OFFICIAL RECORDS. IN FAVOR OF: CALIFORNIA WATER AND TELEPHONE COMPANY. (AFFECTS, AS SHOWN)

(24) — AN EASEMENT FOR INGRESS, EGRESS AND INCIDENTAL PURPOSES, RECORDED JULY 2, 1964 AS INSTRUMENT NO. 81236 OF OFFICIAL RECORDS. IN FAVOR OF: SHANNON MANAGEMENT COMPANY, AN ARIZONA CORPORATION. (AFFECTS, AS SHOWN)

(25) — THE EFFECT OF A MAP PURPORTING TO SHOW THE LAND AND OTHER PROPERTY, FILED IN BOOK 45, PAGE 43 OF RECORD OF SURVEYS. (AFFECTS, AS SHOWN)

(26) — AN EASEMENT FOR INGRESS, EGRESS AND INCIDENTAL PURPOSES, RECORDED AUGUST 3, 1973 AS INSTRUMENT NO. 102366 OF OFFICIAL RECORDS. IN FAVOR OF: SIDNEY O. FIELDS, A SINGLE MAN AND LEE TULLY, A MARRIED MAN AS TENANTS IN COMMON. (AFFECTS, AS SHOWN)

(27) — A TEMPORARY EASEMENT FOR CONSTRUCTION AND INCIDENTAL PURPOSES, RECORDED MAY 14, 1987 AS INSTRUMENT NO. 87-134998 OF OFFICIAL RECORDS. IN FAVOR OF: THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, A PUBLIC CORPORATION. (DOES NOT AFFECT, EXPIRED 12-1-1987)

(28) — AN EASEMENT FOR ROAD AND INCIDENTAL PURPOSES, RECORDED MAY 14, 1987 AS INSTRUMENT NO. 87- 134999 OF OFFICIAL RECORDS. IN FAVOR OF: THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, A PUBLIC CORPORATION. (DOES NOT AFFECT, EXPIRED 12-1-1987)

(29) — A TEMPORARY EASEMENT FOR ROAD AND INCIDENTAL PURPOSES, RECORDED OCTOBER 3, 1989 AS INSTRUMENT NO. 87-341350 OF OFFICIAL RECORDS. IN FAVOR OF: THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, A PUBLIC CORPORATION. (DOES NOT AFFECT, EXPIRED 7-31-1991)

(30) — AN EASEMENT FOR CONSTRUCTION AND INCIDENTAL PURPOSES, RECORDED OCTOBER 3, 1989 AS INSTRUMENT NO. 89-341351 OF OFFICIAL RECORDS. IN FAVOR OF: THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, A PUBLIC CORPORATION. (DOES NOT AFFECT, EXPIRED 7-31-1991)

(31) — THE EFFECT OF RESOLUTION NO. 2002-238, APPROVED BY THE BOARD OF SUPERVISORS FOR THE COUNTY OF RIVERSIDE, APPROVING AN AMENDMENT OF THE SOUTHWEST AREA ROAD AND BRIDGE BENEFIT DISTRICT, RECORDED JULY 12, 2002 AS INSTRUMENT NO. 02-382638 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA. REFERENCE BEING MADE TO THE RECORD THEREOF FOR FURTHER PARTICULARS. (AFFECTS, BLANKET IN NATURE)

(32) — WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS. (NOT PLOTTED, DOCUMENT NOT PROVIDED)

(33) — RIGHTS OF THE PUBLIC IN AND TO THAT PORTION OF THE LAND LYING WITHIN WASHINGTON STREET. (AFFECTS, BLANKET IN NATURE)

(34) — RIGHTS, RIGHTS OF WAY, RESERVATIONS AND EXCEPTIONS IN THE PATENT RECORDED JUNE 11, 1889 IN BOOK 5, PAGE 110 OF SAN DIEGO COUNTY PATENTS. (NOT PLOTTED, DOCUMENT NOT LEGIBLE).

(35) — THE FOLLOWING MATTERS SHOWN OR DISCLOSED BY THE FILED OR RECORDED MAP REFERRED TO IN THE LEGAL DESCRIPTION: THE EFFECT OF A DECLARATION OF DEDICATION AS SHOWN BY THE OWNERS CERTIFICATE ON SAID MAP, PURPORTING TO IRREVOCABLY DEDICATE IN PERPETUITY FOR PUBLIC ROAD PURPOSES, PUBLIC UTILITY AND PUBLIC SERVICES, THE PROPERTY DESCRIBED THEREIN. (AFFECTS, BENEFITS BY ADDING ACCESS TO PROPERTY, AS SHOWN)

(36) — THE EFFECT OF A RECITAL ON SAID MAP STIPULATING THAT THE AREAS DESIGNATED AS NATURAL WATER COURSES MUST BE KEPT FREE OF ALL DWELLING UNITS, OBSTRUCTIONS AND ENCROACHMENTS BY LAND FILL. (AFFECTS, BLANKET IN NATURE)

(37) — THE TERMS AND PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "MOBILEHOME INSTALLATION ON A FOUNDATION SYSTEM HCD FORM 413(1/1/80)" RECORDED NOVEMBER 14, 1983 AS INSTRUMENT NO. 83-236910 OF OFFICIAL RECORDS. (AFFECTS PARCEL 3 OF PARCEL MAP 7375) (DOES NOT AFFECTS, MOBILE HOME IS NO LONGER ON PROPERTY)

(38) — THE TERMS AND PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "NOTICE OF MANUFACTURED HOME (MOBILEHOME) OR COMMERCIAL COACH, INSTALLATION ON A FOUNDATION SYSTEM" RECORDED APRIL 11, 1996 AS INSTRUMENT NO. 96-130525 OF OFFICIAL RECORDS. (AFFECTS PARCEL 2 OF PARCEL MAP 7375) (DOES NOT AFFECTS, MOBILE HOME IS NO LONGER ON PROPERTY)

(39) — AN EASEMENT FOR PUBLIC ROAD AND DRAINAGE PURPOSES, PUBLIC UTILITY AND PUBLIC SERVICES AND INCIDENTAL PURPOSES, RECORDED JANUARY 26, 2006 AS INSTRUMENT NO. 2006-60027 OF OFFICIAL RECORDS. IN FAVOR OF: COUNTY OF RIVERSIDE, A POLITICAL SUBDIVISION (AFFECTS PARCEL C, AS SHOWN)

(40) — WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS. (NOT PLOTTED, DOCUMENT NOT PROVIDED)

(41) — RIGHTS OF THE PUBLIC IN AND TO THAT PORTION OF THE LAND LYING WITHIN ANY PUBLIC STREET OR ROAD. (AFFECTS, BLANKET IN NATURE)

(42) — THE EFFECT OF A RECITAL ON SAID MAP STIPULATING THAT THE AREAS DESIGNATED AS FLOODWAY AND NATURAL WATER COURSES MUST BE KEPT FREE OF ALL DWELLING UNITS, OBSTRUCTIONS AND ENCROACHMENTS BY LAND FILL. (AFFECTS, BLANKET IN NATURE)

(43) — AN EASEMENT SHOWN OR DEDICATED ON THE MAP OF AMENDED PARCEL MAP 9718 ON FILE RECORDED FEBRUARY 07, 1978 IN BOOK 45, PAGES 82 THROUGH 84 , OF PARCEL MAPS. FOR: ROAD PURPOSES AND INCIDENTAL PURPOSES. (AFFECTS, AS SHOWN)

(44) — AN EASEMENT FOR EITHER OR BOTH POLE LINES, CONDUITS OR UNDERGROUND FACILITIES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 8, 1978 AS INSTRUMENT NO. 24783 OF OFFICIAL RECORDS. IN FAVOR OF: SOUTHERN CALIFORNIA EDISON COMPANY, A CORPORATION (AFFECTS, AS SHOWN)

(45) — A NON-EXCLUSIVE EASEMENT FOR INGRESS, EGRESS, PUBLIC UTILITIES AND INCIDENTAL PURPOSES RESERVED IN THE DOCUMENT RECORDED MAY 9, 1979 AS INSTRUMENT NO. 94322 OF OFFICIAL RECORDS. RESERVED BY: LAKE SKINNER RANCH, A LIMITED PARTNERSHIP. AFFECTS: THE NORTHERLY, SOUTHERLY, EASTERLY AND WESTERLY 30 FEET. THE TERMS AND PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "AFFIDAVIT", EXECUTED BY SIDNEY O. FIELDS, RECORDED NOVEMBER 10, 1993 AS INSTRUMENT NO. 449910 OF OFFICIAL RECORDS. A DOCUMENT RECORDED NOVEMBER 10, 1993 AS INSTRUMENT NO. 449931 OF OFFICIAL RECORDS PROVIDES THAT THE INTEREST OF THE EASEMENT HOLDER WAS TRANSFERRED TO TAVARR, INCORPORATED, A CALIFORNIA CORPORATION. (AFFECTS, AS SHOWN)

(46) — THE EFFECT OF A MAP PURPORTING TO SHOW THE LAND AND OTHER PROPERTY, FILED IN BOOK 87, PAGE 99 OF PARCEL MAPS. (AFFECTS, BLANKET IN NATURE)

(47) — THE EFFECT OF A MAP PURPORTING TO SHOW THE LAND AND OTHER PROPERTY, FILED IN BOOK 93, PAGE 50 OF PARCEL MAPS. (AFFECTS, BLANKET IN NATURE)

(48) — THE TERMS AND PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "AFFIDAVIT" RECORDED NOVEMBER 10, 1993 AS INSTRUMENT NO. 449918 OF OFFICIAL RECORDS. (AFFECTS, AS SHOWN)

5Ei SCHEDULE "B" ITEMS (NCS-476478-LA2)

(4B) — WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS. (NOT PLOTTED, DOCUMENT NOT PROVIDED)

(5B) — AN EASEMENT FOR ROAD AND INCIDENTAL PURPOSES, RECORDED OCTOBER 24, 1938 AS BOOK 397 PAGE 193 OF OFFICIAL RECORDS. IN FAVOR OF: THE ADMINISTRATOR OF THE ESTATE OF MARTIN MEIER, ET AL. (AFFECTS, AS SHOWN)

(6B) — AN EASEMENT FOR EITHER OR BOTH POLE LINES, CONDUITS OR UNDERGROUND FACILITIES AND INCIDENTAL PURPOSES, RECORDED JANUARY 9, 1947 IN BOOK 809 PAGE 40 OF OFFICIAL RECORDS. IN FAVOR OF: CALIFORNIA ELECTRIC POWER COMPANY. (AFFECTS, AS SHOWN)

(7B) — AN EASEMENT FOR INGRESS, EGRESS AND PIPELINES AND A BRIDGE AND INCIDENTAL PURPOSES, RECORDED AUGUST 5, 1959 AS INSTRUMENT NO. 67993 OF OFFICIAL RECORDS. IN FAVOR OF: PIERRE POURROY JR. AND CATHERINE B. POURROY. (DOES NOT AFFECT, ABUTS WEST SIDE OF PROPERTY)

(8B) — AN EASEMENT FOR EITHER OR BOTH POLE LINES, CONDUITS OR UNDERGROUND FACILITIES AND INCIDENTAL PURPOSES, RECORDED AUGUST 25, 1960 AS INSTRUMENT NO. 75225 OF OFFICIAL RECORDS. IN FAVOR OF: CALIFORNIA WATER AND TELEPHONE COMPANY. (AFFECTS, AS SHOWN)

(9B) — AN EASEMENT FOR INGRESS AND EGRESS AND INCIDENTAL PURPOSES, RECORDED APRIL 6, 1965 AS INSTRUMENT NO. 39360 OF OFFICIAL RECORDS. IN FAVOR OF: LARS SOYLAND AND THILDA SOYLAND. (AFFECTS, AS SHOWN)

(10B) — THE EFFECT OF A MAP PURPORTING TO SHOW THE LAND AND OTHER PROPERTY, FILED IN BOOK 45 PAGE 43 OF RECORD OF SURVEYS. (AFFECTS, AS SHOWN)

(11B) — THE EFFECT OF A MAP PURPORTING TO SHOW THE LAND AND OTHER PROPERTY, FILED IN BOOK 61 PAGE 61 OF RECORD OF SURVEYS. (DOES NOT AFFECT PARCEL A)

(12B) — COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS IN THE DOCUMENT RECORDED MAY 15, 1991 AS INSTRUMENT NO. 91-162915 OF OFFICIAL RECORDS, BUT DELETING ANY COVENANT, CONDITION, OR RESTRICTION INDICATING A PREFERENCE, LIMITATION OR DISCRIMINATION BASED ON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, MARITAL STATUS, ANCESTRY, DISABILITY, HANDICAP, FAMILIAL STATUS, NATIONAL ORIGIN OR SOURCE OF INCOME (AS DEFINED IN CALIFORNIA GOVERNMENT CODE §12955(P)), TO THE EXTENT SUCH COVENANTS, CONDITIONS OR RESTRICTIONS VIOLATE 42 U.S.C. §3604(C) OR CALIFORNIA GOVERNMENT CODE §12955. LAWFUL RESTRICTIONS UNDER STATE AND FEDERAL LAW ON THE AGE OF OCCUPANTS IN SENIOR HOUSING OR HOUSING FOR OLDER PERSONS SHALL NOT BE CONSTRUED AS RESTRICTIONS BASED ON FAMILIAL STATUS. (AFFECTS, BLANKET IN NATURE)

(13B) — THE TERMS, PROVISIONS AND EASEMENT(S) CONTAINED IN THE DOCUMENT ENTITLED "STORM WATER RETENTION BASIN EASEMENT AGREEMENT" RECORDED FEBRUARY 03, 2010 AS INSTRUMENT NO. 2010- 0050969 OF OFFICIAL RECORDS. DOCUMENT(S) DECLARING MODIFICATIONS THEREOF RECORDED JUNE 23, 2010 AS INSTRUMENT NO. 2010- 0288799 OF OFFICIAL RECORDS. (AFFECTS, BLANKET IN NATURE)

6Bi TITLE DESCRIPTION CONTINUED (#NCS-476476-LA2)

THE SIDE LINES OF SAID 200 FOOT WIDE STRIP OF LAND SHALL BE PROLONGED OR SHORTENED SO AS TO TERMINATE SOUTHERLY IN THE SOUTH LINE OF SAID SECTION 27 AND SO AS TO TERMINATE NORTHERLY IN SAID LINE WHICH IS AT RIGHT ANGLES TO SAID TRAVERSE LINE AT SAID "POINT B".

C. A PARCEL OF LAND DESCRIBED AS FOLLOWS:

BEGINNING AT SAID POINT A OF SAID TRAVERSE LINE DESCRIBED IN PARCEL A HEREOF;

THENCE NORTH 76° 21' 43" WEST, AT RIGHT ANGLES TO SAID TRAVERSE LINE, 200.00 FEET TO A POINT ON A LINE WHICH IS PARALLEL WITH AND 630 FEET SOUTHERLY, MEASURED AT RIGHT ANGLES, FROM THE NORTH LINE OF SAID SECTION 27, SAID POINT BEING ANGLES, FROM THE NORTH LINE OF SAID SECTION 27, SAID POINT BEING ALSO THE TRUE POINT OF BEGINNING; THENCE SOUTH 89° 34' 50" WEST, ALONG SAID PARALLEL LINE, 400.00 FEET; THENCE NORTH 0° 25' 10" WEST, 630.00 FEET TO SAID NORTH LINE OF SECTION 27; THENCE NORTH 89° 34' 50" EAST, ALONG SAID NORTH LINE OF SECTION 27, A DISTANCE OF 557.74 FEET TO A LINE WHICH IS PARALLEL WITH AND 200 FEET WESTERLY, MEASURED AT RIGHT ANGLES, FROM SAID TRAVERSE LINE; THENCE SOUTH 13° 53' 17" WEST, ALONG SAID LAST MENTIONED PARALLEL LINE, 649.44 FEET TO SAID TRUE POINT OF BEGINNING.

PARCEL A2:

AN EASEMENT OVER THAT PORTION OF SAID LAND AS CONVEYED TO METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA AND SHOWN AS AN EXCEPTION IN PARCEL A ABOVE, DESCRIBED AS FOLLOWS:

AN EASEMENT ACROSS THE SIPHON LOCATED AT APPROXIMATE STA. 979+32 FOR INGRESS AND EGRESS FROM AND TO THE LANDS CONVEYED IN PARCEL A AND THE RIGHT TO MAINTAIN AND OPERATE IRRIGATION LINES OVER, UPON AND ACROSS SAID SIPHON; PROVIDED, SUCH FACILITIES SHALL BE LOCATED, OPERATED AND MAINTAINED IN SUCH A MANNER AS NOT TO INTERFERE WITH METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA'S USE OF SAID LAND OR STRUCTURES ERECTED THEREON OR THEREIN BY METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA.

PARCEL B: (472-180-001-7)

THE SOUTH HALF OF SECTION 27, TOWNSHIP 6 SOUTH, RANGE 2 WEST, SAN BERNARDINO BASE AND MERIDIAN, LYING WESTERLY OF THE WESTERLY LINE OF THE PROPERTY CONVEYED TO METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA BY DEED RECORDED DECEMBER 4, 1958 IN BOOK 2375 PAGE 83 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

PARCEL C: (476-010-045-9)

ALL THAT CERTAIN LAND (THE "PROPERTY") SITUATED IN THE UNINCORPORATED COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, BEING A PORTION OF PARCEL 2 AND PARCEL 3 OF PARCEL MAP NO. 7375 PER MAP RECORDED IN BOOK 23, PAGE 37 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY AND SHOWN AS PARCEL "B" OF LOT LINE ADJUSTMENT NO. 4872, RECORDED JUNE 8, 2005, AS INSTRUMENT NO. 05-456072 IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

PARCEL "B":

COMMENCING AT THE SOUTHWEST CORNER OF LOT "C" AS SHOWN ON SAID PARCEL MAP NO. 7375, SAID POINT BEING ALSO THE SOUTHERLY TERMINUS OF THE CENTERLINE OF COVENTRY LANE, BEING 60 FEET WIDE, AS SHOWN ON PARCEL MAP NO. 15090, PER MAP RECORDED IN BOOK 93, PAGES 80 THROUGH 83 INCLUSIVE OF PARCEL MAPS; THENCE NORTH 89° 32' 55" EAST, ALONG THE SOUTHERLY LINE OF SAID PARCEL MAP 7375, A DISTANCE OF 503.32 FEET TO THE SOUTH WEST CORNER OF SAID PARCEL 3; THENCE CONTINUING NORTH 89° 32' 55" EAST, ALONG SAID SOUTHERLY LINE, A DISTANCE OF 165.64 FEET TO THE BEGINNING OF A NON-TANGENT CURVE CONCAVE TO THE NORTHWEST, HAVING A RADIUS OF 1900.00 FEET, A RADIAL BEARING TO SAID POINT BEARS SOUTH 54° 55' 01" EAST, SAID POINT BEING ALSO THE TRUE POINT OF BEGINNING; THENCE NORTHERLY AND EASTERLY ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 18° 53' 16", AN ARC LENGTH OF 626.34 FEET TO A POINT OF NON-TANGENCY, AND A POINT ON THE NORTHERLY LINE OF SAID PARCEL 2; THENCE NORTH 89° 32' 55" EAST, ALONG SAID NORTHERLY LINE, A DISTANCE OF 31.29 FEET TO AN ANGLE POINT, THE NORTHEAST CORNER OF SAID PARCEL 2, AND A POINT ON THE WESTERLY RIGHT OF WAY OF WASHINGTON STREET AS SHOWN ON SAID MAP; THENCE SOUTH 00° 09'13" EAST, ALONG THE EASTERLY LINE OF SAID PARCEL 2, AND ALONG THE WESTERLY RIGHT-OF-WAY OF SAID WASHINGTON STREET, A DISTANCE OF 280.00 FEET TO THE SOUTH EAST CORNER OF SAID PARCEL 2, SAID POINT BEING ALSO THE NORTH EAST CORNER OF SAID PARCEL 3; THENCE SOUTH 00° 09'13" EAST, ALONG THE EASTERLY LINE OF SAID PARCEL 3, AND ALONG SAID WESTERLY RIGHT-OF-WAY, A DISTANCE OF 144.88 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE WEST, HAVING A RADIUS OF 245.00 FEET; THENCE SOUTHERLY ALONG SAID CURVE, ALONG SAID EASTERLY LINE AND ALONG SAID WESTERLY RIGHT-OF-WAY THROUGH A CENTRAL ANGLE OF 33° 25'31", AN ARC LENGTH OF 42.93 FEET TO A POINT OF NON-TANGENCY AND THE SOUTH EAST CORNER OF SAID PARCEL 2; THENCE SOUTH 89° 32'55" WEST, ALONG THE SOUTHERLY LINE OF SAID PARCEL 3, A DISTANCE OF 267.15 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL D: (472-170-008-3)

PARCEL 6, AS SHOWN BY AMENDED PARCEL MAP 9718, ON FILE IN BOOK 45 PAGE(S) 82 THROUGH 84, INCLUSIVE, OF PARCEL MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

PARCEL E: (472-180-003-9)

THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 27, TOWNSHIP 6 SOUTH, RANGE 2 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLATS THEREOF; LYING EASTERLY OF THE EASTERLY LINE OF THE PROPERTY CONVEYED TO METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA BY DEED RECORDED DECEMBER 4, 1958 IN BOOK 2375, PAGE 63 OF OFFICIAL RECORDS.

6Bi TITLE DESCRIPTION (COMMITMENT #NCS-476478-LA2)

PARCEL A:

THAT PORTION OF THE NORTHWEST QUARTER OF SECTION 34, TOWNSHIP 6 SOUTH, RANGE 2 WEST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO UNITED STATES GOVERNMENT SURVEY THEREOF, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF SAID SECTION; THENCE SOUTH ALONG THE EAST LINE OF SAID NORTHWEST QUARTER, 1649.18 FEET, MORE OR LESS, TO THE NORTHERLY LINE OF THAT CERTAIN PARCEL OF LAND CONVEYED LARS SOYLAND AND THILDA SOYLAND, HUSBAND AND WIFE, BY DEED RECORDED APRIL 6, 1965 AS INSTRUMENT NO. 39360 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA; THENCE NORTH 89° 30' 02" WEST, ALONG THE NORTHERLY LINE OF SAID PARCEL CONVEYED TO LARS SOYLAND, ET AL., 1427.29 FEET TO THE EASTERLY LINE OF THAT CERTAIN PARCEL OF LAND
CONVEYED TO METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA BY DEED RECORDED AUGUST 5, 1959 AS INSTRUMENT NO. 67993 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA; THENCE NORTHERLY ALONG THE EASTERLY LINE OF SAID PARCEL CONVEYED TO METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA TO THE NORTH LINE OF SAID SECTION; THENCE EAST ALONG THE NORTH LINE OF SAID SECTION, 1390.69 FEET TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM ALL THAT PORTION OF REAL PROPERTY RESERVED TO THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA AS REFERENCED RECORDED AUGUST 5, 1959 AS INSTRUMENT NO. 67993 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

ALSO EXCEPTING THEREFROM ALL MINES AND MATERIALS WITH POWER TO TAKE ALL USUAL, NECESSARY OF CONVENIENT MEANS FOR MINING, WORKING, GETTING, LAYING UP, MILLING, MAKING MERCHANTABLE AND TAKING AWAY SAID MATERIALS (INCLUDING ROCK, LIME AND SIMILAR PRODUCTS) AND ALSO FOR THE ABOVE OR ANY OTHER PURPOSES WHATSOEVER TO MAKE AND REPAIR TUNNELS, EXCAVATIONS AND SHAFTS AND TO LAY AND REPAIR PIPE FOR CONVEYANCE OF WATER TO AND FROM ANY AND ALL MINING OF OTHER BUILDINGS ON ALL THAT PORTION OF SAID LAND DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF SECTION 34; THENCE SOUTH 990 FEET ON THE EAST LINE OF SAID NORTHWEST QUARTER; THENCE WEST 880 FEET PARALLEL WITH THE NORTH LINE OF SAID SECTION 34; THENCE NORTH 990 FEET; THENCE EAST 880 FEET ON THE NORTH LINE OF SAID SECTION 34 TO THE POINT OF BEGINNING, AS RESERVED IN DEED FROM JAMES A. HALL, AS ADMINISTRATOR OF THE ESTATE OF MARTIN MEIER, DECEASED, RECORDED OCTOBER 24, 1938 IN BOOK 397 PAGE 193 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

PARCEL B:

ACCESS EASEMENTS AS SET FORTH IN DOCUMENT ENTITLED "GRANT DEED", RECORDED FEBRUARY 03, 2010 AS INSTRUMENT NO. 2010-0050968, OFFICIAL RECORDS OF RIVERSIDE COUNTY.

ALTA/ACSM LAND TITLE SURVEY IDENTIFICATION TABLE

2	"TABLE A" PROPERTY ADDRESS	6Bvii	CONTIGUITY STATEMENT	7b	"TABLE A" BUILDING AREA
3	"TABLE A" FLOOD INFORMATION	6Bx	TITLE INFORMATION	7c	"TABLE A" BUILDING HEIGHT
4	"TABLE A" LAND AREA	6Bi	TITLE DESCRIPTION	8	SURVEYOR'S NOTES
5Biii	ACCESS TO PROPERTY	6Biv	BEARING BASIS	9	"TABLE A" PARKING STALLS
5C	SURVEYOR OBSERVED POSSIBLE ENCROACHMENT	6Dia	TITLE INFORMATION	13	"TABLE A" ADJOINING OWNERS
5E	SCHEDULE B-II ITEMS	6Dib	LEGEND & ABBREVIATIONS	14	"TABLE A" INTERSECTING STREET
5F	CEMETERY NOTE	6Dic	VICINITY MAP	16	"TABLE A" EARTH MOVING NOTE
6B	RECORDED SETBACKS/ RESTRICTIONS PROVIDED BY INSURED	6Dvi	TYPE OF SURVEY	18	"TABLE A" DUMP, SUMP OR LANDFILL NOTE
		7	SURVEYOR'S CERTIFICATE	22	"TABLE A" ZONING INFORMATION

8 SURVEYOR'S NOTES

1. NO UNDERGROUND UTILITIES ARE SHOWN ON THIS SURVEY, ONLY ABOVE GROUND VISIBLE EVIDENCE OF UTILITIES ARE SHOWN.
2. ALL STATEMENTS WITHIN THE CERTIFICATION, AND OTHER REFERENCES LOCATED ELSEWHERE HEREON, RELATED TO: UTILITIES, IMPROVEMENTS, STRUCTURES, BUILDINGS, PARTY WALLS, PARKING, EASEMENTS, SERVITUDES, AND APPARENT ENCROACHMENTS; ARE BASED SOLELY ON ABOVE GROUND, VISIBLE EVIDENCE, UNLESS ANOTHER SOURCE OF INFORMATION IS SPECIFICALLY REFERENCED HEREON.

DATE	REVISIONS
3/10/11	ADDED 55.146 ACRES & TITLE
3/14/11	ADDED IMPROVEMENTS
3/16/11	REVISION PER SURVEYOR
3/17/11	ADD SIPHON STATION
3/21/11	ADD FENCES & PARCEL B

SCALE: 1" = 150'
DRAWN BY: TWG
APPROVED BY: DH
DRAWING FILE NAME: 1022501 KELLER RD.dwg

SHEET 1 OF 4

6Bx TITLE INFORMATION

THE TITLE DESCRIPTION AND SCHEDULE B ITEMS HEREON ARE FROM, **FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT No. NCS-476476-LA2, EFFECTIVE 2/17/2011 & COMMITMENT No. NCS-476478-LA2, EFFECTIVE 2/28/2011.**

6Bi TITLE DESCRIPTION (COMMITMENT #476476-LA2)

PARCEL A: (472-170-001-6, 472-170-003-8 AND 476-010-040-4)

PARCEL A1:

THE NORTHWEST QUARTER OF SECTION 27, TOWNSHIP 6 SOUTH, RANGE 2 WEST, SAN BERNARDINO BASE AND MERIDIAN, AND THAT PORTION OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 28, TOWNSHIP 6 SOUTH, RANGE 2 WEST, SAN BERNARDINO BASE AND MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF THE NORTHEAST QUARTER OF SAID SECTION 28; THENCE NORTH OF THE EAST LINE OF SAID SECTION 1335.2 FEET TO A POINT IN THE CENTER LINE OF THE COUNTY ROAD; THENCE SOUTH 46° 48' 30" WEST, ON THE CENTER LINE OF SAID ROAD, 349.47 FEET; THENCE DEFLECTING TO THE LEFT ON A CURVE HAVING A RADIUS OF 120 FEET, A TANGENT OF 57.53 FEET, A DISTANCE OF 107.29 FEET; THENCE SOUTH 4° 25' EAST, ON THE CENTER LINE OF SAID ROAD, 1004.67 FEET TO THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION; THENCE NORTH 89° 23' EAST, ON SAID SOUTH LINE, 215 FEET TO THE POINT OF BEGINNING;

EXCEPTING THEREFROM ANY PORTION OF THE FOLLOWING DESCRIBED PROPERTY LYING WITHIN THE NORTHWEST QUARTER OF SAID SECTION 27, TOWNSHIP 6 SOUTH, RANGE 2 WEST, SAN BERNARDINO BASE AND MERIDIAN;

A. A STRIP OF LAND 400 FEET WIDE LYING 200 FEET, MEASURED AT RIGHT ANGLES OR RADIALLY, ON EACH SIDE OF THE FOLLOWING DESCRIBED TRAVERSE LINE:

IN THE FOLLOWING TRAVERSE LINE DESCRIPTION ALL CURVES ARE TANGENT TO THE STRAIGHT LINES WHICH THEY JOIN:

BEGINNING AT A POINT ON THE NORTH LINE OF SAID SECTION 27, SAID POINT BEING DISTANT NORTH 89° 34' 50" EAST, ALONG SAID NORTH LINE, 1913.54 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 27; THENCE SOUTH 13° 38' 17" WEST, 699.52 FEET TO A POINT HEREIN DESIGNATED "POINT A"; THENCE CONTINUING SOUTH 13° 38' 17" WEST, 299.90 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE EAST AND HAVING A RADIUS OF 300 FEET; THENCE SOUTHERLY, ALONG SAID CURVE, 157.61 FEET; THENCE SOUTH 16° 27' 51" EAST, 138.99 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE WEST AND HAVING A RADIUS OF 300 FEET; THENCE SOUTHERLY, ALONG SAID LAST MENTIONED CURVE, 162.09 FEET; THENCE SOUTH 14° 29' 37" WEST, 656.01 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE EAST AND HAVING A RADIUS OF 250 FEET; THENCE SOUTHERLY, ALONG SAID LAST MENTIONED CURVE, 178.58 FEET; THENCE SOUTH 26° 26' 01" EAST, 199.47 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE WEST AND HAVING A RADIUS OF 250 FEET; THENCE SOUTHEASTERLY, ALONG SAID LAST MENTIONED CURVE, 222.53 FEET; THENCE SOUTH 24° 33' 59" WEST, 17.21 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE EAST AND HAVING A RADIUS OF 250 FEET; THENCE SOUTHWESTERLY, ALONG SAID LAST MENTIONED CURVE, 196.35 FEET; THENCE SOUTH 20° 26' 01" EAST, 108.91 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHEAST AND HAVING A RADIUS OF 250 FEET; THENCE SOUTHERLY, ALONG SAID LAST MENTIONED CURVE, 146.71 FEET; THENCE SOUTH 54° 03' 28" EAST, 304.22 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHEAST AND HAVING A RADIUS OF 200 FEET; THENCE SOUTHEASTERLY, ALONG SAID LAST MENTIONED CURVE, 87.27 FEET; THENCE SOUTH 79° 03' 28" EAST, 196.99 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE SOUTHWEST AND HAVING A RADIUS OF 200 FEET; THENCE EASTERLY, ALONG SAID LAST MENTIONED CURVE, 108.46 FEET; THENCE SOUTH 47° 58' 16" EAST, 601.48 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE WEST AND HAVE A RADIUS OF 180 FEET; THENCE SOUTHEASTERLY, ALONG SAID LAST MENTIONED CURVE, 268.15 FEET; THENCE SOUTH 37° 22' 56" WEST, 514.13 FEET TO A POINT HEREIN DESIGNATED "POINT B", SAID POINT ALSO BEING THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST AND HAVING A RADIUS OF 300 FEET; THENCE SOUTHWESTERLY, ALONG SAID LAST MENTIONED CURVE, 217.96 FEET; THENCE SOUTH 79° 00' 33" WEST, 97.19 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE SOUTHEAST AND HAVING A RADIUS OF 300 FEET; THENCE WESTERLY, ALONG SAID LAST MENTIONED CURVE, 253.93 FEET; THENCE SOUTH 30° 28' 24" WEST, 207.34 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST AND HAVING A RADIUS OF 300 FEET; THENCE SOUTHWESTERLY, ALONG SAID LAST MENTIONED CURVE, 259.17 FEET; THENCE SOUTH 79° 58' 14" WEST, 373.61 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE SOUTHEAST AND HAVING A RADIUS OF 350 FEET; THENCE WESTERLY, ALONG SAID LAST MENTIONED CURVE, 384.82 FEET; THENCE SOUTH 16° 58' 28" WEST, 8.49 FEET TO A POINT ON THE SOUTH LINE OF SAID SECTION 27, SAID LAST MENTIONED POINT BEING DISTANT SOUTH 89° 42' 29" EAST, ALONG SAID SOUTH LINE, 1188.96 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 27;

THE SIDE LINES OF SAID 400 FOOT WIDE STRIP OF LAND SHALL BE PROLONGED OR SHORTENED SO AS TO TERMINATE NORTHERLY IN THE NORTH LINE OF SAID SECTION 27 AND SO AS TO TERMINATE SOUTHERLY IN A LINE WHICH IS AT RIGHT ANGLES TO SAID ABOVE DESCRIBED TRAVERSE LINE AT SAID "POINT B".

B. A STRIP OF LAND 200 FEET WIDE LYING 100 FEET, MEASURED AT RIGHT ANGLES OR RADIALLY, ON EACH SIDE OF SAID TRAVERSE LINE DESCRIBED IN PARCEL A HEREOF.

4 LAND AREA

14,895,643± SQUARE FEET 341.96± ACRES

6Biv BEARING BASIS

BEARINGS SHOWN HEREON ARE BASED ON NORTH LINE OF SECTION 27-6-2, BEING N89°16'43"E, ASSUMED.

5F CEMETERY NOTE

NO VISIBLE EVIDENCE OF CEMETERIES ON SUBJECT PROPERTY.

9 PARKING SPACES

REGULAR= 0 HANDICAP= 0

5Biii ACCESS TO PROPERTY

THE SUBJECT PROPERTY HAS PHYSICAL ACCESS TO WASHINGTON DRIVE AND FIELDS DRIVE, DEDICATED PUBLIC STREETS OR HIGHWAYS.

16 EARTH MOVING NOTE

NO OBSERVABLE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WITHIN RECENT MONTHS.

18 DUMP, SUMP OR LANDFILL NOTE

NO OBSERVABLE EVIDENCE OF SITE USE AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.

6Bvii CONTIGUITY STATEMENT

THE PARCELS CONTAINED IN THE LEGAL DESCRIPTION ARE CONTIGUOUS WITHOUT ANY GAPS, GORES OR OVERLAPS

7 SURVEYOR'S CERTIFICATE

TO: FIRST AMERICAN TITLE INSURANCE COMPANY; REGENT FRENCH VALLEY, LLC.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS," JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS IN 2011, AND INCLUDES ITEMS 2, 3, 4, 7(a), 7(b)(1), 7(c), 8, 9, 10(a), 11(a), 12, 13, 14, 16, 18, 21 AND 22 OF TABLE A THEREOF. PURSUANT TO THE ACCURACY STANDARDS AS ADOPTED BY ALTA AND NSPS AND IN EFFECT ON THE DATE OF THIS CERTIFICATION, UNDERSIGNED FURTHER CERTIFIES THAT IN MY PROFESSIONAL OPINION, AS A LAND SURVEYOR REGISTERED IN THE STATE OF CALIFORNIA, THE RELATIVE POSITIONAL ACCURACY OF THIS SURVEY DOES NOT EXCEED THAT WHICH IS SPECIFIED THEREIN.

REGISTERED SURVEYOR: ALLAN CAVINESS
DATE: 04/21/2011
PROFESSIONAL LAND SURVEYOR NO.: 6595
STATE OF CALIFORNIA
DATE OF FIELD SURVEY: 03-03-2011
DATE OF LAST REVISION: 04-21-2011
DATE PRINTED: 04-21-2011
PROJECT NO.: 1022501

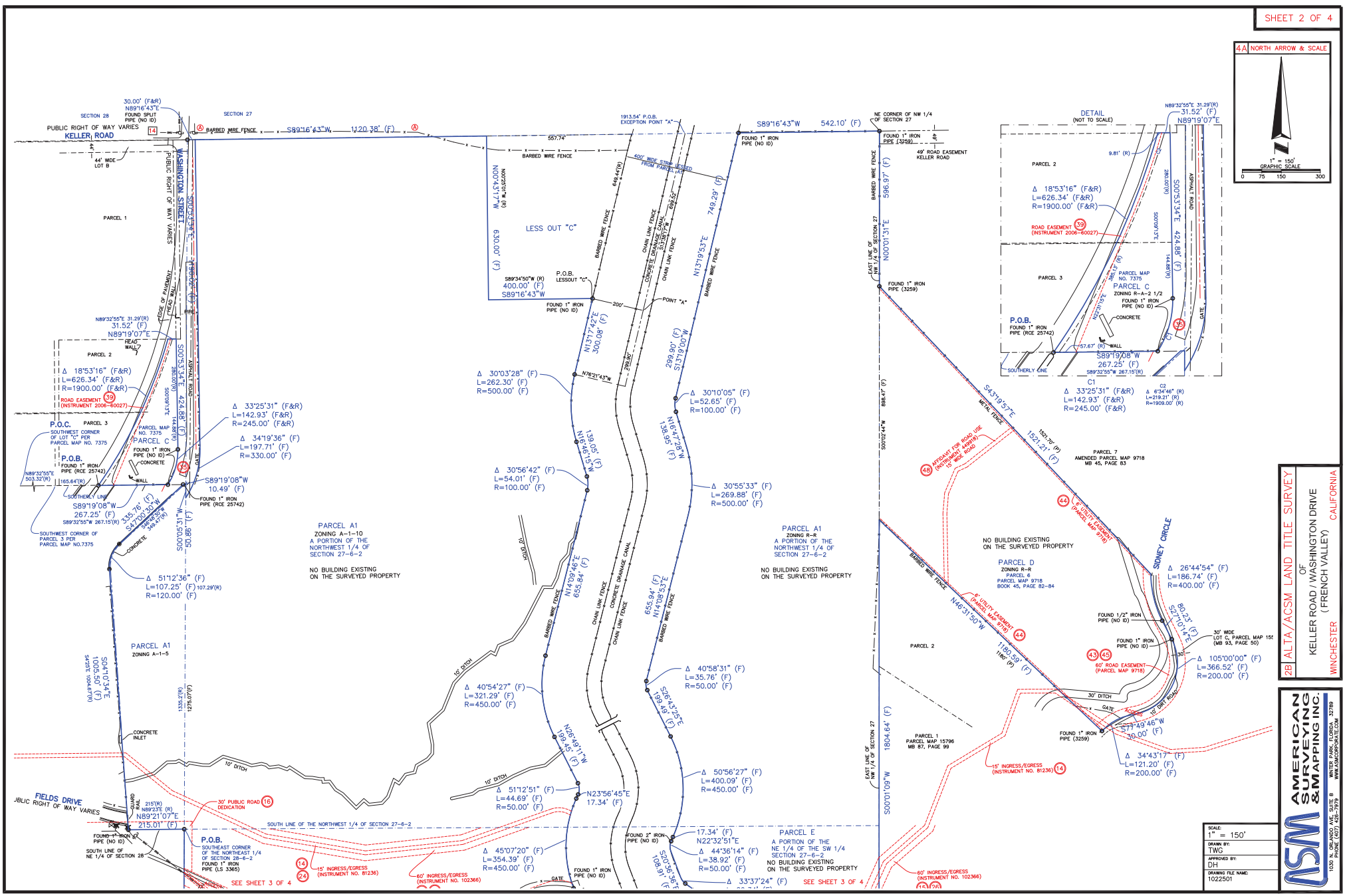
LICENSED LAND SURVEYOR
ALLAN CAVINESS
No. 6595
Exp. 12/31/2011

Allan Caviness

SURVEY PREPARED BY:
AMERICAN SURVEYING AND MAPPING
1030 N. ORLANDO AVE. SUITE B
WINTER PARK, FL 32789
PHONE: (407) 426-7979
FAX: (407) 426-9741

6Dvi 2 ALTA/ACSM LAND TITLE SURVEY
OF
KELLER ROAD / WASHINGTON DRIVE
(FRENCH VALLEY)
WINCHESTER CALIFORNIA

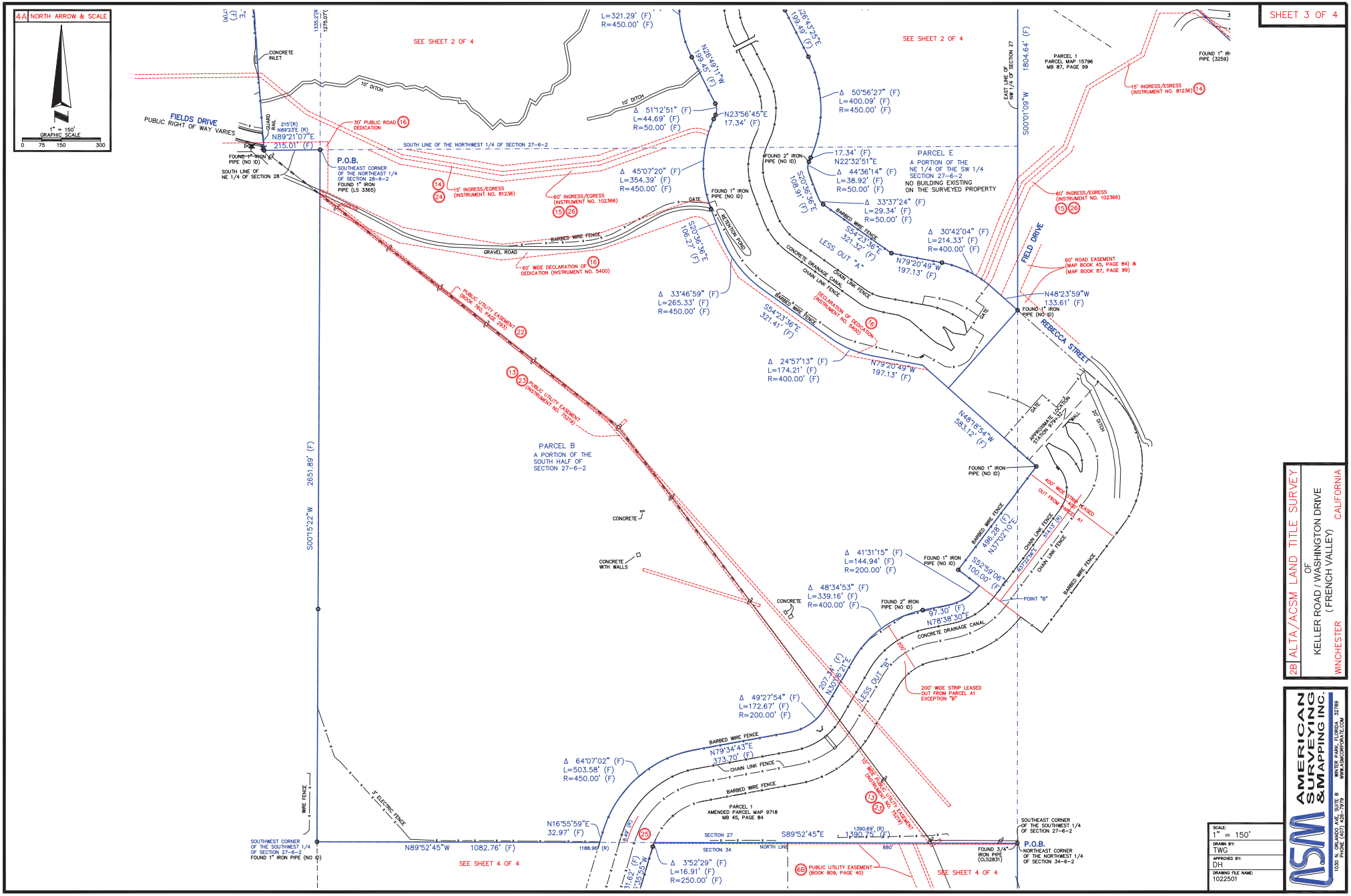
AMERICAN SURVEYING &MAPPING INC.
1030 N. ORLANDO AVE, SUITE B WINTER PARK, FLORIDA 32789
PHONE (407) 426-7979 WWW.ASMCORPORATE.COM



2B ALTA/ACSM LAND TITLE SURVEY
OF
KELLER ROAD / WASHINGTON DRIVE
(FRENCH VALLEY)
CALIFORNIA
WINCHESTER

AMERICAN SURVEYING & MAPPING INC.
1030 W. ORLANDO AVE. 33778 B
PHONE (727) 442-7778
WWW.FLORIDASURVEYOR.COM

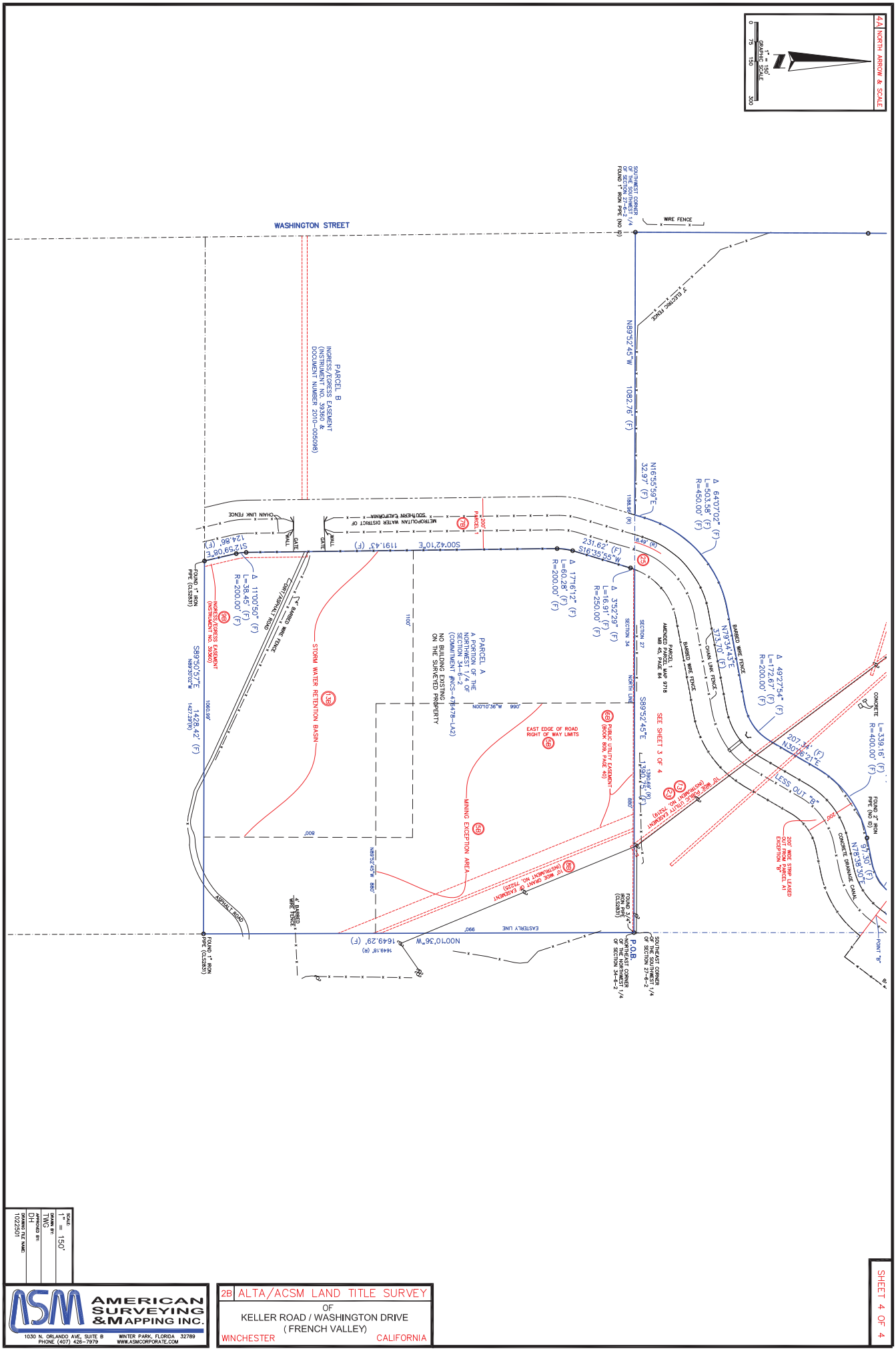
SCALE: 1" = 150'
DRAWN BY: TWG
APPROVED BY: DH
DRAWING FILE NAME: 1022501



2B ALTA/ACSM LAND TITLE SURVEY
OF
KELLER ROAD / WASHINGTON DRIVE
(FRENCH VALLEY)
WINCHESTER CALIFORNIA

AMERICAN SURVEYING & MAPPING INC.
1030 SE MARICAMP AVE. STE B WINTER PARK, FLORIDA 32789
PHONE (407) 599-1122 WWW.ASMFLORIDA.COM

SCALE: 1" = 150'
DRAWN BY: TWG
APPROVED BY: DH
DRAWING FILE NAME: 1022501



SCALE	1" = 150'
DRAWN BY:	TWC
APPROVED BY:	DH
DRAWING FILE NAME:	10422501

AMERICAN SURVEYING & MAPPING INC.
1030 N. ORLANDO AVE, SUITE B WINTER PARK, FLORIDA 32789
PHONE (407) 426-7979 WWW.ASMCORPORATE.COM

2B ALTA/ACSM LAND TITLE SURVEY
OF
KELLER ROAD / WASHINGTON DRIVE
(FRENCH VALLEY)
WINCHESTER CALIFORNIA

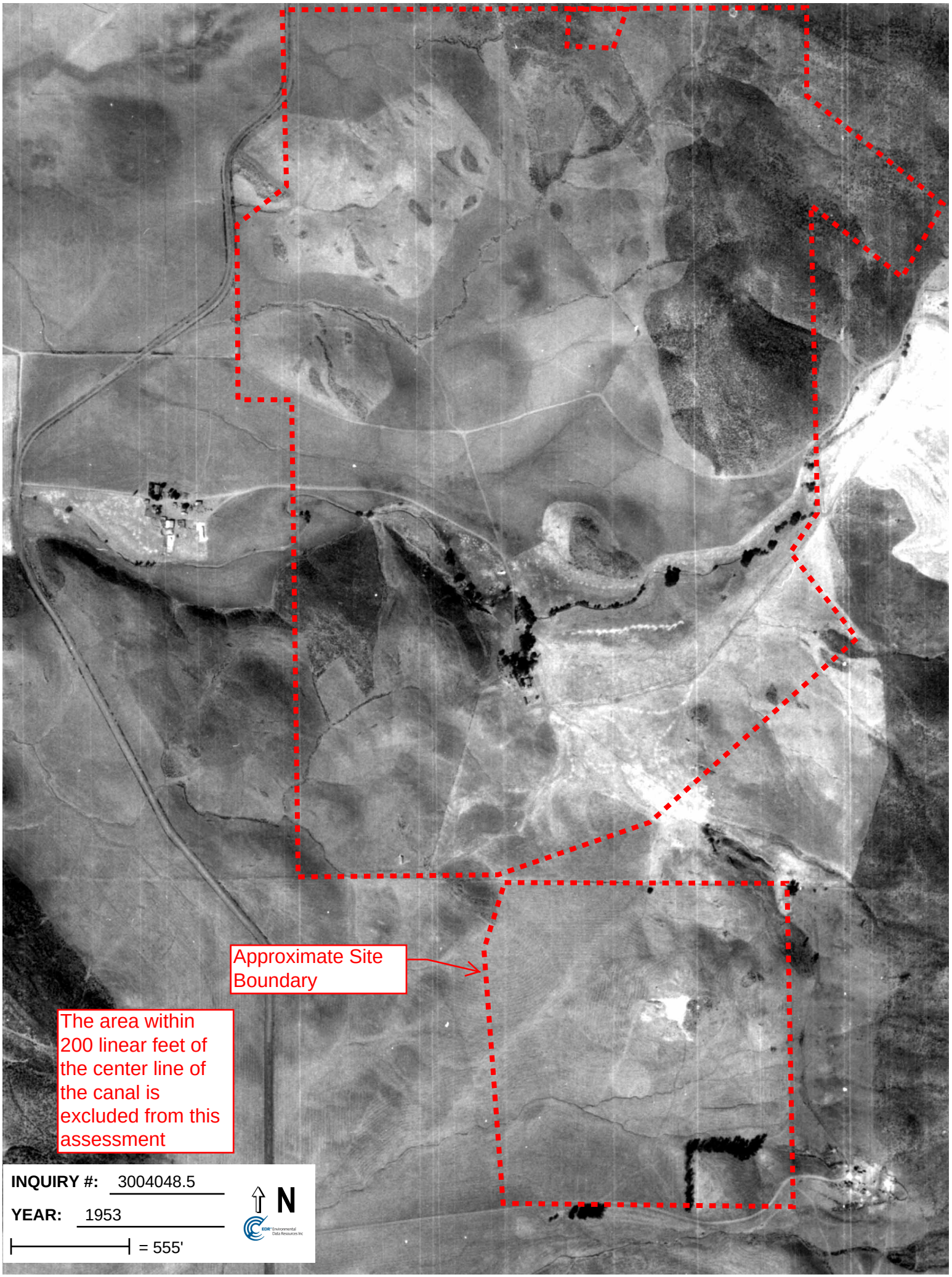
SHEET 4 OF 4

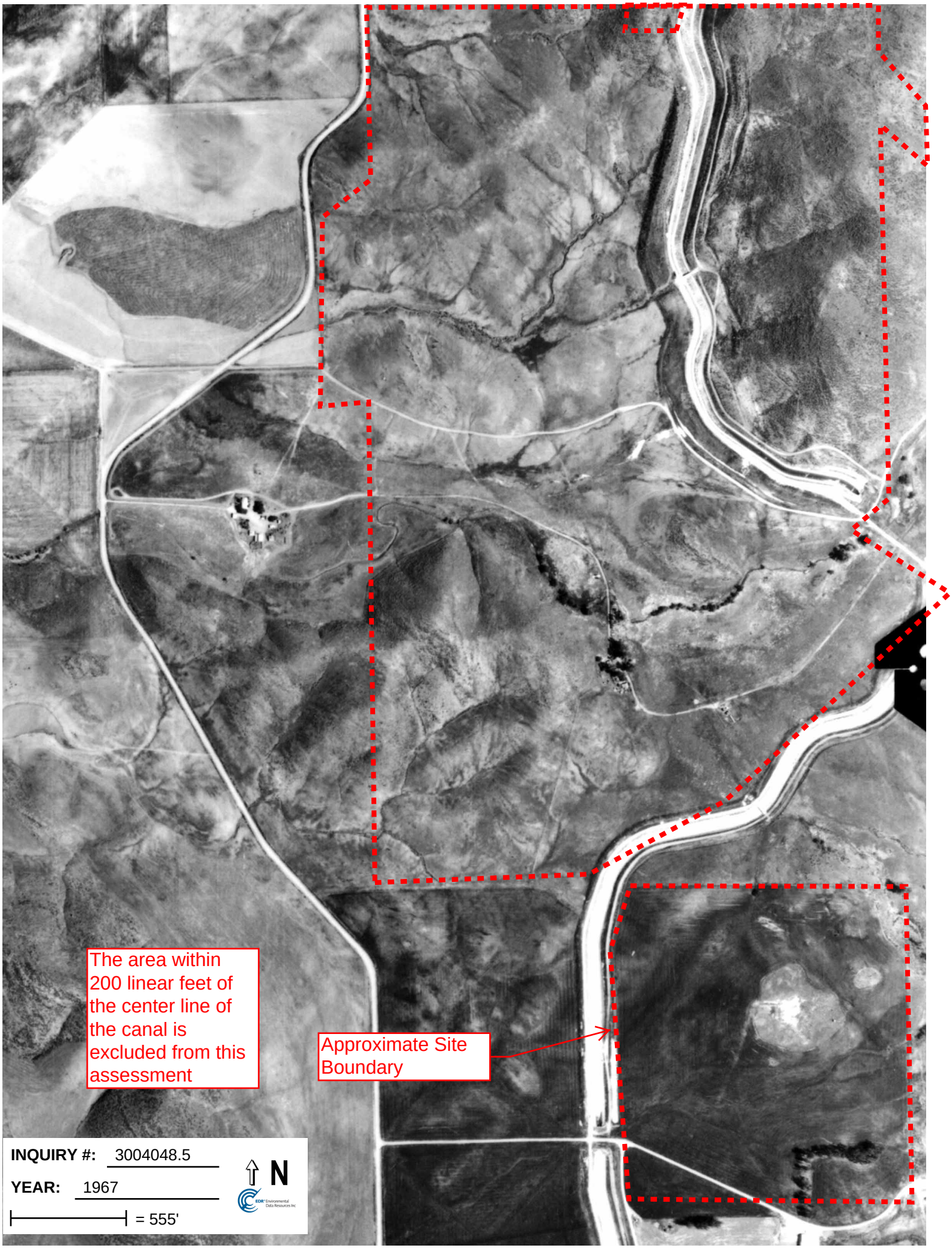
E: Analytical Results

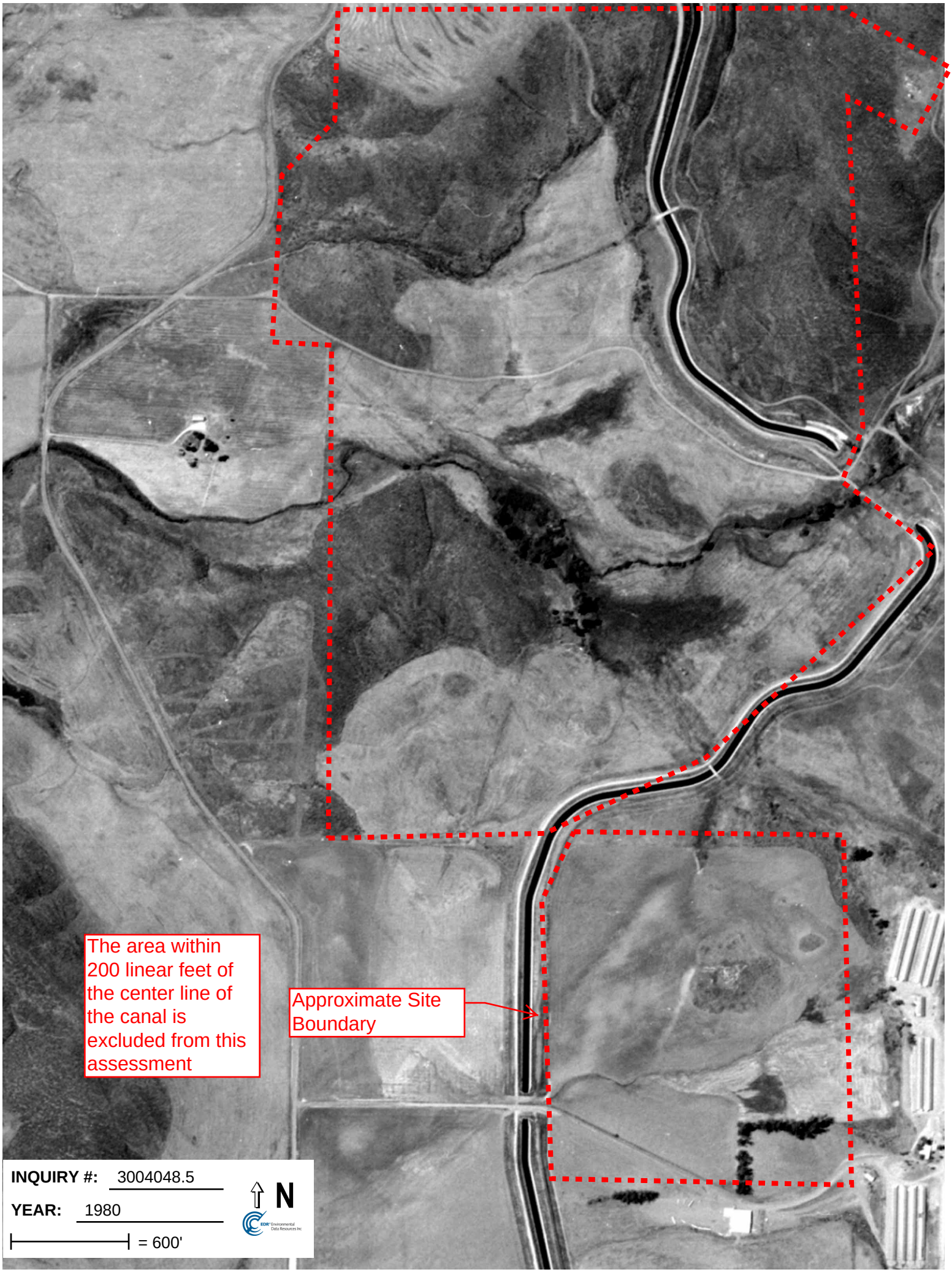
No documents have been associated with this appendix.

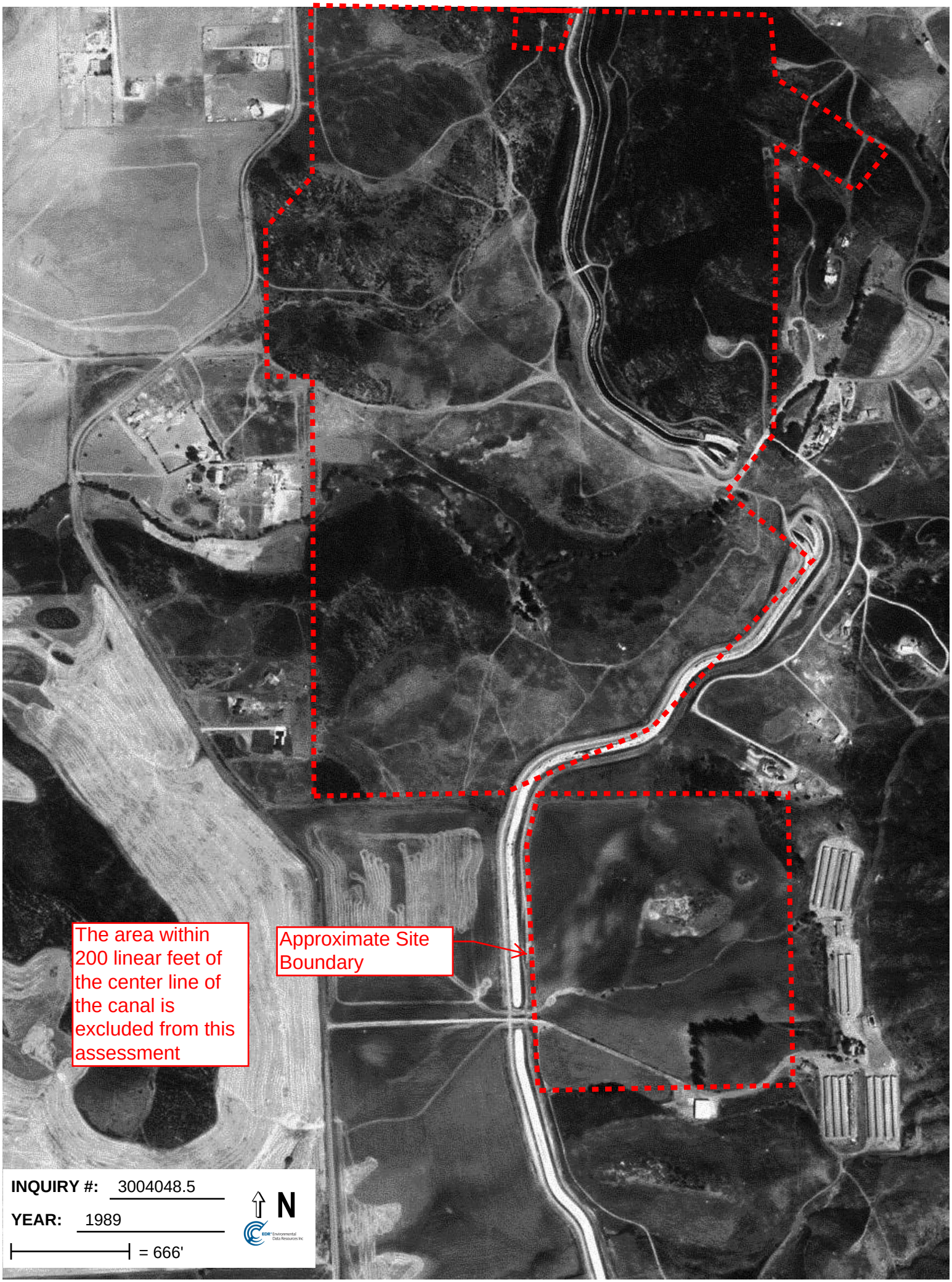
F: Aerial Photographs

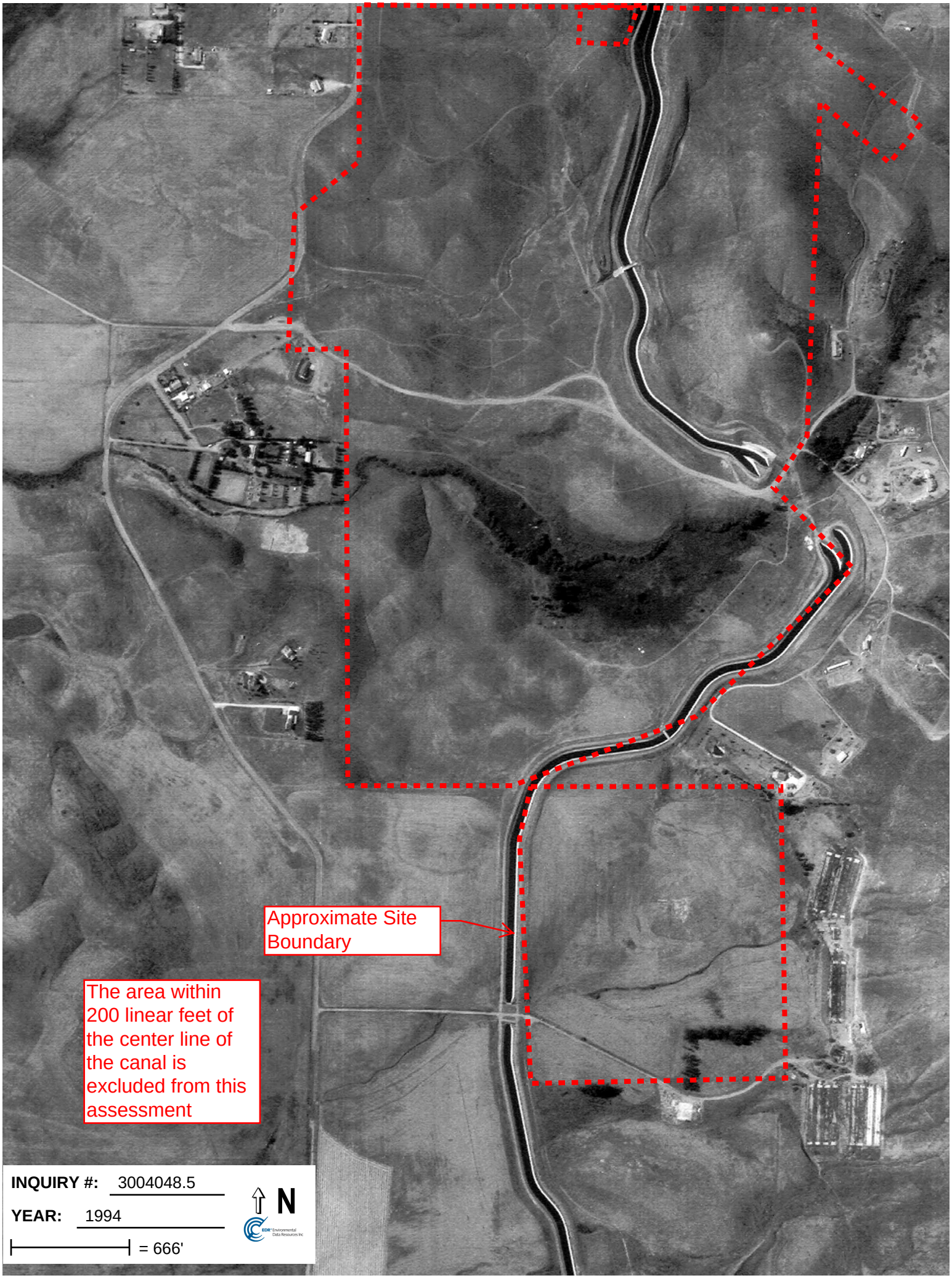

The area within 200 linear feet of the center line of the canal is excluded from this assessment
Approximate Site Boundary
INQUIRY #: 3004048.5
YEAR: 1938
= 555'
N

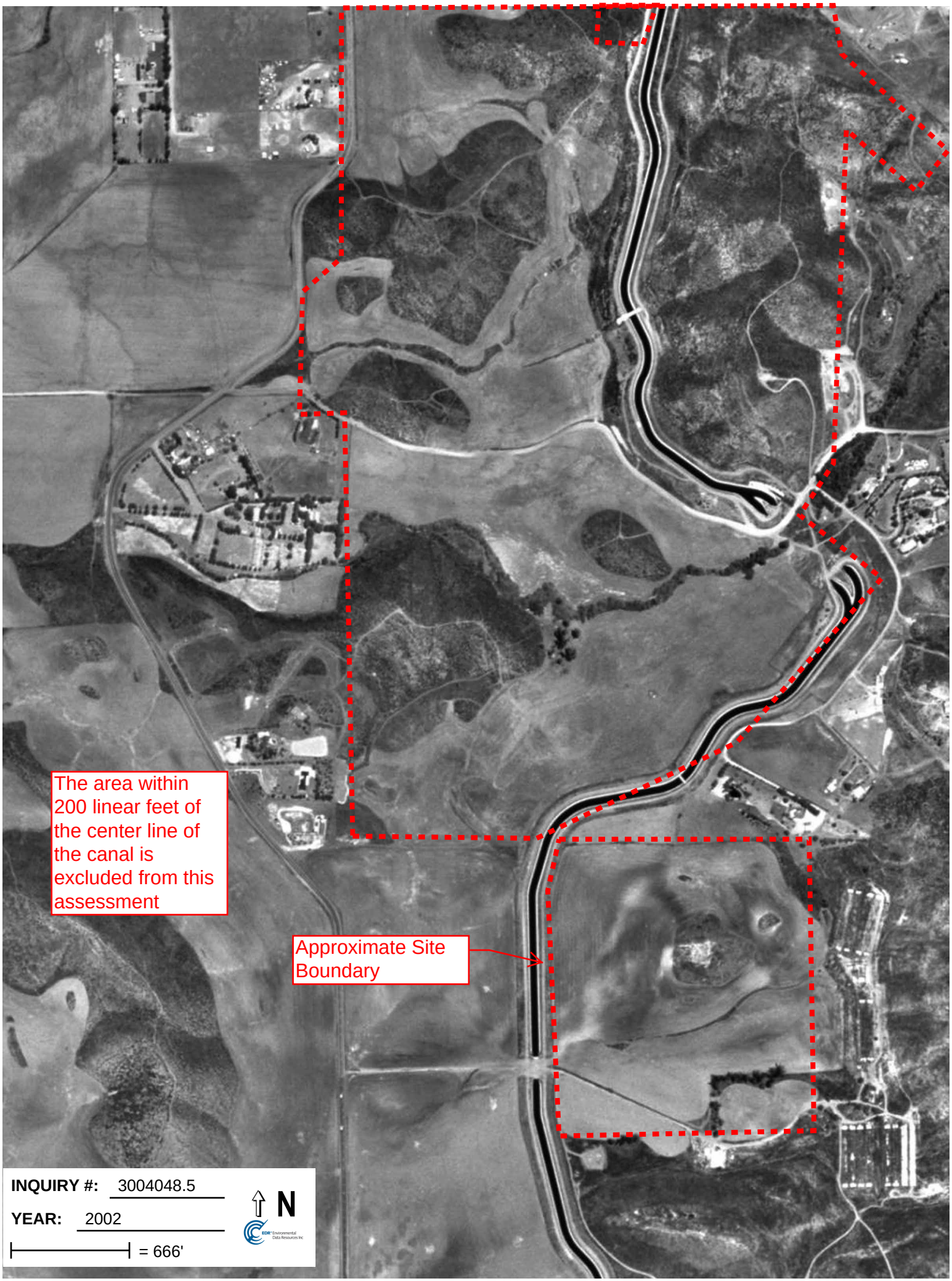

Approximate Site Boundary
The area within 200 linear feet of the center line of the canal is excluded from this assessment
INQUIRY #: 3004048.5
YEAR: 1953
= 555'
N

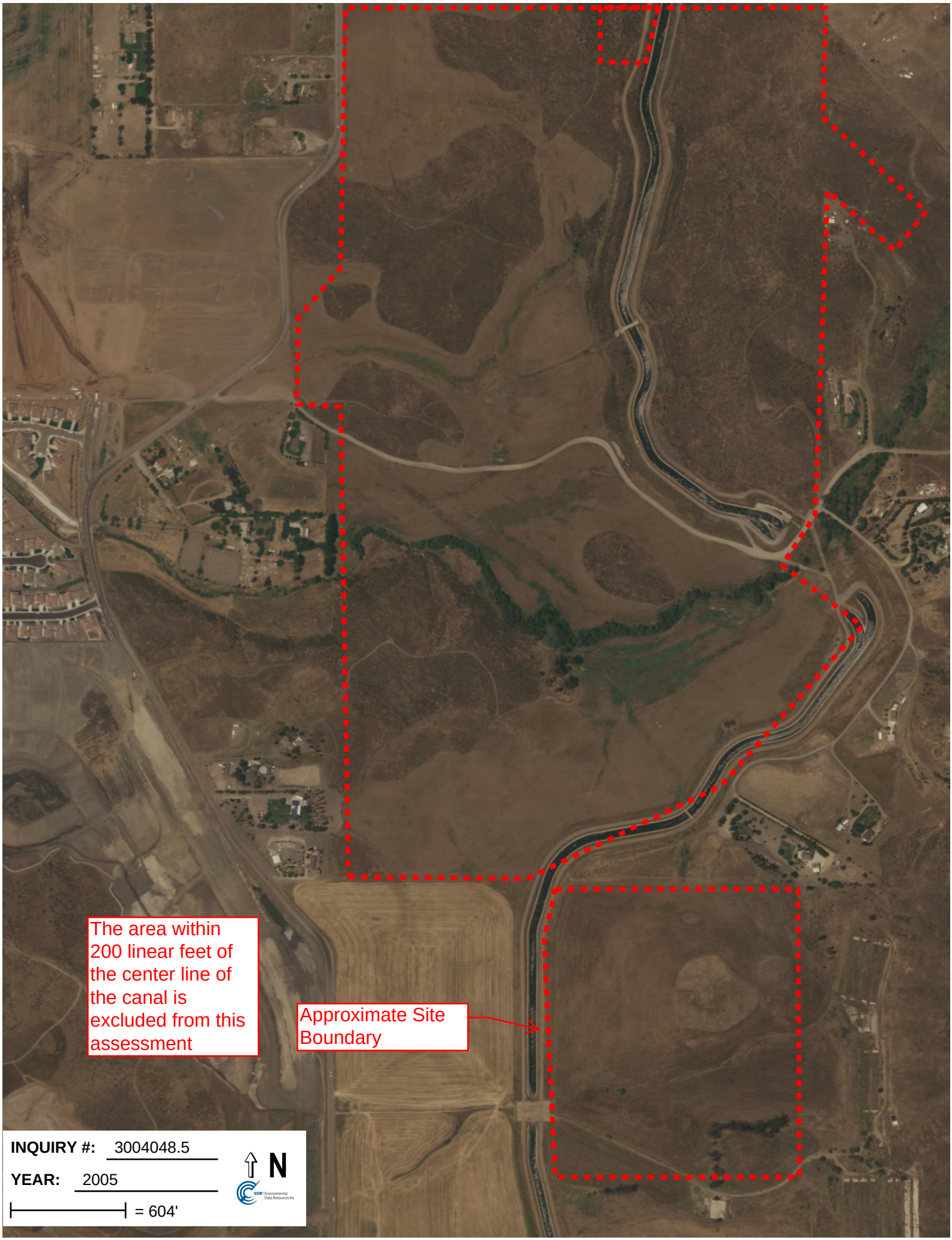

The area within 200 linear feet of the center line of the canal is excluded from this assessment
Approximate Site Boundary
INQUIRY #: 3004048.5
YEAR: 1967
= 555'
N


The area within 200 linear feet of the center line of the canal is excluded from this assessment
Approximate Site Boundary
INQUIRY #: 3004048.5
YEAR: 1980
= 600'
N


The area within 200 linear feet of the center line of the canal is excluded from this assessment
Approximate Site Boundary
INQUIRY #: 3004048.5
YEAR: 1989
= 666'
N


Approximate Site Boundary
The area within 200 linear feet of the center line of the canal is excluded from this assessment
INQUIRY #: 3004048.5
YEAR: 1994
= 666'
N


The area within 200 linear feet of the center line of the canal is excluded from this assessment
Approximate Site Boundary
INQUIRY #: 3004048.5
YEAR: 2002
= 666'
N


The area within 200 linear feet of the center line of the canal is excluded from this assessment
Approximate Site Boundary
INQUIRY #: 3004048.5
YEAR: 2005
= 604'
N

G: Fire Insurance Maps

French Valley
SEC of Keller Road and Washington Street
Winchester, CA 92596

Inquiry Number: 3004048.3
March 02, 2011

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

3/02/11

Site Name:
French Valley
SEC of Keller Road and
Winchester, CA 92596

Client Name:
Global Realty Services Group
540 Oak St.
Petaluma, CA 94952

EDR Inquiry # 3004048.3

Contact: Irene Robles

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Global Realty Services Group were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: French Valley
Address: SEC of Keller Road and Washington Street
City, State, Zip: Winchester, CA 92596
Cross Street:
P.O. # NA
Project: 11-08924.05 Fre
Certification # 5EEA-401D-B625

Sanborn® Library search results
Certification # 5EEA-401D-B625

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

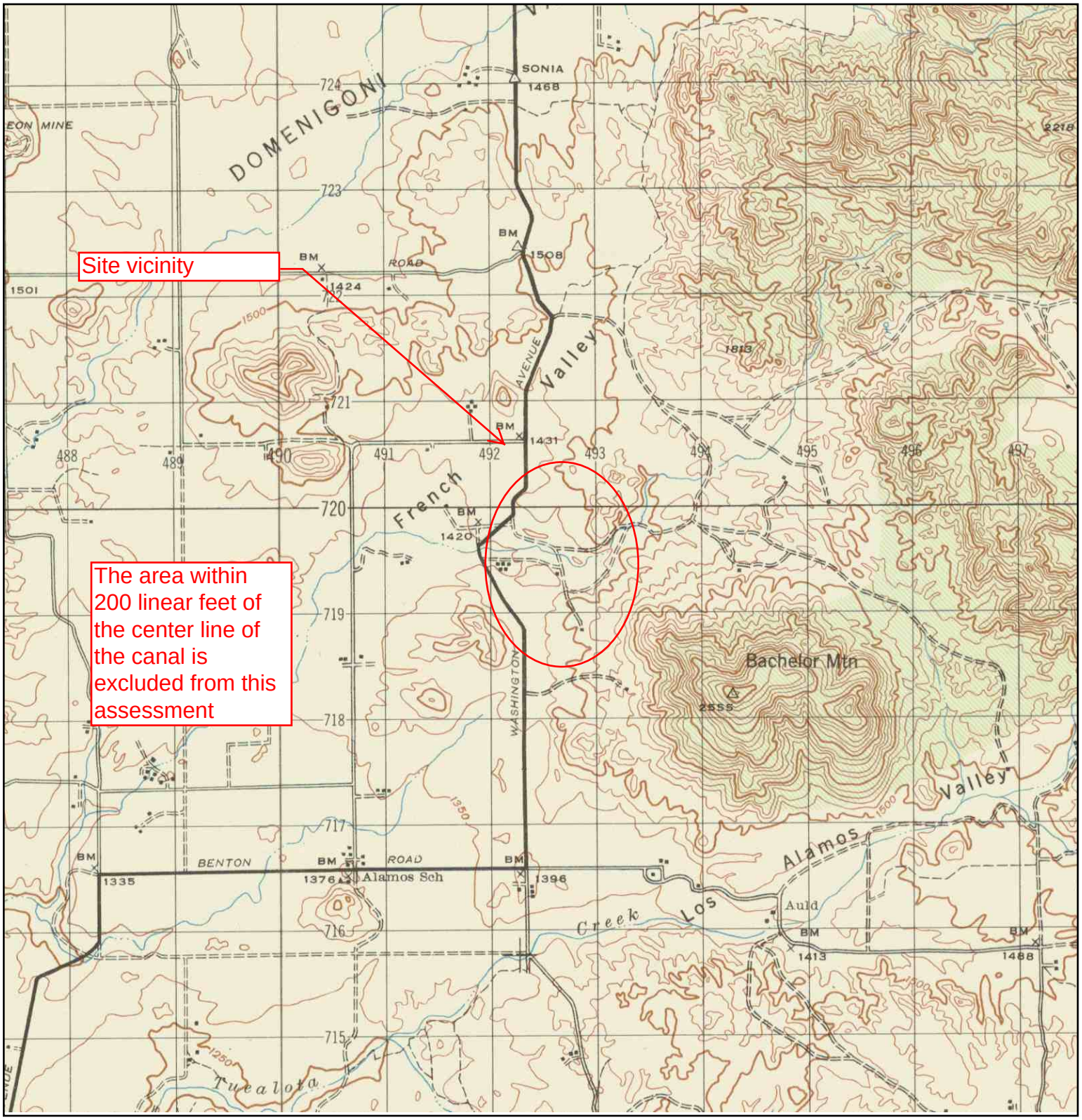
The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Global Realty Services Group (the client) is permitted to make up to THREE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

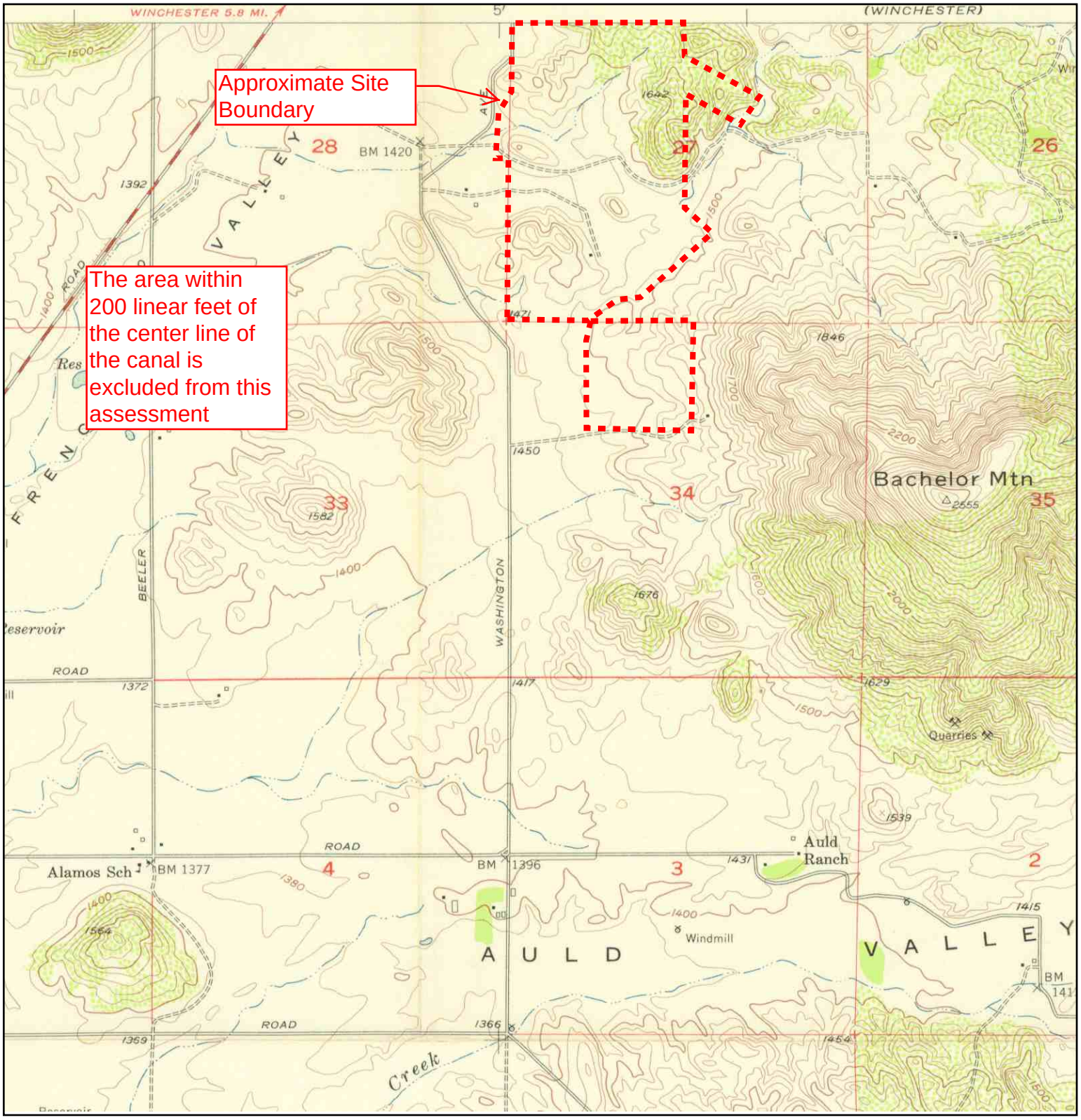
H: Topographic Maps

Historical Topographic Map



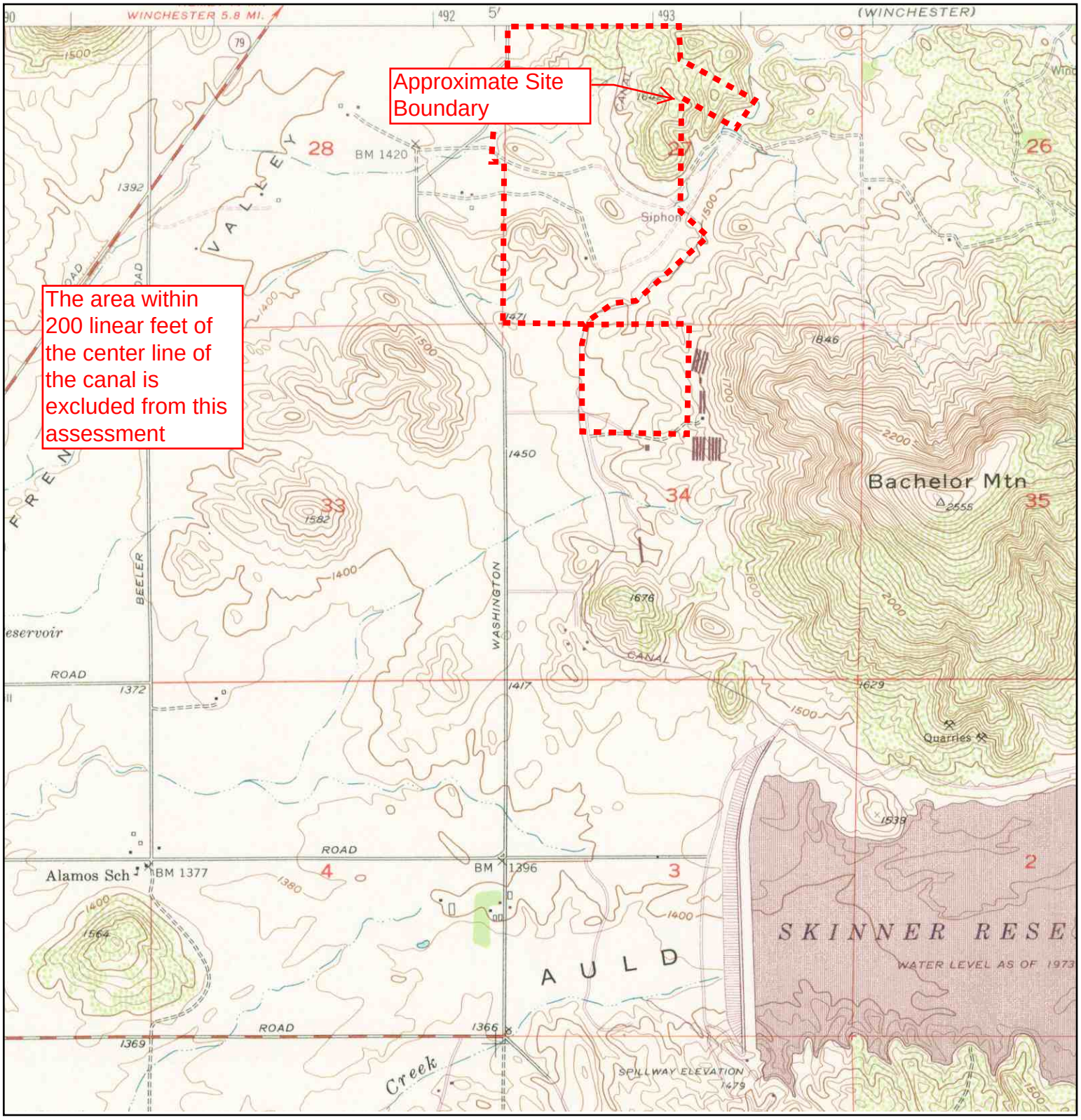
N	TARGET QUAD NAME: MURRIETA MAP YEAR: 1947 SERIES: 15 SCALE: 1:50000	SITE NAME: French Valley ADDRESS: SEC of Keller Road and Washington Street Winchester, CA 92596 LAT/LONG: 33.6167 / -117.0811	CLIENT: Global Realty Services Group CONTACT: Irene Robles INQUIRY#: 3004048.4 RESEARCH DATE: 03/02/2011

Historical Topographic Map



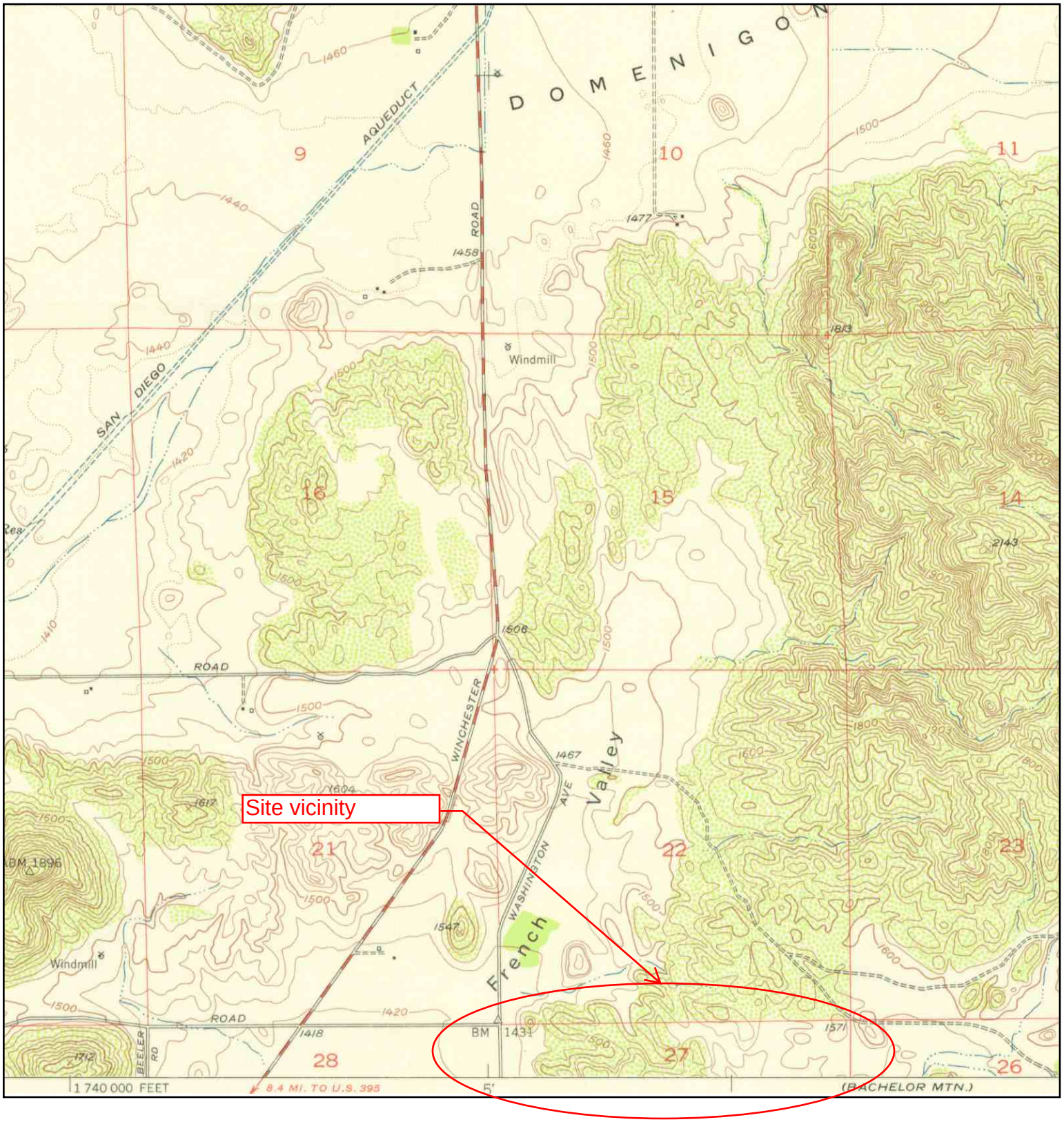
N	TARGET QUAD		SITE NAME:	French Valley	CLIENT: Global Realty Services Group
	NAME:	BACHELOR MOUNTAIN	ADDRESS:	SEC of Keller Road and Washington Street	CONTACT: Irene Robles
	MAP YEAR:	1953		Winchester, CA 92596	INQUIRY#: 3004048.4
	SERIES:	7.5	LAT/LONG:	33.6167 / -117.0811	RESEARCH DATE: 03/02/2011
	SCALE:	1:24000			

Historical Topographic Map



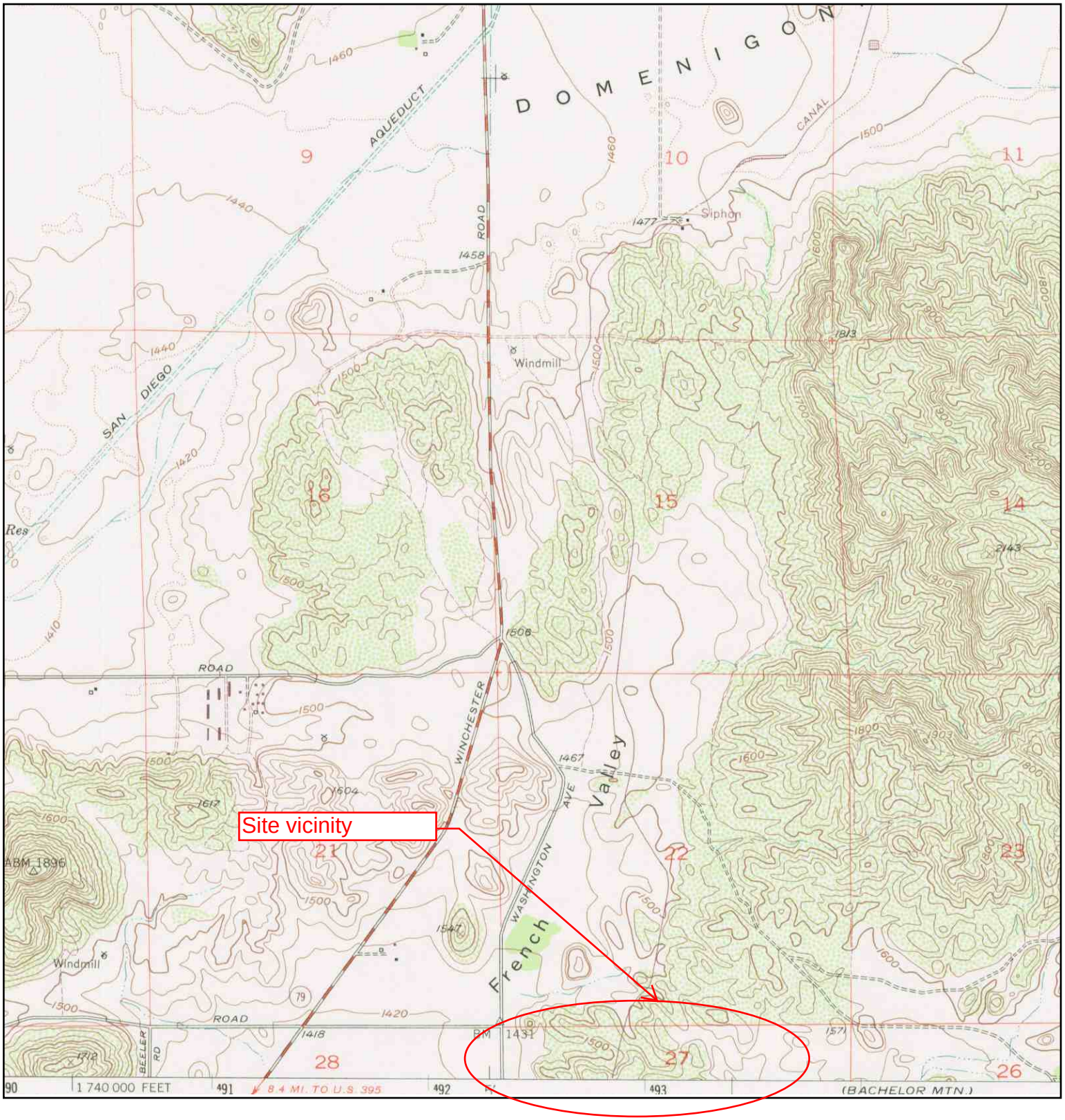
N	TARGET QUAD NAME: BACHELOR MOUNTAIN MAP YEAR: 1973 PHOTOREVISED:1953 SERIES: 7.5 SCALE: 1:24000	SITE NAME: French Valley ADDRESS: SEC of Keller Road and Washington Street Winchester, CA 92596 LAT/LONG: 33.6167 / -117.0811	CLIENT: Global Realty Services Group CONTACT: Irene Robles INQUIRY#: 3004048.4 RESEARCH DATE: 03/02/2011

Historical Topographic Map



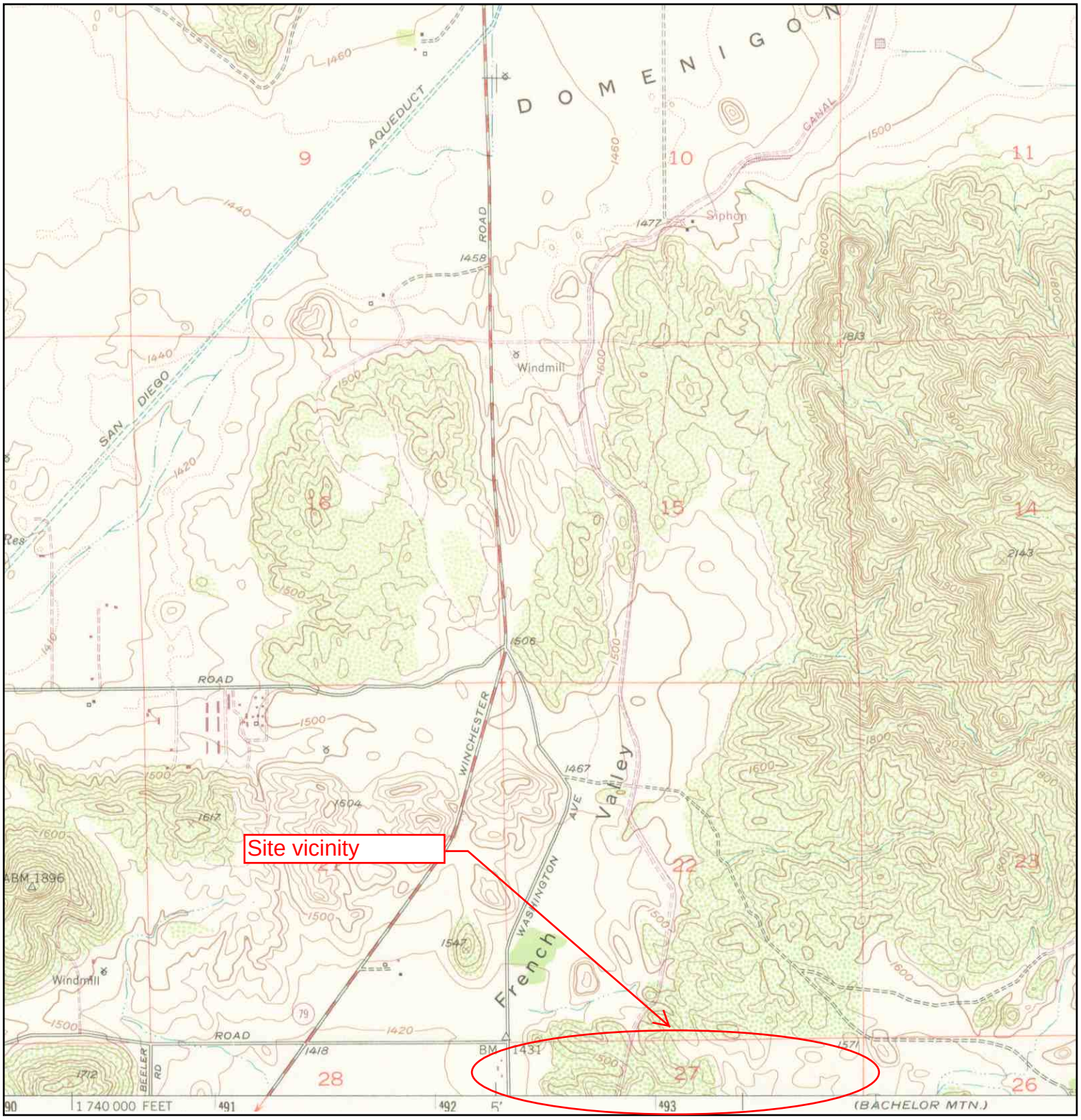
N	ADJOINING QUAD NAME: WINCHESTER MAP YEAR: 1953 SERIES: 7.5 SCALE: 1:24000	SITE NAME: French Valley ADDRESS: SEC of Keller Road and Washington Street Winchester, CA 92596 LAT/LONG: 33.6167 / -117.0811	CLIENT: Global Realty Services Group CONTACT: Irene Robles INQUIRY#: 3004048.4 RESEARCH DATE: 03/02/2011

Historical Topographic Map



N	ADJOINING QUAD NAME: WINCHESTER MAP YEAR: 1973 PHOTOREVISED:1953 SERIES: 7.5 SCALE: 1:24000	SITE NAME: French Valley ADDRESS: SEC of Keller Road and Washington Street Winchester, CA 92596 LAT/LONG: 33.6167 / -117.0811	CLIENT: Global Realty Services Group CONTACT: Irene Robles INQUIRY#: 3004048.4 RESEARCH DATE: 03/02/2011

Historical Topographic Map



N	ADJOINING QUAD NAME: WINCHESTER MAP YEAR: 1979 PHOTOREVISED:1953 SERIES: 7.5 SCALE: 1:24000	SITE NAME: French Valley ADDRESS: SEC of Keller Road and Washington Street Winchester, CA 92596 LAT/LONG: 33.6167 / -117.0811	CLIENT: Global Realty Services Group CONTACT: Irene Robles INQUIRY#: 3004048.4 RESEARCH DATE: 03/02/2011

I: Mapped Regulatory Report

French Valley
SEC of Keller Road and Washington Street
Winchester, CA 92596

Inquiry Number: 3227097.1s
December 19, 2011

The EDR Radius Map™ Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

SEC OF KELLER ROAD AND WASHINGTON STREET
WINCHESTER, CA 92596

COORDINATES

Latitude (North):	33.616700 - 33° 37' 0.1''
Longitude (West):	117.081100 - 117° 4' 52.0''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	492476.9
UTM Y (Meters):	3719467.5
Elevation:	1503 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	33117-E1 BACHELOR MOUNTAIN, CA
Most Recent Revision:	1991
North Map:	33117-F1 WINCHESTER, CA
Most Recent Revision:	1979

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	2009, 2010
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL---------- National Priority List

EXECUTIVE SUMMARY

Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ---------- Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ---------- CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR ---------- EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

LUST ---------- Geotracker's Leaking Underground Fuel Tank Report
SLIC ---------- Statewide SLIC Cases

INDIAN LUST - Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST - Active UST Facilities
AST - Aboveground Petroleum Storage Tank Facilities
INDIAN UST - Underground Storage Tanks on Indian Land
FEMA UST - Underground Storage Tank Listing

State and tribal voluntary cleanup sites

INDIAN VCP - Voluntary Cleanup Priority Listing
VCP - Voluntary Cleanup Program Properties

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS - A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9 - Torres Martinez Reservation Illegal Dump Site Locations
ODI - Open Dump Inventory
WMUDS/SWAT - Waste Management Unit Database
SWRCY - Recycler Database
HAULERS - Registered Waste Tire Haulers Listing
INDIAN ODI - Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL - Clandestine Drug Labs
HIST Cal-Sites - Historical Calsites Database
SCH - School Property Evaluation Program
Toxic Pits - Toxic Pits Cleanup Act Sites
CDL - Clandestine Drug Labs
US HIST CDL - National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST - Facility Inventory Database
SWEEPS UST - SWEEPS UST Listing

Local Land Records

LIENS 2 - CERCLA Lien Information
LUCIS - Land Use Control Information System
LIENS - Environmental Liens Listing
DEED - Deed Restriction Listing

Records of Emergency Release Reports

HMIRS - Hazardous Materials Information Reporting System
CHMIRS - California Hazardous Material Incident Report System

LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing

Other Ascertainable Records

RCRA-NonGen	RCRA - Non Generators
DOT OPS	Incident and Accident Data
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
CA BOND EXP. PLAN	Bond Expenditure Plan
NPDES	NPDES Permits Listing
WDS	Waste Discharge System
Cortese	"Cortese" Hazardous Waste & Substances Sites List
HIST CORTESE	Hazardous Waste & Substance Site List
Notify 65	Proposition 65 Records
DRYCLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
ENF	Enforcement Action Listing
HAZNET	Facility and Manifest Data
EMI	Emissions Inventory Data
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
FINANCIAL ASSURANCE	Financial Assurance Information Listing
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
PCB TRANSFORMER	PCB Transformer Registration Database
PROC	Certified Processors Database
MWMP	Medical Waste Management Program Listing
COAL ASH DOE	Sleam-Electric Plan Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants
EDR Historical Auto Stations	EDR Proprietary Historic Gas Stations
EDR Historical Cleaners	EDR Proprietary Historic Dry Cleaners

EXECUTIVE SUMMARY

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Registered Storage Tanks

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there is 1 HIST UST site within approximately 0.25 miles of the target property.

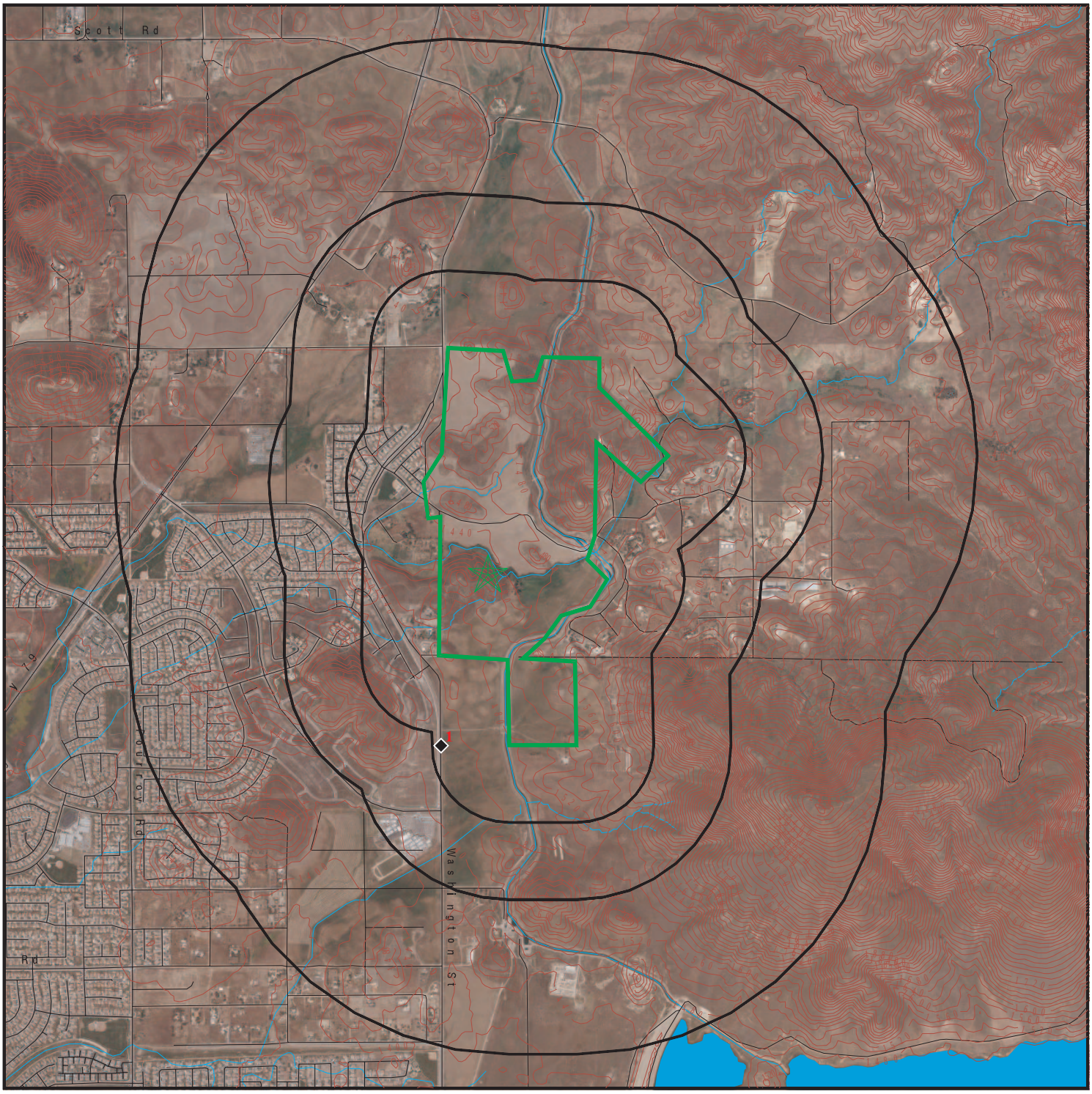
Lower Elevation	Address	Direction / Distance	Map ID	Page
QUALITY FARMS - WINCHESTER	35230 WASHINGTON ST	W 1/8 - 1/4 (0.220 mi.)	1	8

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 3 records.

Site Name	Database(s)
TEMECULA VALLEY USD CHARTER SCHOOL	NPDES
FRENCH VALLEY WINCHESTER 1800	NPDES
COACHELLA VALLEY AGGREGATE	MINES

OVERVIEW MAP - 3227097.1s



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

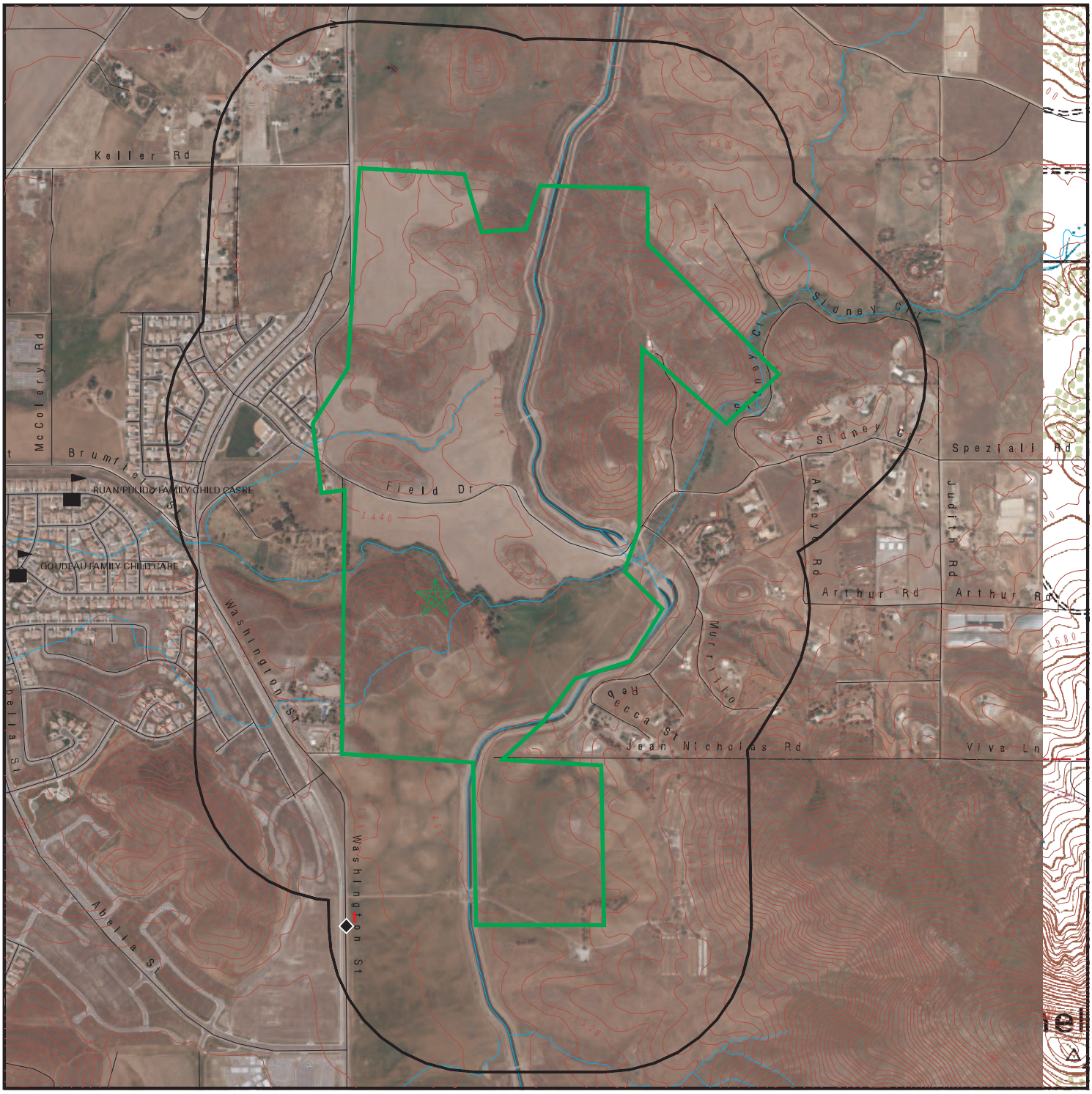
Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	French Valley	CLIENT:	Global Realty Services Group
ADDRESS:	SEC of Keller Road and Washington Street Winchester CA 92596	CONTACT:	Bill Tryon
		INQUIRY #:	3227097.1s
LAT/LONG:	33.6167 / 117.0811	DATE:	December 19, 2011 2:27 pm

DETAIL MAP - 3227097.1s



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/8 1/4 1/2 Miles

Indian Reservations BIA

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	French Valley	CLIENT:	Global Realty Services Group
ADDRESS:	SEC of Keller Road and Washington Street Winchester CA 92596	CONTACT:	Bill Tryon
		INQUIRY #:	3227097.1s
LAT/LONG:	33.6167 / 117.0811	DATE:	December 19, 2011 2:29 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
NPL LIENS		TP	NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL		1.000	0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS		0.500	0	0	0	NR	NR	0
FEDERAL FACILITY		1.000	0	0	0	0	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP		0.500	0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS		1.000	0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF		0.500	0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG		0.250	0	0	NR	NR	NR	0
RCRA-SQG		0.250	0	0	NR	NR	NR	0
RCRA-CESQG		0.250	0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
Federal ERNS list								
ERNS		TP	NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE		1.000	0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR		1.000	0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF		0.500	0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST		0.500	0	0	0	NR	NR	0
SLIC		0.500	0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST		0.500	0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST		0.250	0	0	NR	NR	NR	0
AST		0.250	0	0	NR	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
FEMA UST		0.250	0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
WMUDS/SWAT		0.500	0	0	0	NR	NR	0
SWRCY		0.500	0	0	0	NR	NR	0
HAULERS		TP	NR	NR	NR	NR	NR	0
INDIAN ODI		0.500	0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL		TP	NR	NR	NR	NR	NR	0
HIST Cal-Sites		1.000	0	0	0	0	NR	0
SCH		0.250	0	0	NR	NR	NR	0
Toxic Pits		1.000	0	0	0	0	NR	0
CDL		TP	NR	NR	NR	NR	NR	0
US HIST CDL		TP	NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST		0.250	0	0	NR	NR	NR	0
HIST UST		0.250	0	1	NR	NR	NR	1
SWEEPS UST		0.250	0	0	NR	NR	NR	0
Local Land Records								
LIENS 2		TP	NR	NR	NR	NR	NR	0
LUCIS		0.500	0	0	0	NR	NR	0
LIENS		TP	NR	NR	NR	NR	NR	0
DEED		0.500	0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS		TP	NR	NR	NR	NR	NR	0
CHMIRS		TP	NR	NR	NR	NR	NR	0
LDS		TP	NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MCS		TP	NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA-NonGen		0.250	0	0	NR	NR	NR	0
DOT OPS		TP	NR	NR	NR	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
HIST FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
RADINFO		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN		1.000	0	0	0	0	NR	0
NPDES		TP	NR	NR	NR	NR	NR	0
WDS		TP	NR	NR	NR	NR	NR	0
Cortese		0.500	0	0	0	NR	NR	0
HIST CORTESE		0.500	0	0	0	NR	NR	0
Notify 65		1.000	0	0	0	0	NR	0
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
WIP		0.250	0	0	NR	NR	NR	0
ENF		TP	NR	NR	NR	NR	NR	0
HAZNET		TP	NR	NR	NR	NR	NR	0
EMI		TP	NR	NR	NR	NR	NR	0
INDIAN RESERV		1.000	0	0	0	0	NR	0
SCRD DRYCLEANERS		0.500	0	0	0	NR	NR	0
FINANCIAL ASSURANCE		TP	NR	NR	NR	NR	NR	0
HWP		1.000	0	0	0	0	NR	0
HWT		0.250	0	0	NR	NR	NR	0
PCB TRANSFORMER		TP	NR	NR	NR	NR	NR	0
PROC		0.500	0	0	0	NR	NR	0
MWMP		0.250	0	0	NR	NR	NR	0
COAL ASH DOE		TP	NR	NR	NR	NR	NR	0
COAL ASH EPA		0.500	0	0	0	NR	NR	0
EDR PROPRIETARY RECORDS								
EDR Proprietary Records								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0
EDR Historical Auto Stations		0.250	0	0	NR	NR	NR	0
EDR Historical Cleaners		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
West
1/8-1/4
0.220 mi.
1163 ft.

QUALITY FARMS - WINCHESTER
35230 WASHINGTON ST
WINCHESTER, CA 92396

HIST UST **U001575842**
N/A

Relative:
Lower

Actual:
1452 ft.

HIST UST:

Region:	STATE
Facility ID:	00000046075
Facility Type:	Other
Other Type:	FARM
Total Tanks:	0001
Contact Name:	ALBERTO RIVAS
Telephone:	7149262273
Owner Name:	QUALITY INDUSTRIES
Owner Address:	27960 E 5TH STREET
Owner City,St,Zip:	HIGHLAND, CA 92346
Tank Num:	001
Container Num:	1
Year Installed:	Not reported
Tank Capacity:	00001000
Tank Used for:	PRODUCT
Type of Fuel:	REGULAR
Tank Construction:	Not reported
Leak Detection:	Visual, Stock Inventor

Count: 3 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
RIVERSIDE	S110736554	TEMECULA VALLEY USD CHARTER SCHOOL	35755 ABELIA RD	92596	NPDES
RIVERSIDE COUNTY	M300003147	COACHELLA VALLEY AGGREGATE	COACHELLA VALLEY AGGREGATE		MINES
WINCHESTER	S109444048	FRENCH VALLEY WINCHESTER 1800	NE CORNER OF BENTON & POUROY	92596	NPDES

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 06/30/2011
Date Data Arrived at EDR: 07/12/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 79

Source: EPA
Telephone: N/A
Last EDR Contact: 10/12/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 06/30/2011
Date Data Arrived at EDR: 07/12/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 79

Source: EPA
Telephone: N/A
Last EDR Contact: 10/12/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 06/30/2011
Date Data Arrived at EDR: 07/12/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 79

Source: EPA
Telephone: N/A
Last EDR Contact: 10/12/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/25/2011
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 11/29/2011
Next Scheduled EDR Contact: 03/12/2012
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/10/2010
Date Data Arrived at EDR: 01/11/2011
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/14/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 02/25/2011
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 11/29/2011
Next Scheduled EDR Contact: 03/12/2012
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/09/2011
Date Data Arrived at EDR: 03/15/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 91

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/14/2011
Next Scheduled EDR Contact: 02/27/2012
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/05/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/05/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/05/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/05/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/16/2011
Date Data Arrived at EDR: 03/25/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/09/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/16/2011
Date Data Arrived at EDR: 03/25/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/09/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 10/03/2011
Date Data Arrived at EDR: 10/04/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 38

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 10/04/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 11/07/2011
Date Data Arrived at EDR: 11/08/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/14/2011
Next Scheduled EDR Contact: 02/20/2012
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 11/07/2011
Date Data Arrived at EDR: 11/08/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/14/2011
Next Scheduled EDR Contact: 02/20/2012
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/21/2011
Date Data Arrived at EDR: 11/22/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 21

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/22/2011
Next Scheduled EDR Contact: 03/05/2012
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Quarterly

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 11/10/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 33

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 11/10/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/10/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 33

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/10/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/02/2011
Date Data Arrived at EDR: 11/04/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 7
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/01/2011
Date Data Arrived at EDR: 11/01/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 10
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/01/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 25
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 59
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 08/11/2011
Date Data Arrived at EDR: 08/12/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 32
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Semi-Annually

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/31/2011
Date Data Arrived at EDR: 02/01/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 48
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 02/16/2011
Date Data Arrived at EDR: 06/02/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 103
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

State and tribal registered storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 11/10/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 12/14/2011
Number of Days to Update: 34

Source: SWRCB
Telephone: 916-480-1028
Last EDR Contact: 11/10/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
Registered Aboveground Storage Tanks.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 10/11/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/02/2011
Date Data Arrived at EDR: 11/04/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 7

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 08/04/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 39

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 25

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/01/2011
Date Data Arrived at EDR: 06/01/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 13

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 07/01/2011
Date Data Arrived at EDR: 08/26/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 18

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 08/11/2011
Date Data Arrived at EDR: 08/12/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 32

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/01/2011
Date Data Arrived at EDR: 11/01/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 10

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/17/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 11/07/2011
Date Data Arrived at EDR: 11/08/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/14/2011
Next Scheduled EDR Contact: 02/20/2012
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 08/04/2011
Date Data Arrived at EDR: 10/04/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 38

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 10/04/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 06/27/2011
Date Data Arrived at EDR: 06/27/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/28/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 11/14/2011
Next Scheduled EDR Contact: 02/27/2012
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/20/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 09/14/2011
Date Data Arrived at EDR: 09/15/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 39

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 12/12/2011
Next Scheduled EDR Contact: 03/05/2012
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 11/07/2011
Next Scheduled EDR Contact: 02/20/2012
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 06/08/2011
Date Data Arrived at EDR: 09/16/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 13

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 12/05/2011
Next Scheduled EDR Contact: 03/19/2012
Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 11/07/2011
Date Data Arrived at EDR: 11/08/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/14/2011
Next Scheduled EDR Contact: 02/20/2012
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2011
Date Data Arrived at EDR: 08/11/2011
Date Made Active in Reports: 09/09/2011
Number of Days to Update: 29

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 10/03/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8
Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 12/05/2012
Next Scheduled EDR Contact: 03/19/2012
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18
Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing
Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 09/09/2011
Date Data Arrived at EDR: 09/16/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 13
Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

LUCIS: Land Use Control Information System
LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31
Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/22/2011
Next Scheduled EDR Contact: 03/05/2012
Data Release Frequency: Varies

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 09/19/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 34
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/09/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 24

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/13/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 10/04/2011
Date Data Arrived at EDR: 10/04/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 38

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 10/04/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 05/03/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 43

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 11/10/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 33

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/10/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 11/10/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 33

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/10/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

Other Ascertainable Records

RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/05/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/29/2011
Date Data Arrived at EDR: 08/09/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 94

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 11/08/2011
Next Scheduled EDR Contact: 02/20/2012
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/20/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 08/12/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 112

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 12/09/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/01/2011
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 41

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/03/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/31/2011
Date Data Arrived at EDR: 09/14/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 15

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/14/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/21/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 99

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/29/2011
Next Scheduled EDR Contact: 03/12/2012
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 09/08/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 21

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 12/07/2011
Next Scheduled EDR Contact: 03/19/2012
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/17/2010
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 94

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 12/02/2011
Next Scheduled EDR Contact: 03/12/2012
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/27/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 11/28/2011
Next Scheduled EDR Contact: 03/12/2012
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 11/28/2011
Next Scheduled EDR Contact: 03/12/2012
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/07/2011
Date Data Arrived at EDR: 01/21/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 59

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/01/2010
Date Data Arrived at EDR: 11/10/2010
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 98

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/19/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/21/2011
Date Data Arrived at EDR: 07/15/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 60

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 12/12/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/11/2011
Date Data Arrived at EDR: 01/13/2011
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/13/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/14/2010
Date Data Arrived at EDR: 04/16/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 41

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 12/13/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 11/30/2011
Next Scheduled EDR Contact: 03/12/2012
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 11/28/2011
Next Scheduled EDR Contact: 03/12/2012
Data Release Frequency: Quarterly

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 11/21/2011
Date Data Arrived at EDR: 11/22/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/22/2011
Next Scheduled EDR Contact: 03/05/2012
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 11/30/2011
Date Data Arrived at EDR: 11/30/2011
Date Made Active in Reports: 12/16/2011
Number of Days to Update: 16

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 11/30/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES].

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 06/28/2011
Date Data Arrived at EDR: 07/21/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 12/09/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 10/03/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 08/15/2011
Date Data Arrived at EDR: 08/23/2011
Date Made Active in Reports: 10/03/2011
Number of Days to Update: 41

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/30/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 07/19/2011
Date Made Active in Reports: 08/16/2011
Number of Days to Update: 28

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/17/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 10/18/2010
Number of Days to Update: 19

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/30/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/20/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 10/24/2011
Next Scheduled EDR Contact: 02/06/2012
Data Release Frequency: Varies

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/20/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 09/09/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/10/2011
Number of Days to Update: 27

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 12/12/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/08/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 12/08/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/20/2011
Date Data Arrived at EDR: 10/21/2011
Date Made Active in Reports: 11/08/2011
Number of Days to Update: 18

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/21/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/09/2010
Date Data Arrived at EDR: 08/11/2010
Date Made Active in Reports: 08/20/2010
Number of Days to Update: 9
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/02/2011
Next Scheduled EDR Contact: 03/12/2012
Data Release Frequency: Quarterly

FINANCIAL ASSURANCE 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 11/29/2011
Date Data Arrived at EDR: 11/30/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 13
Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/21/2011
Next Scheduled EDR Contact: 03/05/2012
Data Release Frequency: Varies

FINANCIAL ASSURANCE 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 03/01/2007
Date Data Arrived at EDR: 06/01/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 28
Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 11/04/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands
Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339
Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/20/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: N/A

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 01/01/2008
Date Data Arrived at EDR: 02/18/2009
Date Made Active in Reports: 05/29/2009
Number of Days to Update: 100
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/04/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Historical Auto Stations: EDR Proprietary Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Historical Cleaners: EDR Proprietary Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 10/10/2011
Date Data Arrived at EDR: 10/11/2011
Date Made Active in Reports: 11/09/2011
Number of Days to Update: 29

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/03/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 10/10/2011
Date Data Arrived at EDR: 10/11/2011
Date Made Active in Reports: 11/14/2011
Number of Days to Update: 34

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/03/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 11/28/2011
Date Data Arrived at EDR: 11/29/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 14

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 11/07/2011
Next Scheduled EDR Contact: 02/20/2012
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 08/31/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 09/30/2010
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 12/16/2011
Next Scheduled EDR Contact: 02/27/2012
Data Release Frequency: Quarterly

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 07/28/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 24

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/17/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/24/2011
Date Data Arrived at EDR: 10/25/2011
Date Made Active in Reports: 11/22/2011
Number of Days to Update: 28

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/25/2011
Next Scheduled EDR Contact: 11/07/2011
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 11/17/2011
Next Scheduled EDR Contact: 03/05/2012
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 02/09/2011
Date Data Arrived at EDR: 02/09/2011
Date Made Active in Reports: 03/04/2011
Number of Days to Update: 23
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/24/2011
Next Scheduled EDR Contact: 02/06/2012
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 02/03/2011
Date Data Arrived at EDR: 02/08/2011
Date Made Active in Reports: 03/03/2011
Number of Days to Update: 23
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/24/2011
Next Scheduled EDR Contact: 02/06/2012
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 10/17/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 11/14/2011
Number of Days to Update: 26
Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/17/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Semi-Annually

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 10/17/2011
Date Data Arrived at EDR: 10/25/2011
Date Made Active in Reports: 11/14/2011
Number of Days to Update: 20
Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 10/11/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 07/09/2008
Date Data Arrived at EDR: 07/09/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 22
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 12/05/2011
Next Scheduled EDR Contact: 03/19/2012
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 12/05/2012
Next Scheduled EDR Contact: 03/19/2012
Data Release Frequency: No Update Planned

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 11/01/2011
Date Data Arrived at EDR: 11/17/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 26

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/14/2011
Next Scheduled EDR Contact: 02/27/2012
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 11/02/2011
Date Data Arrived at EDR: 11/18/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 25

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/14/2011
Next Scheduled EDR Contact: 02/27/2012
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 11/02/2011
Date Data Arrived at EDR: 11/18/2011
Date Made Active in Reports: 12/14/2011
Number of Days to Update: 26

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/14/2011
Next Scheduled EDR Contact: 02/27/2012
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/18/2011
Number of Days to Update: 35

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 12/09/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/20/2011
Date Data Arrived at EDR: 10/21/2011
Date Made Active in Reports: 11/08/2011
Number of Days to Update: 18

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 10/20/2011
Date Data Arrived at EDR: 10/21/2011
Date Made Active in Reports: 11/14/2011
Number of Days to Update: 24
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/26/2012
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/02/2011
Date Data Arrived at EDR: 10/12/2011
Date Made Active in Reports: 11/08/2011
Number of Days to Update: 27
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/07/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/02/2011
Date Data Arrived at EDR: 10/14/2011
Date Made Active in Reports: 11/08/2011
Number of Days to Update: 25
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/07/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 11/30/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 12/16/2011
Number of Days to Update: 15
Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 11/14/2011
Next Scheduled EDR Contact: 02/27/2012
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/09/2010
Date Data Arrived at EDR: 09/15/2010
Date Made Active in Reports: 09/29/2010
Number of Days to Update: 14
Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 12/16/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2011
Date Data Arrived at EDR: 11/04/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 39
Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 12/12/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 11/14/2011
Next Scheduled EDR Contact: 02/27/2012
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 11/14/2011
Next Scheduled EDR Contact: 02/27/2012
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 09/27/2011
Date Data Arrived at EDR: 09/28/2011
Date Made Active in Reports: 10/19/2011
Number of Days to Update: 21
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Semi-Annually

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 10/17/2011
Date Data Arrived at EDR: 11/29/2011
Date Made Active in Reports: 12/05/2011
Number of Days to Update: 6
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/14/2011
Next Scheduled EDR Contact: 04/02/2012
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 09/20/2011
Date Data Arrived at EDR: 09/22/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 32

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/14/2011
Next Scheduled EDR Contact: 04/02/2012
Data Release Frequency: Semi-Annually

SANTA CLARA COUNTY:

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 09/06/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/10/2011
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 12/05/2011
Next Scheduled EDR Contact: 03/19/2012
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 09/01/2011
Date Data Arrived at EDR: 09/01/2011
Date Made Active in Reports: 10/03/2011
Number of Days to Update: 32

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 12/12/2011
Next Scheduled EDR Contact: 02/27/2012
Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 09/20/2011
Date Data Arrived at EDR: 09/28/2011
Date Made Active in Reports: 10/25/2011
Number of Days to Update: 27

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/14/2011
Next Scheduled EDR Contact: 04/02/2012
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/20/2011
Date Data Arrived at EDR: 09/28/2011
Date Made Active in Reports: 10/19/2011
Number of Days to Update: 21

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/14/2011
Next Scheduled EDR Contact: 04/02/2012
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/05/2011
Date Data Arrived at EDR: 04/06/2011
Date Made Active in Reports: 05/12/2011
Number of Days to Update: 36

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 10/03/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/19/2011
Number of Days to Update: 36

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 12/09/2011
Next Scheduled EDR Contact: 03/26/2012
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 10/27/2011
Date Data Arrived at EDR: 11/23/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 20

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/17/2011
Next Scheduled EDR Contact: 03/05/2012
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 09/14/2011
Date Data Arrived at EDR: 09/15/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 39

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/21/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/17/2011
Next Scheduled EDR Contact: 03/05/2012
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 10/27/2011
Date Data Arrived at EDR: 11/07/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 36

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/30/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/19/2011
Number of Days to Update: 29

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/20/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 11/15/2011
Date Data Arrived at EDR: 11/21/2011
Date Made Active in Reports: 12/14/2011
Number of Days to Update: 23

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 10/11/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Annually

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 08/26/2009
Date Made Active in Reports: 09/11/2009
Number of Days to Update: 16

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/22/2011
Next Scheduled EDR Contact: 03/05/2012
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 07/20/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 22

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/18/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2011
Date Data Arrived at EDR: 08/09/2011
Date Made Active in Reports: 09/16/2011
Number of Days to Update: 38

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/08/2011
Next Scheduled EDR Contact: 02/20/2012
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 12/01/2009
Date Made Active in Reports: 12/14/2009
Number of Days to Update: 13

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 06/24/2011
Date Made Active in Reports: 06/30/2011
Number of Days to Update: 6

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/28/2011
Next Scheduled EDR Contact: 03/12/2012
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/15/2011
Number of Days to Update: 27

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

J: Regulatory Documents

No documents have been associated with this appendix.

K: City Directories

French Valley
34910 rebecca st
Winchester, CA 92596

Inquiry Number: 3004048.6
March 07, 2011

The EDR-City Directory Abstract

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

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SECTION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2007	Haines Criss-Cross Directory	-	X	X	-
2000	Haines Criss-Cross Directory	-	X	X	-
1996	Haines Criss-Cross Directory	-	X	X	-
1988	Haines Criss-Cross Directory	X	X	X	-
1982	Haines Criss-Cross Directory	-	-	-	-
1974	Haines Criss-Cross Directory	-	-	-	-

EXECUTIVE SUMMARY

SELECTED ADDRESSES

The following addresses were selected by the client, for EDR to research. An "X" indicates where information was identified.

Address	*Type*	*Findings*
Rebecca Street	Client Entered	X

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

34910 rebecca st
Winchester, CA 92596

FINDINGS DETAIL

Target Property research detail.

Year	*Uses*	*Source*
1988	Residential	Haines Criss-Cross Directory

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

Rebecca Street

Rebecca Street

Year	Uses	Source
2007	No address listings beyond (34880) Rebecca Street	Haines Criss-Cross Directory
	No other addresses (34800-35099) block Rebecca Street	Haines Criss-Cross Directory
2000	No address listings beyond (34880) Rebecca Street	Haines Criss-Cross Directory
	No other addresses (34800-35099) block Rebecca Street	Haines Criss-Cross Directory
1996	No address listings beyond (34880) Rebecca Street	Haines Criss-Cross Directory
	No other addresses (34800-35099) block Rebecca Street	Haines Criss-Cross Directory
1988	No address listings beyond the Target Property	Haines Criss-Cross Directory
	No other addresses (34800-35099) block Rebecca Street	Haines Criss-Cross Directory

34800 Rebecca Street

Year	Uses	Source
2007	Residential	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory
1988	No Return	Haines Criss-Cross Directory

34880 Rebecca Street

Year	Uses	Source
2007	Residential	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory
1996	Residential	Haines Criss-Cross Directory
1988	Residential	Haines Criss-Cross Directory

FINDINGS

STREET NOT IDENTIFIED IN RESEARCH SOURCE

The following Streets were researched for this report, and the Streets were not identified in the research source.

Street Researched	Street Not Identified in Research Source
rebecca st	1982, 1974
Rebecca Street	1982, 1974

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
34910 rebecca st	2007, 2000, 1996

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched	Address Not Identified in Research Source
Rebecca Street	No Years Found
34800 Rebecca Street	1996
34880 Rebecca Street	No Years Found

L: Prior Reports

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT
ASSESSOR PARCEL NUMBERS, 472-170-003
472-170-008 AND 472-180-003, FRENCH VALLEY AREA
UNINCORPORATED AREA OF RIVERSIDE COUNTY, CALIFORNIA

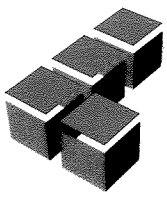
Prepared For:

THE GARRETT GROUP, LLC.

One BetterWorld Circle, Suite 300
Temecula, CA. 92590

Project No. 112304001

March 27, 2008



Leighton and Associates, Inc.

A LEIGHTON GROUP COMPANY

Leighton and Associates, Inc.
A LEIGHTON GROUP COMPANY

March 27, 2008

Project No. 112304001

To: The Garrett Group, LLC
One BetterWorld, Suite 300
Temecula, CA. 92560

Attention: Mr. Will Rogers

Subject: Phase I Environmental Site Assessment Report, Assessor Parcel Numbers 472-170-003, 472-170-008, and 472-180-003, French Valley Area, Unincorporated Area of Riverside County, California

Leighton and Associates, Inc. (Leighton) is pleased to present this Phase I Environmental Site Assessment Report for the subject site. Leighton 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 and ASTM 1527-05.

Leighton has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject site. Leighton has developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312 and ASTM 1527-05.

If you have any questions regarding this report, please do not hesitate to contact me. We appreciate the opportunity to be of service to you.

Respectfully submitted,
LEIGHTON AND ASSOCIATES, INC.

Kristin Stout, REA I
Sr. Project Scientist

Distribution: (3) Addressee

41715 Enterprise Circle N., Suite 103 ▪ Temecula, CA 92590-5661
951.296.0530 ▪ Fax 951.296.0534 ▪ www.leightongeo.com

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List of Accompanying Illustrations and Appendices

EXECUTIVE SUMMARY

Leighton and Associates, Inc. (Leighton) performed a Phase I Environmental Site Assessment (ESA) of the subject site, Assessor Parcel Number (APN's) 472-170-003, 472-170-008, and 472-180-003 in the French Valley Area, Unincorporated area of Riverside County, California. The purpose of this Phase I ESA was to attempt to identify, to the extent feasible pursuant to the processes prescribed in ASTM International (ASTM) E1527-05, recognized environmental conditions in connection with the subject site. Any exceptions to, or deletions from, this practice are described in Section 1.5 of the Phase I ESA report. The scope of work for this Phase I ESA included: records review; site reconnaissance; interviews; and report preparation.

On December 21, 2007, a representative of Leighton conducted a reconnaissance-level assessment of the subject site. The site reconnaissance consisted of the observation and documentation of existing site conditions and nature of the neighboring property development within ¼ mile of the subject site. Photographs of the subject site are presented in Appendix B and their view directions are noted on Figure 2. Items noted during the site reconnaissance are also noted on Figure 2.

The subject site currently, and historically, has consisted of approximately 66 acres of vacant, undeveloped land (Photos 1 through 8, Appendix B). Improvements were not noted on the subject site. Entry to the property from Fields Drive allowed for easy access to the subject site (Figure 2). Debris or rubbish dumping was not observed on the subject site.

The subject site is currently bordered on the north and west by vacant, undeveloped land. Adjacent to the south and east are residential structures.

A search of selected government databases was conducted by Leighton using Track Info Services, LLC, Environmental FirstSearch Report. Regulatory database lists were reviewed for cases pertaining to leaking underground storage tanks (USTs); aboveground storage tanks (ASTs), hazardous waste sites, and abandoned sites within the specified radii of standards established by the ASTM E1527-05. The subject site was not identified on the Environmental FirstSearch report. The Environmental FirstSearch report did not identify any facilities that appear to represent a potential source of migration of hazardous substances to soil or groundwater beneath the subject property.

Leighton performed a Phase I ESA for the subject site in conformance with the scope and limitations of ASTM Practice E1527-05 of the subject site. Any exceptions to, or deletions from, this practice are described in Section 1.5 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the property.

In general, observations should be made during any future site development for areas of possible contamination such as, but not limited to, the presence of underground facilities, buried debris, waste drums, and tanks, staining soil or odorous soils. Should such materials be encountered, further investigation and analysis may be necessary at that time.

1.0 INTRODUCTION

1.1 Authorization

Leighton and Associates, Inc. (Leighton) performed a Phase I Environmental Site Assessment (ESA) of the subject site, Assessor Parcel Numbers (APN's) 472-170-003, 472-170-008, and 472-180-003 in the French Valley Area, Unincorporated Riverside County, California, (collectively referred to as the "subject site" – Figure 1) in accordance with The Garrett Group, LLC's authorization.

1.2 Purpose

The purpose of the Phase I ESA was to identify, to the extent feasible pursuant to the processes prescribed in ASTM International (ASTM) E1527-05, recognized environmental conditions in connection with the subject site. Recognized environmental conditions are defined as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimus conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimus are not recognized environmental conditions" (ASTM 1527-05, 2005).

1.3 Scope of Work

The scope of work was performed in accordance with Leighton's proposal and included the following tasks:

- A reconnaissance-level visit of the subject site for evidence of the release(s) of hazardous materials and petroleum products and to assess the potential for onsite releases of hazardous materials and petroleum products;
- Records Review (including review of previous environmental reports, selected governmental databases, and historical review);
- Interviews; and
- Preparation of a report presenting our findings.

1.4 Significant Assumptions

Leighton assumes that the purpose of this Phase I ESA is to provide appropriate inquiry into the previous ownership and use of the subject site so that the Client may qualify for the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) landowner liability protections as defined in CERCLA, 42 USC §9601(35)(B). Leighton also assumes that the information provided by the Client and its agents, regulatory database provider, and regulatory agencies is true and reliable.

1.5 Limitations and Exceptions

Site-specific activities performed by Leighton and information collected regarding these activities are summarized in the following sections. The findings of this Phase I ESA are presented in Section 7.0. Opinions, and conclusions drawn by Leighton, based on the information collected as part of the Phase I ESA, are presented in Sections 8.0 and 9.0, respectively.

This Phase I ESA was conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions.

The observations and conclusions presented in this report are professional opinions based on the scope of activities, work schedule, and information obtained through the Phase I ESA described herein. Opinions presented herein apply to site conditions existing at the time of our study and cannot necessarily be taken to apply to site conditions or changes that we are not aware of or have not had the opportunity to evaluate. It must be recognized that conclusions drawn from these data are limited to the amount, type, distribution, and integrity of the information collected at the time of the investigation, the methods utilized to collect and evaluate the data, and that a full and complete determination of environmental risks cannot be made. Although Leighton has taken steps to obtain true copies of available information, we make no representation or warranty with respect to the accuracy or completeness of this information.

This practice does not address whether requirements in addition to all appropriate inquiry have been met in order to qualify for the landowner liability protections including the continuing obligation not to impede the integrity and effectiveness of activity and use limitations, or the duty to take reasonable steps to prevent releases, or the duty to comply with legally required release reporting obligations. Users should also be aware that there

are likely to be other legal obligations with regard to hazardous substances or petroleum products discovered on the subject site that are not addressed in this practice and that may pose risks of civil and/or criminal sanctions for non-compliance.

1.6 Special Terms and Conditions

The scope of work for this Phase I ESA did not include testing of electrical equipment for the presence of polychlorinated biphenyls (PCBs) or collection of other environmental samples such as air, water, building materials, or paint; assessment of natural hazards such as naturally occurring asbestos, radon gas or methane gas; assessment of the potential presence of radionuclides; or assessment of nonchemical hazards such as the potential for damage from earthquakes or floods, or the presence of endangered species or wildlife habitats. This Phase I ESA also did not include an extensive assessment of the environmental compliance status of the subject site or of businesses operating at the subject site, or a health-based risk assessment.

1.7 User Reliance

This report is for the exclusive use of The Garrett Group, LLC and the County of Riverside. Use of this report by any other party shall be at such party's sole risk.

1.8 Important Information About Geoenvironmental Reports

Users of this report are referred to Appendix G regarding important information provided by the Associated Soil and Foundation Engineers (ASFE) on geoenvironmental studies and reports.

2.0 SITE DESCRIPTION

2.1 Location and Legal Description

The subject site consists of vacant land located northeast of Fields Drive and Metropolitan Water District (MWD) canal, in the French Valley Area, Unincorporated area of Riverside County, California (Figure 1). The County of Riverside Assessor's office designates the subject site as Assessor Parcel Numbers (APNs) 472-170-003, 472-170-008, and 472-180-003. Addresses were not found to be associated with the subject site.

A legal description is provided in the preliminary title report supplied by The Garrett Group and prepared by First American Title Company located in Appendix D. It should be noted that the preliminary title report included additional assessor parcel numbers which are not associated with the subject site.

2.2 Site and Vicinity General Characteristics

This area is comprised primarily of undeveloped land and rural residential properties.

2.3 Current Use of the Subject Site

The subject site currently consists of approximately 66 acres of undeveloped vacant land (Photos 1 through 8, Appendix B).

2.4 Descriptions of Structures, Roads and Other Improvements on the Site

Structures were not noted on the subject site. Access to the property was provided from Fields Drive. An earthen road is located onsite.

The subject site is currently vacant and utilities do not appear to be connected. However, the following utilities could provide future service to the subject site:

Natural Gas	:	Southern California Gas Company
Source of Potable Water	:	Eastern Municipal Water District (EMWD)
Electric	:	Southern California Edison
Sewage Disposal	:	EMWD
Solid Waste Disposal	:	Waste Management
Heating and/or Cooling System:		Not Applicable

2.5 Current Uses of Adjoining Properties

The subject site is currently bordered on the north and south by vacant, undeveloped land. Adjacent to the east are residential structures. Adjacent to the west is the Metropolitan Water District (MWD) canal.

3.0 USER PROVIDED INFORMATION

The user of this Phase I ESA is identified as the Garrett Group, LLC. As a part of the ASTM 1527-05 process, Mr. Will Rogers, Project Manager for The Garrett Group, LLC, completed a questionnaire on the property. A copy of this questionnaire is provided in Appendix D.

3.1 Title Records

According to the preliminary title report supplied by The Garrett Group and prepared by First American Title Company on January 16, 2008, the property is owned by Paul Garrett, trustee of the Paul Garrett 1994 Revocable Trust, as to Parcels A and B and PG Acquisitions LLC, a California Limited Liability Company, as to Parcel C. Evidence of environmental liens was not noted in the preliminary title report. The legal description of the subject site can be found in the title report provided in Appendix D. It should be noted that the preliminary title report included additional assessor parcel numbers which are not associated with the subject site.

3.2 Environmental Liens or Activity and Use Limitations

The Garrett Group, LLC indicated that they are not aware of environment liens or activity or land use limitations for the subject site.

3.3 Specialized Knowledge

The Garrett Group, LLC indicated that they do not have any specialized knowledge or experience related to the property or nearby properties.

3.4 Commonly Known or Reasonably Ascertainable Information

The Garrett Group, LLC indicated that they were not aware of commonly known or reasonably ascertainable information about the property.

3.5 Valuation Reduction for Environmental Issues

The Garrett Group, LLC indicated that they were not aware of valuation reduction due to environmental contamination on the property.

3.6 Owner, Property Manager, and Occupant Information

According to the interview form completed by Mr. Will Rogers of The Garrett Group, LLC, the property is currently owned by Garrett Holding, LLC. A copy of this questionnaire is provided in Appendix D.

3.7 Reason for Performing Phase I

According to The Garrett Group, LLC, the reason for requesting this Phase I ESA is based on The Garrett Group, LLC requesting a foundation change from Riverside County.

3.8 Other

Additional information was not supplied by The Garrett Group.

4.0 RECORDS REVIEW

4.1 Standard Environmental Record Sources

A search of selected government databases was conducted by Leighton using Track Info Services, Environmental FirstSearch™ Report. The report meets the government records search requirements of ASTM E1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, including a review of tribal records. The database listings were reviewed within the specified radii established by the ASTM E1527-05. Details of the database search along with descriptions of each database researched are provided in the FirstSearch report (Appendix C).

4.1.1 Site

The subject site was not identified on the FirstSearch™ report.

4.1.2 Offsite

Adjacent properties were not listed within the FirstSearch™ report.

Several properties were listed within FirstSearch™ report as "non geocoded," meaning unmapped listings. Non geocoded properties are properties without a complete street address and therefore cannot be located on a map. Leighton reviewed these listings to evaluate if the properties were possibly located near the subject site. There were no listings found to be located near the subject site by utilizing the Department of Toxic Substances Control (DTSC), online Envirostor database and the State Water Resources Control Board (SWRCB) online Geotracker database.

Based on information provided in the FirstSearch™ report, Envirostor, Geotracker, and area reconnaissance, these unmapped sites are unlikely to have the potential to adversely impact the subject site.

4.2 Additional Environmental Record Sources

Leighton requested regulatory records from the following agencies. It should be noted that the subject site does not have a physical address; therefore, APNs, a Thomas Guide Map, and an address range were utilized. It is Leighton experience that records often

cannot be found without a site address. Copies of the records requests and associated responses can be found in Appendix F.

On December 26, 2007, a file review request was forwarded to the Riverside County Department of Environmental Health via facsimile. Per a letter dated February 4, 2008, Ms. Suzanne Cauffiel, the Records Clerk for the Riverside County Department of Environmental Health indicated that records were not found for the subject site.

On December 26, 2007, a file review request was forwarded to the Department of Toxic Substances Control (DTSC), Glendale Office via facsimile. Per a letter dated January 1, 2008, Ms. Jone Barrio, the Regional Records Coordinator for the DTSC Glendale Office, indicated that records were not found for the subject site.

On December 26, 2007, a file review request was forwarded to the DTSC, Cypress Office via facsimile. Per a letter dated December 28, 2007, Ms. Julie Johnson, the Regional Records Coordinator for the DTSC Cypress Office, indicated that records were not found for the subject site.

On December 26, 2007, a file review request was forwarded to the California Office of the State Fire Marshall via facsimile for information on pipelines on the subject site. Per an email dated January 4, 2008, Ms. Lisa Dowdy of the California Office of the State Fire Marshal indicated that there are no pipelines jurisdictional to the state fire marshal in the subject site.

In 1990, the State of California (1990) conducted a radon survey in the state. The results of the survey indicate that for the 182 samples obtained from residential homes in Region 9, which includes Riverside County, the arithmetic mean radon levels were 0.6 PicoCuries per liter of air (pCi/l). This average total is below the U. S. EPA radon action level of 4 pCi/l of air.

4.3 Physical Setting Source(s)

Leighton reviewed pertinent maps and readily available literature for information on the physiography and hydrogeology of the subject site. A summary of this information is presented in the following subsections.

4.3.1 Topography

The subject site is located in Township 6 South, Range 2 West, Section 27 in the area of French Valley, unincorporated area of Riverside County, California. Topographic map coverage of the site vicinity is provided by the United States Geological Survey (USGS) "Winchester, California" Quadrangle (1979). Structures, tanks, or wells were not depicted on the subject site. The elevation of the subject site ranges from approximately 1,447 feet to 1,642 feet above mean sea level.

4.3.2 Surface Water

No bodies of water were noted on the subject site. The Metropolitan Water District (MWD) canal is located adjacent to the west of the subject site. A review of the Winchester USGS Map and the site reconnaissance indicated that the surface water flows in several directions, generally following topography. According to information provided by Riverside County Geographical Information Systems (GIS), the subject site is not located within a 100 year flood plain.

4.3.3 Geology and Soils

Leighton prepared an Update Geotechnical Investigation for a nearby site in January 9, 2007. According to this report, the subject site is located within a prominent natural geomorphic province in southwestern California known as the Peninsular Ranges. This province is characterized by steep, elongated ranges and valleys that generally trend northwestward. Tectonic activity along the numerous faults in the region has created the geomorphology present today. Specifically, the property is situated in the southern portion of the Perris Block, a stable, eroded mass of Cretaceous and older crystalline and metamorphic rock. Thin sedimentary, metamorphic, and volcanic units locally mantle the bedrock with alluvial deposits filling in the lower valley and drainage areas. The Perris Block is bounded by the San Jacinto fault zone to the northeast, the Elsinore fault zone to the southwest, the Cucamonga fault zone to the northwest and the poorly-defined northern boundary of the Temecula basin to the southeast. The Temecula segment of the active Lake Elsinore Fault Zone is approximately 9 miles to the southwest of the site (Leighton, 2007).

4.3.4 Hydrogeology

Site specific groundwater information was not available for the subject site. It is assumed that groundwater flow would generally follow topography.

4.3.5 Oil and Gas Fields

Leighton reviewed the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, Regional Wildcat Map, W1-7 dated December 18, 2007. Oil or gas wells were not identified onsite. In addition, evidence of onsite oil or gas wells or oilfield-related facilities was not observed on the subject site during our reconnaissance.

4.4 Historical Use Information on the Property

Leighton reviewed selected historical information on the subject site. These references were reviewed for evidence of activities which would suggest the potential presence of hazardous substances at the subject site and to evaluate the potential for the subject site to be impacted by offsite sources of contamination. The following paragraphs are a chronological summary of the review.

4.4.1 Aerial Photographs

Historical aerial photographs were reviewed for information regarding past site uses. Aerial photographs were reviewed for the following years: 1938, 1953, 1967, 1976, 1980, 1994, and 2002. References are provided in Appendix A and copies of the aerial photographs are included in Appendix E.

In the **1938** aerial photograph, the subject site was observed to be vacant and undeveloped. Surrounding properties to the south and west may be utilized for agricultural or dry farming purposes.

In the **1953** aerial photograph, there are no significant changes to the subject site or surrounding properties with the exception of an area to the northeast and south east which appears to have been cleared of vegetation.

In the **1967** aerial photograph, the subject site was observed to be vacant, undeveloped land. The Metropolitan Water District canal was observed on the

adjacent property to the west. There were no apparent changes observed on the adjacent properties to the north, east, or south.

In the **1976 a**erial photograph, the subject site was observed to be vacant, undeveloped land with the present day dirt road traversing on the southeastern portion of the subject site. Adjacent properties to the north, east, and south were observed to be vacant, undeveloped land. The adjacent property to the west, beyond the Metropolitan Water District canal, appears to be cleared of vegetation and possibly utilized for dry farming.

In the **1980** aerial photograph, the subject site appears to be unchanged. The adjacent property to the east appears to have been developed with some of the present day residential structures. Adjacent to the north and south is vacant, undeveloped land. Adjacent to the west is the Metropolitan Water District canal.

In the **1994** aerial photograph, there are no apparent changes on the subject site or surrounding properties except that additional residential structures were observed on adjacent properties to the east and southeast of the subject site.

In the **2002** aerial photograph, there are no apparent changes on the subject site or surrounding properties except the present day dirt road traversing on the southeastern portion of the subject site is observed to have expanded in a northerly direction. In addition, an increased amount of residential structures were observed to the east and southeast of the subject site.

4.4.2 Fire Insurance Maps

Fire insurance maps, or Sanborn® maps, are detailed city plans showing building footprints, construction details, use of structure, street address, etc. The maps were designed to assist fire insurance agents in determining the degree of hazard associated with a particular property. Sanborn Maps were produced from approximately 1867 to the present for commercial, industrial, and residential sections of approximately 12,000 cities and towns in the United States.

It is Leighton's experience that Sanborn Maps are only published for developed areas, therefore there is likely no coverage for the subject site.

4.4.3 Historical Topographic Maps

Historical topographic maps were reviewed for information regarding past subject site uses. Topographic map coverage of the site vicinity is provided by Track Info Services "Winchester" Quadrangle dates 1943, 1953, 1953 photorevised 1973, and 1953 photorevised 1979. References are provided in Appendix A and copies of the maps have been provided in Appendix E.

1943: Structures, tanks, or wells were not depicted on the subject site or adjacent properties. An unimproved road and a intermittent stream are depicted on the southern boundary of the subject site.

1953: Significant changes were not depicted on the subject site or surrounding properties.

1973: Significant changes were not depicted on the subject site or surrounding properties. However, the Metropolitan Water District canal is depicted on the western boundary of the subject site.

1979: Significant changes were not depicted on the subject site or surrounding properties.

4.4.4 Historical City Directories

Without a physical address for the subject property, city directories could not be reviewed. It is Leighton's opinion that since the property is vacant and located in a rural area, that city directories are not published for the site vicinity.

4.4.5 Building Department, Zoning and/or Land Use Records

The subject site does not have a physical address and no structures were evident during our historical review and area reconnaissance. Therefore, building department records were not able to be researched as these records are filed by site address.

4.4.6 Other Historical Sources

Other historical sources were not reviewed as a part of this Phase I ESA.

4.4.7 Summary of Historical Land Use

Based on historical records, land usage is summarized as follows:

Time Period	Land Usage	Reference
Prior to 1938	Unknown	Not available
1938 to present	Vacant, undeveloped land	Aerial photographs Topographic Maps Interviews Site Reconnaissance

5.0 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

On December 21, 2007, a representative of Leighton conducted a reconnaissance-level assessment of the subject site. The site reconnaissance consisted of the observation and documentation of existing site conditions and nature of the neighboring property development within ¼ mile of the subject site. Photographs of the subject site are presented in Appendix B and their view directions are noted on Figure 2. Items noted during the site reconnaissance are also noted on Figure 2.

5.2 General Site Setting

The subject site currently consists of approximately 66 acres of undeveloped vacant land (Photos 1 through 8, Appendix B). Structures were not noted on the subject site. Access to the property was provided from Fields Drive. An earthen road is located onsite.

5.3 Exterior and Interior Observations

5.3.1 Hazardous Substances, Drums, and Other Chemical Containers

Storage of hazardous or regulated substance containers was not observed on the subject site.

5.3.2 Storage Tanks

Evidence of underground storage tanks (USTs), such as vent lines, fill or overfill ports, or aboveground storage tanks (ASTs) were not observed on the subject site.

5.3.3 Polychlorinated Biphenyls (PCBs)

Visual evidence of PCBs was not observed on the subject site. There were no aboveground utility lines, poles, or transformers observed on the subject site.

5.3.4 Waste Disposal

As the subject site is vacant land, there is currently no waste disposal service.

5.3.5 Dumping

Debris or dumping was not observed on the subject site.

5.3.6 Pits, Ponds, Lagoons, Septic Systems, Wastewater, Drains, Cisterns, and Sumps

Evidence of pits, ponds, lagoons, wastewater, sumps, drains, cisterns, and septic systems were not observed at the subject site.

5.3.7 Pesticide Use

Pesticides were not observed during our site reconnaissance.

5.3.8 Staining, Discolored Soils, Corrosion

Evidence of staining and discolored soils was not observed on the subject site.

5.3.9 Stressed Vegetation

Stressed vegetation was not observed on the subject site.

5.3.10 Unusual Odors

Unusual odors were not detected on the subject site.

5.3.11 Onsite Wells

Oil, gas production, or ground water monitoring wells was not observed or reported at or adjacent to the subject site.

5.3.12 Asbestos

An asbestos survey was not conducted as a part of this investigation.

5.3.13 Lead-Based Paint

A lead based paint survey was not conducted as a part of this investigation.

6.0 INTERVIEWS

Leighton conducted interviews with persons having knowledge of current or past subject site usage. Interviews were conducted either orally or in the form of a written questionnaire. Written responses are included as Appendix D.

6.1 Interview with Owner

Leighton gave our Standard Phase I ESA Owner/Site Contact Interview Form to the current owner representative Mr. Will Rogers on January 3, 2008. Leighton received the completed interview form via email on January 4, 2008. Mr. Rogers, employee of the owner (Garrett Holding, LLC) of the subject site, completed the interview form and stated that the property has been owned since 2002. Mr. Rogers also indicated the subject site was vacant land with no structures. Mr. Rogers was not aware of the previous owner or of any environmental concerns associated with the subject site or surrounding properties. Mr. Rogers stated that his answers were based on his knowledge since Garrett Holding, LLC assumed ownership in 2002.

6.2 Interview with Site/Property Manager

Leighton did not interview the site or property manager as the property is not occupied.

6.3 Interviews with Occupants

There are no occupants associated with the subject site.

6.4 Interviews with Local Government Officials

Leighton did not interview employees with local government agencies to request information regarding historic and current uses of the subject site with the exception of those noted in Section 4.2.

6.5 Interviews with Others

Leighton did not conduct any other interviews for this Phase I ESA.

7.0 FINDINGS

Leighton performed a Phase I ESA of APN's 472-170-003, 472-170-008, and 472-180-003, in French Valley Area, Unincorporated Riverside County, California, in accordance with the Garrett Group, LLC authorization.

7.1 Onsite

The subject site currently, and historically, has consisted of approximately 66 acres of vacant, undeveloped land (Photos 1 through 8, Appendix B). Improvements were not noted on the subject site. Entry to the property from Fields Drive allowed for easy access to the subject site (Figure 2). Debris or rubbish dumping was not observed on the subject site.

A search of selected government databases was conducted by Leighton using Track Info Services, LLC, Environmental FirstSearch™ Report. Regulatory database lists were reviewed for cases pertaining to leaking underground storage tanks (USTs); aboveground storage tanks (ASTs), hazardous waste sites, and abandoned sites within the specified radii of standards established by the ASTM E1527-05. The subject site was not identified within the Environmental FirstSearch™ Report.

7.2 Offsite

The subject site is currently bordered on the north and south by vacant, undeveloped land. Adjacent to the east are residential structures. Adjacent to the west is the Metropolitan Water District (MWD) canal.

Historically, the adjacent properties were vacant land. Adjacent properties to the south and southwest may have been utilized for dry farming purposes.

Surrounding properties of environmental concern were not identified on the FirstSearch™ report or on the Geotracker database.

7.3 Data Gaps

Data gaps were identified by Leighton.

- Historical records prior to 1938 were not available.

It is Leighton's opinion that the data gaps described above will not impact the conclusions and recommendations regarding the subject property.

8.0 OPINION

8.1 Onsite

No onsite recognized environmental conditions were identified that would negatively impact the subject property.

8.2 Offsite

Adjacent properties were not noted have a potential to adversely effect to the subject site.

9.0 CONCLUSIONS

Leighton performed a Phase I ESA for the subject site in conformance with the scope and limitations of ASTM Practice E1527-05 of the subject site. Any exceptions to, or deletions from, this practice are described in Section 1.5 of this report. This assessment has revealed no evidence of recognized environmental conditions.

In general, observations should be made during any future site development for areas of possible contamination such as, but not limited to, the presence of underground facilities, buried debris, waste drums, and tanks, staining soil or odorous soils. Should such materials be encountered, further investigation and analysis may be necessary at that time.

10.0 DEVIATIONS

Leighton did not deviate from or alter the scope of work, as defined in Section 1.3 of this report.

11.0 ADDITIONAL SERVICES

Leighton did not perform any work outside the scope of work as defined in Section 1.3 of this report.

12.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

12.1 Corporate

Leighton and Associates, Inc. is a California corporation, providing geotechnical and environmental consulting services throughout California. We are solely a consulting firm without interests in real property other than our nine offices in Southern California. We provide professional environmental consulting services including application of science and engineering to environmental compliance, hazardous materials/waste assessment and cleanup, and management of hazardous, solid and industrial waste. Phase I Environmental Site Assessments are a part of this practice area and have been conducted by us.

12.2 Individual

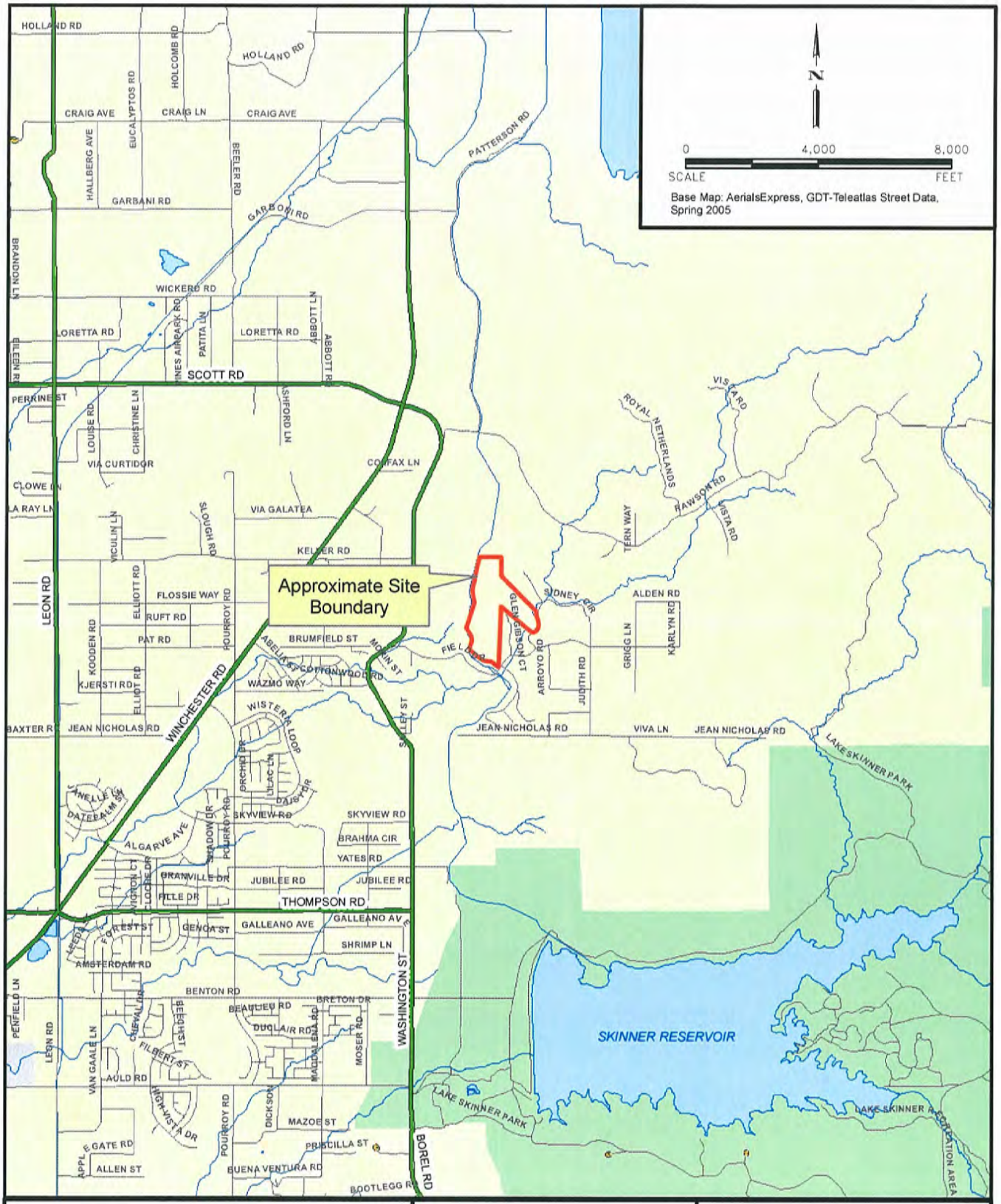
The qualifications of the Project Manager and the other Leighton environmental professionals involved in this Phase I ESA meet the Leighton corporate requirements for performing Phase I ESAs as specified by ASTM 1527-05.

12.3 Environmental Professional Statement

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental professional as defined by §312.10 of 40 CFR Part 312.

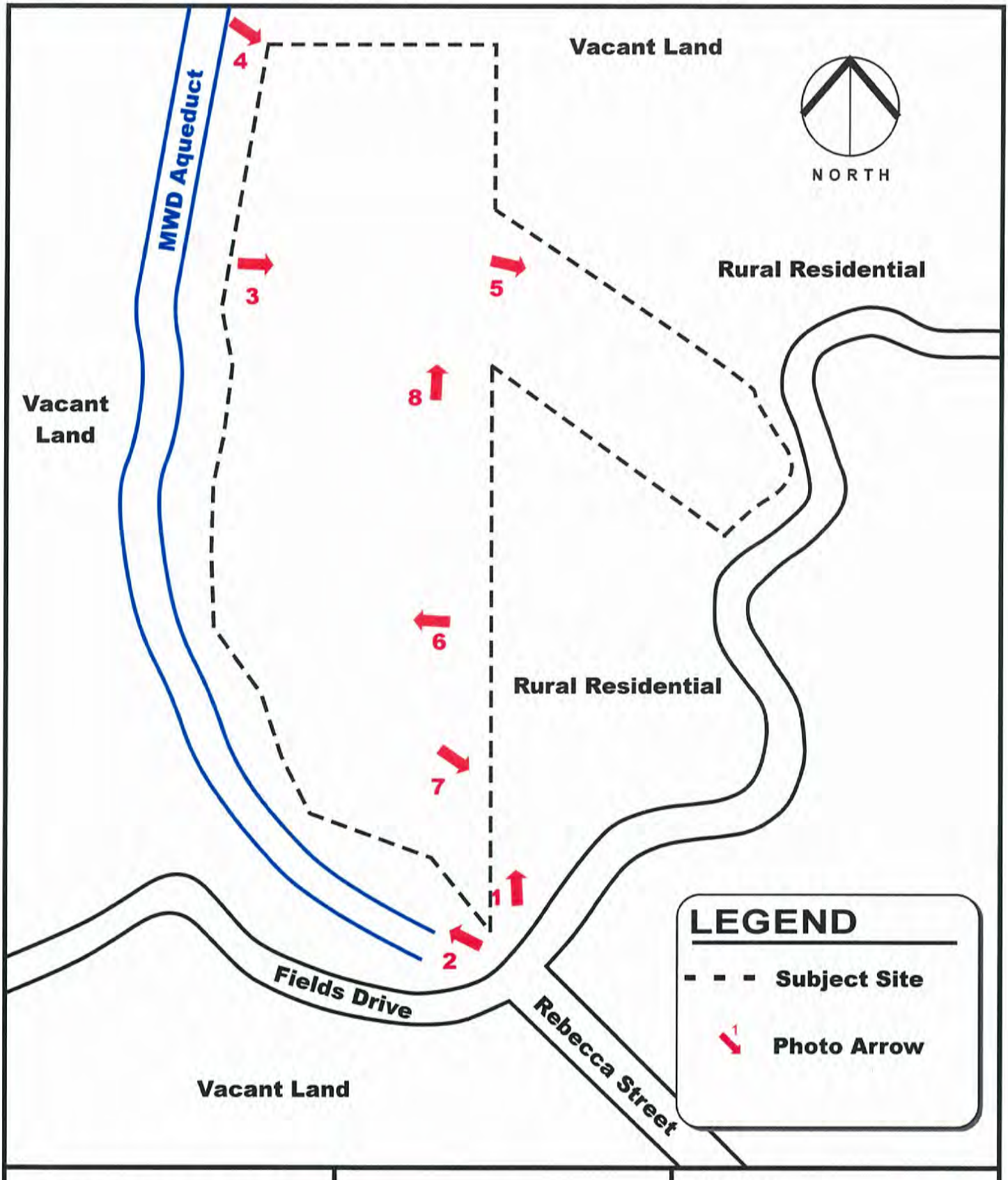
I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Kristin Stout, REA I
Senior Project Scientist



French Valley East **County of Riverside** **California**	**SITE LOCATION MAP**	Project No. **112304-001** Date **March 2008** Figure 1

\\GIS\Drafting\112304\001\of_2007-01-08\fig1sitelocation.mxd



FRENCH VALLEY EAST

COUNTY OF RIVERSIDE, CALIFORNIA

SITE PLAN

Project No.
112304001

Date
March 2008

Figure 2

APPENDIX A

References

American Society for Testing and Materials, ASTM, 2005, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E1527-05, dated November 1, 2005.

Department of Conservation, Division of Oil, Gas, and Geothermal Resources, Regional Wildcat Map, W1-7, December 18, 2007.

Department of Toxic Substances Control, Envirostor online database, December 21, 2007.

First American Title Company, Preliminary Report, January 16, 2008.

Leighton and Associates, Inc., Update Geotechnical Investigation, French Valley South – Tract 30837, in the French Valley Area, Riverside, California, Project No. 112042002, January 9, 2007.

Track Info Services, LLC, Aerial Photo Package, January 4, 2008:

Date	Photo Identification Number	Scale	Source
1938	NA	1:1,666	Track Info Services, LLC
1953	NA	1:1,666	Track Info Services, LLC
1967	NA	1:1,666	Track Info Services, LLC
1976	NA	1:3,000	Track Info Services, LLC
1980	NA	1:3,000	Track Info Services, LLC
1994	NA	1:3,333	Track Info Services, LLC
2002	NA	1:3,333	Track Info Services, LLC

Track Info Services, LLC, Environmental First Search Report, December 21, 2007.

The Track Info Services, LLC, Historical Topographic Map Package, December 26, 2007.

State Water Resources Control Board, Geotracker online database, January 2, 2008.

SITE PHOTOS

PHOTO NO. 1:

North facing view of the subject site entrance from Fields Drive and Rebecca Street.

PHOTO NO. 2:

Northwest facing view Metropolitan Water District aqueduct which is located offsite, west of the subject site. This is a view from the entrance of the subject site.

SITE PHOTOS

PHOTO NO. 3:
East facing view of the subject site.

PHOTO NO. 4:
Southeast facing view of the subject site from the northwest corner.

SITE PHOTOS

PHOTO NO. 5:

East facing view of APN 472-170-008 and adjacent property from a high point on the subject site.

PHOTO NO. 6:

West facing view from a high point on the subject site.

PHOTO NO. 7:
Southeast facing view of adjacent property from the southern edge of the subject site.

PHOTO NO. 8:
North facing view of the subject site.

TRACK ➤ INFO SERVICES, LLC

Environmental FirstSearch™ Report

Target Property:

WINCHESTER ROAD

MURRIETA CA 92563

Job Number: P61100414

PREPARED FOR:

Leighton

41715 Enterprise Circle North Suite 103

Temecual, Ca 92590

12-21-07

Tel: (866) 664-9981 *Fax: (818) 249-4227*

Environmental FirstSearch
Search Summary Report

Target Site: WINCHESTER ROAD
MURRIETA CA 92563

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	12-09-07	1.00	0	0	0	0	0	0	0
NPL Delisted	Y	12-09-07	0.50	0	0	0	0	-	0	0
CERCLIS	Y	10-08-07	0.50	0	0	0	0	-	0	0
NFRAP	Y	10-08-07	0.50	0	0	0	0	-	0	0
RCRA COR ACT	Y	06-06-06	1.00	0	0	0	0	0	0	0
RCRA TSD	Y	06-06-06	0.50	0	0	0	0	-	0	0
RCRA GEN	Y	06-06-06	0.25	0	0	0	-	-	2	2
RCRA NLR	Y	06-06-06	0.12	0	0	-	-	-	0	0
Federal IC / EC	Y	11-20-07	0.25	0	0	0	-	-	0	0
ERNS	Y	12-31-06	0.12	0	0	-	-	-	3	3
Tribal Lands	Y	12-01-05	1.00	0	0	0	0	0	0	0
State/Tribal Sites	Y	08-08-07	1.00	0	0	0	0	0	4	4
State Spills 90	Y	11-06-07	0.12	0	0	-	-	-	0	0
State/Tribal SWL	Y	09-24-07	0.50	0	0	0	0	-	1	1
State/Tribal LUST	Y	10-18-07	0.50	0	0	0	0	-	3	3
State/Tribal UST/AST	Y	01-03-07	0.25	0	0	0	-	-	1	1
State/Tribal EC	Y	NA	0.25	0	0	0	-	-	0	0
State/Tribal IC	Y	04-27-07	0.25	0	0	0	-	-	0	0
State/Tribal VCP	Y	08-15-06	0.50	0	0	0	0	-	0	0
State/Tribal Brownfields	Y	08-08-07	0.50	0	0	0	0	-	0	0
State Permits	Y	03-29-07	0.25	0	0	0	-	-	0	0
State Other	Y	08-08-07	0.25	0	0	0	-	-	9	9
- TOTALS -				0	0	0	0	0	23	23

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to TRACK Info Services, certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in TRACK Info Services's databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although TRACK Info Services uses its best efforts to research the actual location of each site, TRACK Info Services does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of TRACK Info Services's services proceeding are signifying an understanding of TRACK Info Services's searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

Environmental FirstSearch
Site Information Report

Request Date: 12-21-07
Requestor Name: Abraham Marquez
Standard: ASTM-05

Search Type: COORD
Job Number: P61100414

Target Site: WINCHESTER ROAD
MURRIETA CA 92563

Demographics

Sites: 23 **Non-Geocoded:** 23 **Population:** NA
Radon: NA

Site Location

	Degrees (Decimal)	Degrees (Min/Sec)		UTMs
Longitude:	-117.076177	-117:4:34	**Easting:**	492933.988
Latitude:	33.621188	33:37:16	**Northing:**	3719964.729
			Zone:	11

Comment

Comment:

Additional Requests/Services

Adjacent ZIP Codes: 1 Mile(s)

ZIP Code	City Name	ST	Dist/Dir	Sel
92596	WINCHESTER	CA	0.00 --	Y

Services:

	Requested?	Date
Sanborns	No	
Aerial Photographs	Yes	12-21-07
Historical Topos	Yes	12-21-07
City Directories	No	
Title Search/Env Liens	No	
Municipal Reports	No	
Online Topos	No	

Environmental FirstSearch
Sites Summary Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

TOTAL: 23 **GEOCODED:** 0 **NON GEOCODED:** 23 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
1	ERNS	635158/UNKNOWN (EPA REGIONS	JACKSON ST AT NUTMEG ST MURRIETA CA 92563	NON GC	
3	ERNS	634639/UNKNOWN (EPA REGIONS	JACKSON ST AT NUTMEG ST MURRIETA CA 92563	NON GC	
4	ERNS	UNKNOWN 267292/HIGHWAY RELATED	NB 101 NORTH OF WINCHESTER WINCHESTER CA 92596	NON GC	
6	LUST	MWD LAKE SKINNER WORK AREA 6 T0606592022/CASE CLOSED	33740 BOREL ROAD WINCHESTER CA 92596	NON GC	
7	LUST	GTE-MURRIETA PLANT YARD T0606500529/CASE CLOSED	32477 HUAN RD MURRIETA CA	NON GC	
8	LUST	MWD LAKE SKINNER WORK AREA 7 T0606511682	33740 BOREL ROAD WINCHESTER CA 92596	NON GC	
9	OTHER	SUNNY FRESH CLEANERS NO 14 RICOGEN_1793	39605 E LOS ALAMOS RD MURRIETA CA 92563	NON GC	
10	OTHER	SUNNY FRESH CLEANERS CAL33720003/REFER: 1248 LOCAL AG	39605 E. LOS ALAMOS ROAD MURRIETA CA 92563	NON GC	
11	OTHER	THE SCGA MEMBERS CLUB RICOGEN_1777	38415 MURRIETA HOT SPRINGS MURRIETA CA 92563	NON GC	
11	OTHER	WALGREENS 7410 RICOGEN_1720	29910 MURRIETA HOT SPRINGS MURRIETA CA 92563	NON GC	
12	OTHER	ELEMENTARY SCHOOL NO. 10 CAL60000105/NO FURTHER ACTION	BEELER ROAD/PATTON AVENUE WINCHESTER CA 92596	NON GC	
13	OTHER	ESPLANADE ELEMENTARY SCHOOL NO. 11 CAL60000288/NO FURTHER ACTION	ESPLANADE AVENUE/WARREN ROA HEMET CA 92596	NON GC	
14	OTHER	MIDDLE SCHOOL NO. 8 CAL70000027/NO FURTHER ACTION	OLIVE AVENUE AND LONGFELLOW WINCHESTER CA 92596	NON GC	
15	OTHER	WINCHESTER 1800 MIDDLE SCHOOL CAL33010065/NO FURTHER ACTION	WASHINGTON STREET/A STREET TEMECULA CA 92596	NON GC	
16	OTHER	SUNNY FRESH CLEANERS CAL33720001/REFER: 1248 LOCAL AG	39605 E. LOS ALAMOS ROAD, S MURRIETA CA 92563	NON GC	
17	RCRAGN	NORTH ORANGE COAST PAINTING CAR000120980/SGN	WINCHESTER RD 1 MILE E OF H FRENCH VALLEY CA 92563	NON GC	
18	RCRAGN	WINCHESTER WEST GUIDANT WEST CAR000173104/LGN	30590 COCHISE CIRCLE MURRIETA CA 92563	NON GC	
19	STATE	PROPOSED MIDDLE SCHOOL NO. 8 CAL60000662/ACTIVE	NORTHEAST CORNER OF OLIVE A UNINCORPORATED CA 92596	NON GC	
20	STATE	MIDDLE SCHOOL NO. 8 CAL70000027/NO FURTHER ACTION	OLIVE AVENUE AND LONGFELLOW WINCHESTER CA 92596	NON GC	
21	STATE	ESPLANADE ELEMENTARY SCHOOL NO. 11 CAL60000288/NO FURTHER ACTION	ESPLANADE AVENUE/WARREN ROA HEMET CA 92596	NON GC	

Environmental FirstSearch
Sites Summary Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

TOTAL: 23 **GEOCODED:** 0 **NON GEOCODED:** 23 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
22	STATE	ELEMENTARY SCHOOL NO. 10 CAL60000105/NO FURTHER ACTION	BEELER ROAD/PATTON AVENUE WINCHESTER CA 92596	NON GC	
23	SWL	AGRISCAPE, INCORPORATED SWIS33-AA-0307/ACTIVE	18712 BRIDGE STREET LAKEVIEW CA 92563	NON GC	
24	UST	RANCHO CALIF COUNTRY CLUB TISID-STATE36617/ACTIVE	29480 MURRIETA HOT SPRINGS MURRIETA CA 92563	NON GC	

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

EMERGENCY RESPONSE NOTIFICATION SITE

SEARCH ID: 3 **DIST/DIR:** NON GC **MAP ID:**

NAME:
ADDRESS: JACKSON ST AT NUTMEG ST
MURRIETA CA 92563
Riverside
CONTACT:

REV: 4/8/99
ID1: 635158
ID2:
STATUS: UNKNOWN (EPA REGIONS)
PHONE:

SPILL INFORMATION
DATE OF SPILL: 4/8/1999 **TIME OF SPILL:** 1905

PRODUCT RELEASED (1): flammable liquid NOS
QUANTITY (1): 3
UNITS (1): GAL

PRODUCT RELEASED (2):
QUANTITY (2):
UNITS (2):

PRODUCT RELEASED (3):
QUANTITY (3):
UNITS (3):

MEDIUM/MEDIA AFFECTED

AIR:	NO	**GROUNDWATER:**	NO
LAND:	YES	**FIXED FACILITY:**	NO
WATER:	NO	**OTHER:**	NO

WATERBODY AFFECTED BY RELEASE:

CAUSE OF RELEASE

DUMPING:	YES	**EQUIPMENT FAILURE:**	NO
NATURAL PHENOMENON:	NO	**OPERATOR ERROR:**	NO
OTHER CAUSE:	NO	**TRANSP. ACCIDENT:**	NO
UNKNOWN:	NO		

ACTIONS TAKEN: Cleanup by: Co. Health
RELEASE DETECTION: Refinery Abandoned at roadside.
MISC. NOTES: OES Notification:AA/CUPA Previous Case : 99-1562

DISCHARGER INFORMATION
DISCHARGER ID: 635158 **DUN and BRADSTREET :**
TYPE OF DISCHARGER:
NAME OF DISCHARGER:
ADDRESS:
CA

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

EMERGENCY RESPONSE NOTIFICATION SITE

SEARCH ID: 4 **DIST/DIR:** NON GC **MAP ID:**

NAME:
ADDRESS: JACKSON ST AT NUTMEG ST
MURRIETA CA 92563
Riverside
CONTACT:

REV: 4/8/99
ID1: 634639
ID2:
STATUS: UNKNOWN (EPA REGIONS)
PHONE:

SPILL INFORMATION
DATE OF SPILL: 4/8/1999 **TIME OF SPILL:** 1905

PRODUCT RELEASED (1): FLAMMABLE LIQUID NOS
QUANTITY (1): 3
UNITS (1): GAL

PRODUCT RELEASED (2):
QUANTITY (2):
UNITS (2):

PRODUCT RELEASED (3):
QUANTITY (3):
UNITS (3):

MEDIUM/MEDIA AFFECTED

AIR:	NO	**GROUNDWATER:**	NO
LAND:	NO	**FIXED FACILITY:**	NO
WATER:	NO	**OTHER:**	NO

WATERBODY AFFECTED BY RELEASE:

CAUSE OF RELEASE

DUMPING:	NO	**EQUIPMENT FAILURE:**	NO
NATURAL PHENOMENON:	NO	**OPERATOR ERROR:**	NO
OTHER CAUSE:	NO	**TRANSP. ACCIDENT:**	NO
UNKNOWN:	NO		

ACTIONS TAKEN: Cleanup by: Co. Health
RELEASE DETECTION: Refinery Abandoned at roadside.
MISC. NOTES: OES Notification:AA/CUPA Previous Case : 99-1562

DISCHARGER INFORMATION
DISCHARGER ID: 634639 **DUN and BRADSTREET :**
TYPE OF DISCHARGER:
NAME OF DISCHARGER:
ADDRESS:
CA

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

EMERGENCY RESPONSE NOTIFICATION SITE

SEARCH ID: 5 **DIST/DIR:** NON GC **MAP ID:**

NAME: UNKNOWN
ADDRESS: NB 101 NORTH OF WINCHESTER
WINCHESTER CA 92596
RIVERSIDE
CONTACT:

REV: 5/13/92
ID1: 267292
ID2:
STATUS: HIGHWAY RELATED
PHONE:

SPILL INFORMATION
DATE OF SPILL: 5/13/1992 **TIME OF SPILL:** 0556

PRODUCT RELEASED (1): VALERIC ACID
QUANTITY (1): 2
UNITS (1): BBL

PRODUCT RELEASED (2):
QUANTITY (2):
UNITS (2):

PRODUCT RELEASED (3):
QUANTITY (3):
UNITS (3):

MEDIUM/MEDIA AFFECTED
AIR: NO **GROUNDWATER:** NO
LAND: YES **FIXED FACILITY:** NO
WATER: NO **OTHER:** NO
WATERBODY AFFECTED BY RELEASE:

SPILL INFORMATION
DATE OF SPILL: 5/13/1992 **TIME OF SPILL:** 0556

PRODUCT RELEASED (1): VALERIC ACID
QUANTITY (1): 2
UNITS (1): BBL

PRODUCT RELEASED (2):
QUANTITY (2):
UNITS (2):

PRODUCT RELEASED (3):
QUANTITY (3):
UNITS (3):

MEDIUM/MEDIA AFFECTED
AIR: NO **GROUNDWATER:** NO
LAND: YES **FIXED FACILITY:** NO
WATER: NO **OTHER:** NO
WATERBODY AFFECTED BY RELEASE:

CAUSE OF RELEASE
DUMPING: NO **EQUIPMENT FAILURE:** YES
NATURAL PHENOMENON: NO **OPERATOR ERROR:** NO
OTHER CAUSE: NO **TRANSP. ACCIDENT:** NO
UNKNOWN: NO

- Continued on next page -

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

EMERGENCY RESPONSE NOTIFICATION SITE

SEARCH ID: 5 **DIST/DIR:** NON GC **MAP ID:**

NAME: UNKNOWN
ADDRESS: NB 101 NORTH OF WINCHESTER
WINCHESTER CA 92596
RIVERSIDE
CONTACT:

REV: 5/13/92
ID1: 267292
ID2:
STATUS: HIGHWAY RELATED
PHONE:

ACTIONS TAKEN: NO WATERWAYS, CALTRANS TO CLEANUP
RELEASE DETECTION: FELL OFF TRUCK
MISC. NOTES:

DISCHARGER INFORMATION
DISCHARGER ID: 267292
TYPE OF DISCHARGER: UNKNOWN
NAME OF DISCHARGER: UNKNOWN
ADDRESS:

DUN and BRADSTREET :

CAUSE OF RELEASE

DUMPING:	NO	**EQUIPMENT FAILURE:**	YES
NATURAL PHENOMENON:	NO	**OPERATOR ERROR:**	NO
OTHER CAUSE:	NO	**TRANSP. ACCIDENT:**	NO
UNKNOWN:	NO		

ACTIONS TAKEN: NO WATERWAYS, CALTRANS TO CLEANUP
RELEASE DETECTION: FELL OFF TRUCK
MISC. NOTES:

DISCHARGER INFORMATION
DISCHARGER ID: 267292
TYPE OF DISCHARGER: UNKNOWN
NAME OF DISCHARGER: UNKNOWN
ADDRESS:

DUN and BRADSTREET :

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 22 **DIST/DIR:** NON GC **MAP ID:**

NAME: MWD LAKE SKINNER WORK AREA 6
ADDRESS: 33740 BOREL ROAD
WINCHESTER CA 92596
RIVERSIDE
CONTACT:

REV: 10/18/07
ID1: T0606592022
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD:
LOCAL CASE NUMBER: *200319299*
RESPONSIBLE PARTY: *SHERRY LAI*
ADDRESS OF RESPONSIBLE PARTY: *P.O. BOX 54153*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER:
CASE TYPE: *AQUIFER AFFECTED*
SUBSTANCE LEAKED: *WASTE OIL*
SUBSTANCE QUANTITY:
LEAK CAUSE: *OTHER CAUSE*
LEAK SOURCE: *OTHER*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *2003-05-28*
HOW LEAK WAS STOPPED: *CLOSE TANK*
STOP DATE (blank if not reported): *2002-09-15*
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency):
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency): *CLOS*
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported):
REVIEW DATE (blank if not reported):
DATE OF LEAK CONFIRMATION (blank if not reported): *2003-05-28*
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported): *2003-10-17*
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *2007-07-11*
REPORT DATE (blank if not reported): *2003-05-28*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION (parts per billion):
MTBE SOIL CONCENTRATION (parts per million):
MTBE CNTS: *0*
MTBE FUEL: *0*
MTBE TESTED: *YES*
MTBE CLASS: *

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 21 **DIST/DIR:** NON GC **MAP ID:**

NAME: GTE-MURRIETA PLANT YARD
ADDRESS: 32477 HUAN RD
MURRIETA CA
RIVERSIDE
CONTACT:

REV: 10/18/07
ID1: T0606500529
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *08*
LOCAL CASE NUMBER: *971216*
RESPONSIBLE PARTY: *GTE TELEPHONE OPERATIONS*
ADDRESS OF RESPONSIBLE PARTY: *P.O. BOX 725, CHINO CA 91708*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *0833031937*
CASE TYPE: *SOIL ONLY*
SUBSTANCE LEAKED: *GASOLINE*
SUBSTANCE QUANTITY:
LEAK CAUSE:
LEAK SOURCE:
HOW LEAK WAS DISCOVERED:
DATE DISCOVERED (blank if not reported): *1997-11-18*
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported):
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *EXCAVATE AND DISPOSE- REMOVE CONTAMINATED SOIL AND DISPOSE IN APPROVED SITE*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency): *CLOS*
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported): *1998-07-10*
REVIEW DATE (blank if not reported): *1998-07-10*
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported): *1997-09-22*
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1999-07-14*
REPORT DATE (blank if not reported): *1998-03-06*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration): *1998-06-08*
MTBE GROUNDWATER CONCENTRATION (parts per billion): *EQUAL TO 149(MAX)*
MTBE SOIL CONCENTRATION (parts per million): *EQUAL TO 0.052(MAX)*
MTBE CNTS: *3*
MTBE FUEL: *1*
MTBE TESTED: *YES*
MTBE CLASS: *

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 23 **DIST/DIR:** NON GC **MAP ID:**

NAME: MWD LAKE SKINNER WORK AREA 7
ADDRESS: 33740 BOREL ROAD
WINCHESTER CA 92596
RIVERSIDE
CONTACT:

REV: 10/18/07
ID1: T0606511682
ID2:
STATUS:
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *REGIONAL BOARD*
REGIONAL BOARD: *09*
LOCAL CASE NUMBER: *200319300*
RESPONSIBLE PARTY: *SHERRY LAI*
ADDRESS OF RESPONSIBLE PARTY: *P.O. BOX 54153*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *9UT4162*
CASE TYPE: *AQUIFER AFFECTED*
SUBSTANCE LEAKED: *GASOLINE*
SUBSTANCE QUANTITY:
LEAK CAUSE: *OTHER CAUSE*
LEAK SOURCE: *OTHER*
HOW LEAK WAS DISCOVERED: *NO DESCRIPTION*
DATE DISCOVERED (blank if not reported): *2002-10-01*
HOW LEAK WAS STOPPED: *REMOVE CONTENTS*
STOP DATE (blank if not reported): *2002-10-01*
STATUS:
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency):
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency): *VE*
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported):
REVIEW DATE (blank if not reported):
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported):
REPORT DATE (blank if not reported): *2002-11-13*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION (parts per billion):
MTBE SOIL CONCENTRATION (parts per million):
MTBE CNTS: *0*
MTBE FUEL: *1*
MTBE TESTED: *YES*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

OTHER SITE

SEARCH ID: 13 **DIST/DIR:** NON GC **MAP ID:**

NAME:	SUNNY FRESH CLEANERS NO 14	**REV:**	09/06/05
ADDRESS:	39605 E LOS ALAMOS RD	**ID1:**	RICOGEN_1793
	MURRIETA CA 92563	**ID2:**	
	RIVERSIDE	**STATUS:**	
CONTACT:		**PHONE:**	

RIVERSIDE COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH HAZARDOUS WASTE GENERATORS LIST:

Please Note: The responsible agency does not provide details for these records. For further information on a site or to schedule a file review, please contact the Riverside County Environmental Health Department at the following phone number: (951) 358-5055

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

OTHER SITE

SEARCH ID: 12 **DIST/DIR:** NON GC **MAP ID:**

NAME:	SUNNY FRESH CLEANERS	**REV:**	08/07/07
ADDRESS:	39605 E. LOS ALAMOS ROAD	**ID1:**	CAL33720003
	MURRIETA CA 92563	**ID2:**	
	RIVERSIDE	**STATUS:**	REFER: 1248 LOCAL AGENCY
CONTACT:		**PHONE:**	

GENERAL SITE INFORMATION

Site Type:	*Evaluation*
Status:	*Refer: 1248 Local Agency*
Status Date:	*2004-07-29 00:00:00*
NPL Site:	*NO*
Funding:	*Not Applicable*
Regulatory Agencies Involved:	*NONE SPECIFIED*
Lead Agency:	*NONE SPECIFIED*
Project Manager:	
Supervisor:	*Referred - Not Assigned*
Branch:	*So Cal - Cypress*
Acres:	
Assessor s Parcel Number:	*NONE SPECIFIED*
Past Uses:	*NONE SPECIFIED*
Potential Contaminants:	*NONE SPECIFIED*
Confirmed Contaminants:	*NONE SPECIFIED*
Potential Media Affected:	*NONE SPECIFIED*
Restricted Use:	*NO*
Site Management Required:	*NONE SPECIFIED*
Special Programs Associated with this Site:	

OTHER SITE NAMES (blank below = not reported by agency)

33720003

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

OTHER SITE

SEARCH ID: 14 **DIST/DIR:** NON GC **MAP ID:**

NAME:	THE SCGA MEMBERS CLUB	**REV:**	09/06/05
ADDRESS:	38415 MURRIETA HOT SPRINGS RD	**ID1:**	RICOGEN_1777
	MURRIETA CA 92563	**ID2:**	
	RIVERSIDE	**STATUS:**	
CONTACT:		**PHONE:**	

RIVERSIDE COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH HAZARDOUS WASTE GENERATORS LIST:
Please Note: The responsible agency does not provide details for these records. For further information on a site or to schedule a file review, please contact the Riverside County Environmental Health Department at the following phone number: (951) 358-5055

OTHER SITE

SEARCH ID: 15 **DIST/DIR:** NON GC **MAP ID:**

NAME:	WALGREENS 7410	**REV:**	09/06/05
ADDRESS:	29910 MURRIETA HOT SPRINGS RD	**ID1:**	RICOGEN_1720
	MURRIETA CA 92563	**ID2:**	
	RIVERSIDE	**STATUS:**	
CONTACT:		**PHONE:**	

RIVERSIDE COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH HAZARDOUS WASTE GENERATORS LIST:
Please Note: The responsible agency does not provide details for these records. For further information on a site or to schedule a file review, please contact the Riverside County Environmental Health Department at the following phone number: (951) 358-5055

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

OTHER SITE

SEARCH ID: 16 **DIST/DIR:** NON GC **MAP ID:**

NAME:	ELEMENTARY SCHOOL NO. 10	**REV:**	08/08/07
ADDRESS:	BEELER ROAD/PATTON AVENUE	**ID1:**	CAL60000105
	WINCHESTER CA 92596	**ID2:**	
	RIVERSIDE	**STATUS:**	NO FURTHER ACTION
CONTACT:		**PHONE:**	

GENERAL SITE INFORMATION

Site Type:	*School Investigation*
Status:	*No Further Action*
Status Date:	*2006-06-01 00:00:00*
NPL Site:	*NO*
Funding:	*School District*
Regulatory Agencies Involved:	*SMBRP*
Lead Agency:	*SMBRP*
Project Manager:	*AMIT PATHAK*
Supervisor:	*Shahir Haddad*
Branch:	*School Evaluation - Cypress*
Acres:	*12*
Assessor s Parcel Number:	*461-18-0036*
Past Uses:	*AGRICULTURAL - ROW CROPS*
Potential Media Affected:	*NMA*
Restricted Use:	*NO*
Site Management Required:	*NONE SPECIFIED*
Special Programs Associated with this Site:	*Voluntary Cleanup Program*

OTHER SITE NAMES (blank below = not reported by agency)

HEMET USD-PROPOSED ES NO. 10

Proposed Pleasant Valley Elementary School

461-18-0036

60000105

404639-11

COMPLETED ACTIVITIES AND DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Environmental Oversight Agreement***
Completion Date:	***2005-07-15 00:00:00***
Comments:	
Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Preliminary Endangerment Assessment Report***
Completion Date:	***2006-01-18 00:00:00***
Comments:	*NFA*

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

OTHER SITE

SEARCH ID: 17 **DIST/DIR:** NON GC **MAP ID:**

NAME:	ESPLANADE ELEMENTARY SCHOOL NO. 11	**REV:**	08/08/07
ADDRESS:	ESPLANADE AVENUE/WARREN ROAD	**ID1:**	CAL60000288
	HEMET CA 92596	**ID2:**	
	RIVERSIDE	**STATUS:**	NO FURTHER ACTION
CONTACT:		**PHONE:**	

GENERAL SITE INFORMATION

Site Type:	*School Investigation*
Status:	*No Further Action*
Status Date:	*2006-11-21 00:00:00*
NPL Site:	*NO*
Funding:	*School District*
Regulatory Agencies Involved:	*SMBRP*
Lead Agency:	*SMBRP*
Project Manager:	*ANDREA JUAREZ*
Supervisor:	*Tawfiq Deek*
Branch:	*School Evaluation - Cypress*
Acres:	*12*
Assessor s Parcel Number:	*NONE SPECIFIED*
Past Uses:	*AGRICULTURAL - ROW CROPS*
Potential Media Affected:	*NMA*
Restricted Use:	*NO*
Site Management Required:	*NONE SPECIFIED*
Special Programs Associated with this Site:	

OTHER SITE NAMES (blank below = not reported by agency)

404705-11

60000288

COMPLETED ACTIVITIES AND DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Preliminary Endangerment Assessment Report***
Completion Date:	***2006-10-24 00:00:00***
Comments:	*PEA approved with no further action.*
Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Environmental Oversight Agreement***
Completion Date:	***2006-05-15 00:00:00***
Comments:	

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

OTHER SITE

SEARCH ID: 18 **DIST/DIR:** NON GC **MAP ID:**

NAME:	MIDDLE SCHOOL NO. 8	**REV:**	08/08/07
ADDRESS:	OLIVE AVENUE AND LONGFELLOW STREEET	**ID1:**	CAL70000027
	WINCHESTER CA 92596	**ID2:**	
	RIVERSIDE	**STATUS:**	NO FURTHER ACTION
CONTACT:		**PHONE:**	

GENERAL SITE INFORMATION

Site Type:	*School Investigation*
Status:	*No Further Action*
Status Date:	*2006-03-20 00:00:00*
NPL Site:	*NO*
Funding:	*School District*
Regulatory Agencies Involved:	*SMBRP*
Lead Agency:	*NONE SPECIFIED*
Project Manager:	*RANA GEORGES*
Supervisor:	*Tawfiq Deek*
Branch:	*School Evaluation - Cypress*
Acres:	*23*
Assessor s Parcel Number:	*NONE SPECIFIED*
Past Uses:	*AGRICULTURAL - ROW CROPS*
Potential Media Affected:	*NMA*
Restricted Use:	*NO*
Site Management Required:	*NONE SPECIFIED*
Special Programs Associated with this Site:	

OTHER SITE NAMES (blank below = not reported by agency)

70000027

404646-11

20050027

Hemet Unified School District

COMPLETED ACTIVITIES AND DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Preliminary Endangerment Assessment Report***
Completion Date:	***2006-03-20 00:00:00***
Comments:	*DTSC issued no further action determination.*
Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Environmental Oversight Agreement***
Completion Date:	***2005-08-09 00:00:00***
Comments:	

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

OTHER SITE

SEARCH ID: 19 **DIST/DIR:** NON GC **MAP ID:**

NAME: WINCHESTER 1800 MIDDLE SCHOOL
ADDRESS: WASHINGTON STREET/A STREET
TEMECULA CA 92596
RIVERSIDE
CONTACT:

REV: 08/08/07
ID1: CAL33010065
ID2:
STATUS: NO FURTHER ACTION
PHONE:

GENERAL SITE INFORMATION

Site Type:	*School Investigation*
Status:	*No Further Action*
Status Date:	*2002-09-25 00:00:00*
NPL Site:	*NO*
Funding:	*School District*
Regulatory Agencies Involved:	*DTSC*
Lead Agency:	*NONE SPECIFIED*
Project Manager:	
Supervisor:	*Triss Chesney*
Branch:	*School Evaluation - Cypress*
Acres:	*20*
Assessor s Parcel Number:	*NONE SPECIFIED*
Past Uses:	*AGRICULTURAL - ROW CROPS*
Potential Media Affected:	*NMA*
Restricted Use:	*NO*
Site Management Required:	*NONE SPECIFIED*
Special Programs Associated with this Site:	

OTHER SITE NAMES (blank below = not reported by agency)

33010065

TEMECULA VALLEY UNIFIED SCHOOL DISTRICT

TEMECULA VALLEY USD-WNCHSTR 1800 MIDSCL

WINCHESTER 1800 MIDDLE SCHOOL

404372-11

COMPLETED ACTIVITIES AND DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Environmental Oversight Agreement***
Completion Date:	***2002-09-25 00:00:00***
Comments:	
Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Preliminary Endangerment Assessment Report***
Completion Date:	***2004-02-27 00:00:00***
Comments:	

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

OTHER SITE

SEARCH ID: 11 **DIST/DIR:** NON GC **MAP ID:**

NAME:	SUNNY FRESH CLEANERS	**REV:**	08/07/07
ADDRESS:	39605 E. LOS ALAMOS ROAD, SUITE E	**ID1:**	CAL33720001
	MURRIETA CA 92563	**ID2:**	
	RIVERSIDE	**STATUS:**	REFER: 1248 LOCAL AGENCY
CONTACT:		**PHONE:**	

GENERAL SITE INFORMATION

Site Type:	*Evaluation*
Status:	*Refer: 1248 Local Agency*
Status Date:	*2004-07-29 00:00:00*
NPL Site:	*NO*
Funding:	*Not Applicable*
Regulatory Agencies Involved:	*NONE SPECIFIED*
Lead Agency:	*NONE SPECIFIED*
Project Manager:	
Supervisor:	*Referred - Not Assigned*
Branch:	*So Cal - Cypress*
Acres:	
Assessor s Parcel Number:	*NONE SPECIFIED*
Past Uses:	*NONE SPECIFIED*
Potential Contaminants:	*NONE SPECIFIED*
Confirmed Contaminants:	*NONE SPECIFIED*
Potential Media Affected:	*NONE SPECIFIED*
Restricted Use:	*NO*
Site Management Required:	*NONE SPECIFIED*
Special Programs Associated with this Site:	

OTHER SITE NAMES (blank below = not reported by agency)

33720001

SUMNNY FRESH CLEANERS

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

RCRA GENERATOR SITE

SEARCH ID: 1 **DIST/DIR:** NON GC **MAP ID:**

NAME:	NORTH ORANGE COAST PAINTING	**REV:**	6/6/06
ADDRESS:	WINCHESTER RD 1 MILE E OF HWY	**ID1:**	CAR000120980
	FRENCH VALLEY CA 92563	**ID2:**	
	RIVERSIDE	**STATUS:**	SGN
CONTACT:	JOHN FOTION	**PHONE:**	9092089185

SITE INFORMATION

CONTACT INFORMATION: JOHN FOTION
P O BOX 520
NORCO CA 928600520

PHONE: 9092089185

UNIVERSE INFORMATION:

NAIC INFORMATION

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

HAZARDOUS WASTE INFORMATION:

Ignitable waste

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

RCRA GENERATOR SITE

SEARCH ID: 2 **DIST/DIR:** NON GC **MAP ID:**

NAME:	WINCHESTER WEST GUIDANT WEST	**REV:**	6/6/06
ADDRESS:	30590 COCHISE CIRCLE	**ID1:**	CAR000173104
	MURRIETA CA 92563	**ID2:**	
	RIVERSIDE	**STATUS:**	LGN
CONTACT:	MICHAEL A VOLPONE	**PHONE:**	951-914-2332

SITE INFORMATION

CONTACT INFORMATION: MICHAEL VOLPONE
26531 YNEZ RD M/S T560
TEMECULA CA 92591

PHONE: 951-914-2332

UNIVERSE INFORMATION:

NAIC INFORMATION

339112 - SURGICAL AND MEDICAL INSTRUMENT MANUFACTURING

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

HAZARDOUS WASTE INFORMATION:

Ignitable waste
Corrosive waste
Methanol (I) (OR) Methyl alcohol (I)
The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a to
Chromium

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

STATE

SEARCH ID: 9 **DIST/DIR:** NON GC **MAP ID:**

NAME:	PROPOSED MIDDLE SCHOOL NO. 8	**REV:**	08/07/07
ADDRESS:	NORTHEAST CORNER OF OLIVE AVENUE AND BEELER ROAD	**ID1:**	CAL60000662
	UNINCORPORATED WINCH CA 92596	**ID2:**	SCHOOL
	RIVERSIDE	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	

GENERAL SITE INFORMATION

Site Type:	*School Investigation*
Status:	*Active*
Status Date:	*2007-06-26*
NPL Site:	*NO*
Funding:	*School District*
Regulatory Agencies Involved:	*SMBRP*
Lead Agency:	*SMBRP*
Project Manager:	*ASLAM SHAREEF*
Supervisor:	*Tawfiq Deek*
Branch:	*School Evaluation - Cypress*
Acres:	*24*
Assessor s Parcel Number:	*NONE SPECIFIED*
Past Uses:	*NONE SPECIFIED*
Potential Contaminants:	*NONE SPECIFIED*
Confirmed Contaminants:	*NONE SPECIFIED*
Potential Media Affected:	*NONE SPECIFIED*
Restricted Use:	*NO*
Site Management Required:	*NONE SPECIFIED*
Special Programs Associated with this Site:	

OTHER SITE NAMES (blank below = not reported by agency)

OTHER SITE NAMES (blank below = not reported by agency)

404752-11

60000662

COMPLETED ACTIVITIES AND DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Environmental Oversight Agreement***
Completion Date:	***2007-07-06***
Comments:	*Signed agreement sent (FedEx) to District*

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

STATE

SEARCH ID: 8 **DIST/DIR:** NON GC **MAP ID:**

NAME: MIDDLE SCHOOL NO. 8
ADDRESS: OLIVE AVENUE AND LONGFELLOW STREEET
WINCHESTER CA 92596
RIVERSIDE
CONTACT:

REV: 08/07/07
ID1: CAL70000027
ID2: SCHOOL
STATUS: NO FURTHER ACTION
PHONE:

GENERAL SITE INFORMATION

Site Type:	*School Investigation*
Status:	*No Further Action*
Status Date:	*2006-03-20*
NPL Site:	*NO*
Funding:	*School District*
Regulatory Agencies Involved:	*SMBRP*
Lead Agency:	*NONE SPECIFIED*
Project Manager:	*RANA GEORGES*
Supervisor:	*Tawfiq Deek*
Branch:	*School Evaluation - Cypress*
Acres:	*23*
Assessor s Parcel Number:	*NONE SPECIFIED*
Past Uses:	*AGRICULTURAL - ROW CROPS*
Potential Contaminants:	*NONE SPECIFIED, UNKNOWN CODE-31001*
Confirmed Contaminants:	*No Contaminants found*
Potential Media Affected:	*NMA*
Restricted Use:	*NO*
Site Management Required:	*NONE SPECIFIED*
Special Programs Associated with this Site:	

OTHER SITE NAMES (blank below = not reported by agency)

OTHER SITE NAMES (blank below = not reported by agency)

70000027

404646-11

20050027

Hemet Unified School District

COMPLETED ACTIVITIES AND DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Environmental Oversight Agreement***
Completion Date:	***2005-08-09***
Comments:	
Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Preliminary Endangerment Assessment Report***
Completion Date:	***2006-03-20***
Comments:	*DTSC issued no further action determination.*

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

STATE

SEARCH ID: 7 **DIST/DIR:** NON GC **MAP ID:**

NAME: ESPLANADE ELEMENTARY SCHOOL NO. 11
ADDRESS: ESPLANADE AVENUE/WARREN ROAD
HEMET CA 92596
RIVERSIDE
CONTACT:

REV: 08/07/07
ID1: CAL60000288
ID2: SCHOOL
STATUS: NO FURTHER ACTION
PHONE:

GENERAL SITE INFORMATION

Site Type: *School Investigation*
Status: *No Further Action*
Status Date: *2006-11-21*
NPL Site: *NO*
Funding: *School District*
Regulatory Agencies Involved: *SMBRP*
Lead Agency: *SMBRP*
Project Manager: *ANDREA JUAREZ*
Supervisor: *Tawfiq Deek*
Branch: *School Evaluation - Cypress*
Acres: *12*
Assessor s Parcel Number: *NONE SPECIFIED*
Past Uses: *AGRICULTURAL - ROW CROPS*
Potential Contaminants: *Arsenic, Chlordane, DDD, DDE, DDT, Lead, Toxaphene, Aldrin, Antimony and compounds, Barium and compounds, Beryllium and compounds, Cadmium and compounds, Chromium III, Chromium VI, Cobalt, Copper and compounds, Dieldrin, Endosulfan, Heptachlor, Heptachlor epoxide, Lead, Organic (tetraethyl lead), Mercury and compounds, Methoxychlor, Molybdenum, Nickel, Selenium, Thallium and compounds, Vanadium and compounds, Zinc*
Confirmed Contaminants: *Selenium-NO,Thallium and compounds-NO,Toxaphene-NO,Aldrin-NO,Antimony and compounds-NO,Barium and compounds-NO,Beryllium and compounds-NO,Cadmium and compounds-NO,Chromium III-NO,Chromium VI-NO,Cobalt-NO,Copper and compounds-NO,Dieldrin-NO,Endosulfan-NO,Heptachlor-NO,Heptachlor epoxide-NO,Lead, Organic (tetraethyl lead)-NO,Mercury and compounds-NO,Methoxychlor-NO,Molybdenum-NO,Nickel-NO,Arsenic-NO,Chlordane-NO,DDD-NO,DDE-NO,DDT-NO,Lead-NO,No Contaminants found,Vanadium and compounds-*
Potential Media Affected: *NMA*
Restricted Use: *NO*
Site Management Required: *NONE SPECIFIED*
Special Programs Associated with this Site:

OTHER SITE NAMES (blank below = not reported by agency)

OTHER SITE NAMES (blank below = not reported by agency)

404705-11

60000288

COMPLETED ACTIVITIES AND DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

Area Name: ***PROJECT WIDE***
Sub- Area Name:
Document Type: ***Preliminary Endangerment Assessment Report***
Completion Date: ***2006-10-24***
Comments: *PEA approved with no further action.*

Area Name: ***PROJECT WIDE***
Sub- Area Name:
Document Type: ***Environmental Oversight Agreement***
Completion Date: ***2006-05-15***
Comments:

- Continued on next page -

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

STATE

SEARCH ID: 7 **DIST/DIR:** NON GC **MAP ID:**

NAME:	ESPLANADE ELEMENTARY SCHOOL NO. 11	**REV:**	08/07/07
ADDRESS:	ESPLANADE AVENUE/WARREN ROAD	**ID1:**	CAL60000288
	HEMET CA 92596	**ID2:**	SCHOOL
	RIVERSIDE	**STATUS:**	NO FURTHER ACTION
CONTACT:		**PHONE:**	

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

STATE

SEARCH ID: 6 **DIST/DIR:** NON GC **MAP ID:**

NAME:	ELEMENTARY SCHOOL NO. 10	**REV:**	08/07/07
ADDRESS:	BEELER ROAD/PATTON AVENUE	**ID1:**	CAL60000105
	WINCHESTER CA 92596	**ID2:**	SCHOOL
	RIVERSIDE	**STATUS:**	NO FURTHER ACTION
CONTACT:		**PHONE:**	

GENERAL SITE INFORMATION

Site Type:	*School Investigation*
Status:	*No Further Action*
Status Date:	*2006-06-01*
NPL Site:	*NO*
Funding:	*School District*
Regulatory Agencies Involved:	*SMBRP*
Lead Agency:	*SMBRP*
Project Manager:	*AMIT PATHAK*
Supervisor:	*Shahir Haddad*
Branch:	*School Evaluation - Cypress*
Acres:	*12*
Assessor s Parcel Number:	*461-18-0036*
Past Uses:	*AGRICULTURAL - ROW CROPS*
Potential Contaminants:	*Arsenic, Chlordane, Total Chromium (1:6 ratio Cr VI:Cr III), DDD, DDE, DDT, Endrin, Lead, Dieldrin*
Confirmed Contaminants:	*Arsenic-NO,Chlordane-NO,Total Chromium (1:6 ratio Cr VI:Cr III)-NO,DDD-NO,DDE-NO,DDT-NO,Endrin-NO,Lead-NO,Dieldrin-NO*
Potential Media Affected:	*NMA*
Restricted Use:	*NO*
Site Management Required:	*NONE SPECIFIED*
Special Programs Associated with this Site:	*Voluntary Cleanup Program*

OTHER SITE NAMES (blank below = not reported by agency)

OTHER SITE NAMES (blank below = not reported by agency)

Proposed Pleasant Valley Elementary School

461-18-0036

60000105

404639-11

HEMET USD-PROPOSED ES NO. 10

COMPLETED ACTIVITIES AND DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Environmental Oversight Agreement***
Completion Date:	***2005-07-15***
Comments:	
Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Preliminary Endangerment Assessment Report***
Completion Date:	***2006-01-18***
Comments:	*NFA*

- Continued on next page -

Environmental FirstSearch
Site Detail Report

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

STATE

SEARCH ID: 6 **DIST/DIR:** NON GC **MAP ID:**

NAME:	ELEMENTARY SCHOOL NO. 10	**REV:**	08/07/07
ADDRESS:	BEELER ROAD/PATTON AVENUE	**ID1:**	CAL60000105
	WINCHESTER CA 92596	**ID2:**	SCHOOL
	RIVERSIDE	**STATUS:**	NO FURTHER ACTION
CONTACT:		**PHONE:**	

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

SOLID WASTE LANDFILL SITE

SEARCH ID: 10 **DIST/DIR:** NON GC **MAP ID:**

NAME: AGRISCAPE, INCORPORATED
ADDRESS: 18712 BRIDGE STREET
LAKEVIEW CA 92563
RIVERSIDE
CONTACT:

REV: 09/24/07
ID1: SWIS33-AA-0307
ID2:
STATUS: ACTIVE
PHONE:

SITE OPERATOR INFORMATION:

Operator: *Agriscape, Inc.*
Operator Address: *37760 Borel Road Murrieta CA 92563*
Permit Date: *5/17/2006*
Permit Status: *Notification*
Land Use Name: *Industrial,Commercial,Agricultural*
GIS Source for LAT and LONG: *Map*

SITE ACTIVITY INFORMATION:

Activity: *Composting Operation (Green Waste)*
Accepted Waste: *Green Materials,Wood waste*
Operational Status: *Active*
Regulatory Status *Notification*
Program Type
Closure Date:
Closure Type:
Permitted Throughput with Units: *100 Cu Yards/day*
Permitted Capacity with Units: *20000 Cu Yards/year*
Remaining Capacity with Units (landfills only):
Permitted Total Acreage: *20*
Permitted Disposal Acreage:
Last Tire Inspection Count:
Last Tire Inspection Count Date:
Original Tire Inspection Count:
Last Tire Inspection Count Date:
Inspection Frequency: *Quarterly*

SITE OWNER INFORMATION:

Owner: *Almejo, Richardo*
Owner Phone: *9516960651*
Owner Address: *37760 Borel Road*

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 20 **DIST/DIR:** NON GC **MAP ID:**

NAME:	RANCHO CALIF COUNTRY CLUB	**REV:**	01/01/94
ADDRESS:	29480 MURRIETA HOT SPRINGS	**ID1:**	TISID-STATE36617
	MURRIETA CA 92563	**ID2:**	
	Riverside	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	

UST HISTORICAL DATA

This site was listed in the FIDS Zip Code List as a UST site. The Office of Hazardous Data Management produced the FIDS list. The FIDS list is an index of names and locations of sites recorded in various California State environmental agency databases. It is sorted by zip code and as an index, details regarding the sites were never included.

The UST information included in FIDS as provided by the Office of Hazardous Data Management was originally collected from the SWEEPS database. The SWEEPS database recorded Underground Storage Tanks and was maintained by the State Water Resources Control Board (SWRCB). That agency no longer maintains the SWEEPS database and last updated it in 1994. The last release of that 1994 database was in 1997. Oversight of Underground Storage Tanks within California is now conducted by Certified Unified Program Agencies referred to as CUPA s. There are approximately 102 CUPA s and Local Oversight Programs (LOP s) in the State of California. Most are city or county government agencies. As of 1998, all sites or facilities with underground storage tanks were required by Federal mandate to obtain certification by designated UST oversight agencies (in this case, CUPA s) that the UST/s at their location were upgraded or removed in adherence with the 1998 RCRA standards.

Information from the FIDS/SWEEPS lists were included in this report search to help identify where underground storage tanks may have existed that were not recorded in CUPA databases or lists collected by Track Info Services. This may occur if a tank was removed prior to development of recent CUPA UST lists or never registered with a CUPA.

Environmental FirstSearch Descriptions

NPL: ***EPA*** NATIONAL PRIORITY LIST - The National Priorities List is a list of the worst hazardous waste sites that have been identified by Superfund. Sites are only put on the list after they have been scored using the Hazard Ranking System (HRS), and have been subjected to public comment. Any site on the NPL is eligible for cleanup using Superfund Trust money.
A Superfund site is any land in the United States that has been contaminated by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.
FINAL - Currently on the Final NPL
PROPOSED - Proposed for NPL

NPL DELISTED: ***EPA*** NATIONAL PRIORITY LIST Subset - Database of delisted NPL sites. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.
DELISTED - Deleted from the Final NPL

CERCLIS: ***EPA*** COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM (CERCLIS)- CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL.
PART OF NPL- Site is part of NPL site
DELETED - Deleted from the Final NPL
FINAL - Currently on the Final NPL
NOT PROPOSED - Not on the NPL
NOT VALID - Not Valid Site or Incident
PROPOSED - Proposed for NPL
REMOVED - Removed from Proposed NPL
SCAN PLAN - Pre-proposal Site
WITHDRAWN - Withdrawn

NFRAP: ***EPA*** COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.
NFRAP – No Further Remedial Action Plan
P - Site is part of NPL site
D - Deleted from the Final NPL
F - Currently on the Final NPL
N - Not on the NPL
O - Not Valid Site or Incident
P - Proposed for NPL
R - Removed from Proposed NPL
S - Pre-proposal Site
W – Withdrawn

RCRA COR ACT: ***EPA*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.
RCRAInfo facilities that have reported violations and subject to corrective actions.

RCRA TSD: ***EPA*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.
Facilities that treat, store, dispose, or incinerate hazardous waste.

RCRA GEN: ***EPA*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM GENERATORS - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.
Facilities that generate or transport hazardous waste or meet other RCRA requirements.
LGN - Large Quantity Generators
SGN - Small Quantity Generators
VGN – Conditionally Exempt Generator.
Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List) facilities.

RCRA NLR: ***EPA*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.
Facilities not currently classified by the EPA but are still included in the RCRAInfo database. Reasons for non classification:
Failure to report in a timely matter.
No longer in business.
No longer in business at the listed address.
No longer generating hazardous waste materials in quantities which require reporting.

Federal IC / EC: ***EPA*** BROWNFIELD MANAGEMENT SYSTEM (BMS) - database designed to assist EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield grant Programs.
FEDERAL ENGINEERING AND INSTITUTIONAL CONTROLS- Superfund sites that have either an engineering or an institutional control. The data includes the control and the media contaminated.

ERNS: ***EPA/NRC*** EMERGENCY RESPONSE NOTIFICATION SYSTEM (ERNS) - Database of incidents reported to the National Response Center. These incidents include chemical spills, accidents involving chemicals (such as fires or explosions), oil spills, transportation accidents that involve oil or chemicals, releases of radioactive materials, sightings of oil sheens on bodies of water, terrorist incidents involving chemicals, incidents where illegally dumped chemicals have been found, and drills intended to prepare responders to handle these kinds of incidents. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

Tribal Lands: ***DOI/BIA*** INDIAN LANDS OF THE UNITED STATES - Database 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.

State/Tribal Sites: ***CA EPA*** SMBRPD / CAL SITES- The California Department of Toxic Substances Control (DTSC) 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.
The SMBRPD displays information in six categories. The categories are:
1. CalSites Properties (CS)
2. School Property Evaluation Program Properties (SCH)
3. Voluntary Cleanup Program Properties (VCP)
4. Unconfirmed Properties Needing Further Evaluation (RFE)
Please Note: FirstSearch Reports list the above sites as DB Type (STATE).
5. Unconfirmed Properties Referred to Another Local or State Agency (REF)
6. Properties where a No Further Action Determination has been made (NFA)
Please Note: FirstSearch Reports list the above sites as DB Type (OTHER).
Each Category contains information on properties based upon the type of work taking place at the site. For example, the CalSites database is now one of the six categories within SMPBRD and contains only confirmed sites considered as posing the greatest threat to the public and/or the potential public school sites will be found within the School Property Evaluation Program, and those properties undergoing voluntary investigation and/or cleanup are in the Voluntary Cleanup Program.
CORTESE LIST-Pursuant to Government Code Section 65962.5, the Hazardous Waste and Substances Sites List has been compiled by Cal/EPA, Hazardous Materials Data Management Program. The CAL EPA Dept. of Toxic Substances Control compiles information from subsets of the following databases to make up the CORTESE list:
1. The Dept. of Toxic Substances Control; contaminated or potentially contaminated hazardous waste sites listed in the CAL Sites database. Formerly known as ASPIS are included (CALSITES formerly known as ASPIS).
2. The California State Water Resources Control Board; listing of Leaking Underground Storage Tanks are included (LTANK)
3. The California Integrated Waste Management Board; Sanitary Landfills which have evidence of groundwater contamination or known migration of hazardous materials (formerly WB-LF, now AB 3750).
Note: Track Info Services collects each of the above data sets individually and lists them separately in the following First Search categories in order to provide more current and comprehensive information: CALSITES: SPL, LTANK: LUST, WB-LF: SWL

State Spills 90: ***CA EPA*** SLIC REGIONS 1 - 9- The California Regional Water Quality Control Boards maintain report of sites that have records of spills, leaks, investigation, and cleanups.

State/Tribal SWL: ***CA IWMB/SWRCB/COUNTY*** SWIS SOLID WASTE INFORMATION SYSTEM-The California Integrated Waste Management Board maintains a database on solid waste facilities, operations, and disposal sites throughout the state of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites. For more information on individual sites call the number listed in the source field..
Please Note: This database contains poor site location information for many sites in the First Search reports; therefore, it may not be possible to locate or plot some sites in First Search reports.
WMUDS-The State Water Resources Control Board maintained the Waste Management Unit Database System (WMUDS). It is no longer updated. It tracked management units for several regulatory programs related to waste management and its potential impact on groundwater. Two of these programs (SWAT & TPCA) are no longer on-going regulatory programs as described below. Chapter 15 (SC15) is still an on-going regulatory program and information is updated periodically but not to the WMUDS database. The WMUDS System contains information from the following agency databases: Facility, Waste Management Unit (WMU), Waste Discharger System (WDS), SWAT, Chapter 15, TPCA, RCRA, Inspections, Violations, and Enforcement's.
Note: This database contains poor site location information for many sites in the First Search reports; therefore, it may not be possible to locate or plot some sites in First Search reports.
ORANGE COUNTY LANDFILLS LIST- A list maintained by the Orange County Health Department.

State/Tribal LUST: ***CA SWRCB/COUNTY*** LUSTIS- The State Water Resources Control Board maintains a database of sites with confirmed or unconfirmed leaking underground storage tanks. Information for this database is collected from the states regional boards quarterly and integrated with this database.
SAN DIEGO COUNTY LEAKING TANKS- The San Diego County Department of Environmental Health maintains a database of sites with confirmed or unconfirmed leaking underground storage tanks within its HE17/58 database. For more information on a specific file call the HazMat Duty Specialist at phone number listed in the source information field.

State/Tribal UST/AST: ***CA EPA/COUNTY/CITY*** ABOVEGROUND STORAGE TANKS LISTING-The

Above Ground Petroleum Storage Act became State Law effective January 1, 1990. In general, the law requires owners or operators of AST's with petroleum products to file a storage statement and pay a fee by July 1, 1990 and every two years thereafter, take specific action to prevent spills, and in certain instances implement a groundwater monitoring program. This law does not apply to that portion of a tank facility associated with the production oil and regulated by the State Division of Oil and Gas of the Dept. of Conservation.
SWEEPS / FIDS STATE REGISTERED UNDEGROUND STORAGE TANKS- Until 1994 the State Water Resources Control Board maintained a database of registered underground storage tanks statewide referred to as the SWEEPS System. The SWEEPS UST information was integrated with the CAL EPA's Facility Index System database (FIDS) which is a master index of information from numerous California agency environmental databases. That was last updated in 1994. Track Info Services included the UST information from the FIDS database in its First Search reports for historical purposes to help its clients identify where tanks may possibly have existed. For more information on specific sites from individual paper files archived at the State Water Resources Control Board call the number listed with the source information.
INDIAN LANDS UNDERGROUND STORAGE TANKS LIST- A listing of underground storage tanks currently on Indian Lands under federal jurisdiction. California Indian Land USTS are administered by US EPA Region 9.
CUPA DATABASES & SOURCES- Definition of a CUPA: A Certified Unified Program Agency (CUPA) is a local agency that has been certified by the CAL EPA to implement six state environmental programs within the local agency's jurisdiction. These can be a county, city, or JPA (Joint Powers Authority). This program was established under the amendments to the California Health and Safety Code made by SB 1082 in 1994.
A Participating Agency (PA) is a local agency that has been designated by the local CUPA to administer one or more Unified Programs within their jurisdiction on behalf of the CUPA. A Designated Agency (DA) is an agency that has not been certified by the CUPA but is the responsible local agency that would implement the six unified programs until they are certified.
Please Note: Track Info Services, LLC collects and maintains information regarding Underground Storage Tanks from majority of the CUPAS and Participating Agencies in the State of California. These agencies typically do not maintain nor release such information on a uniform or consistent schedule; therefor, currency of the data may vary. Please look at the details on a specific site with a UST record in the First Search Report to determine the actual currency date of the record as provided by the relevant agency. Numerous efforts are made on a regular basis to obtain updated records.

State/Tribal IC: ***CA EPA*** DEED-RESTRICTED SITES LISTING- The California EPA's Department of Toxic Substances Control Board maintains a list of deed-restricted sites, properties where the DTSC has placed limits or requirements on the future use of the property due to varying levels of cleanup possible, practical or necessary at the site.

State/Tribal VCP: ***CA EPA*** SMBRPD / CAL SITES- The California Department of Toxic Substances Control (DTSC) 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.
The SMBRPD displays information in six categories. The categories are:
1. CalSites Properties (CS)
2. School Property Evaluation Program Properties (SCH)
3. Voluntary Cleanup Program Properties (VCP)
4. Unconfirmed Properties Needing Further Evaluation (RFE)
5. Unconfirmed Properties Referred to Another Local or State Agency (REF)
6. Properties where a No Further Action Determination has been made (NFA)
Please Note: FirstSearch Reports list the above sites as DB Type VC. Each Category contains information on properties based upon the type of work taking place at the site. The VC category contains only those properties undergoing voluntary investigation and/or cleanup and which are listed in the Voluntary Cleanup Program.

RADON: ***NTIS*** NATIONAL RADON DATABASE - EPA radon data from 1990-1991 national radon project collected for a variety of zip codes across the United States.

State Permits: ***CA COUNTY*** SAN DIEGO COUNTY HE17 PERMITS- The HE17/58 database tracks establishments issued permits and the status of their permits in relation to compliance with federal, state, and local regulations that the County oversees. It tracks if a site is a hazardous waste generator, TSD, gas station, has underground tanks, violations, or unauthorized releases. For more information on a specific file call the HazMat Duty Specialist at the phone number listed in the source information field.

SAN BERNARDINO COUNTY HAZARDOUS MATERIALS PERMITS- Handlers and Generators Permit Information Maintained by the Hazardous Materials Division.

State Other: ***CA EPA/COUNTY*** SMBRPD / CAL SITES- The California Department of Toxic Substances Control (DTSC) 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.
The SMBRPD displays information in six categories. The categories are:
1. CalSites Properties (CS)
2. School Property Evaluation Program Properties (SCH)
3. Voluntary Cleanup Program Properties (VCP)
4. Unconfirmed Properties Needing Further Evaluation (RFE)
Please Note: FirstSearch Reports list the above sites as DB Type (STATE).
5. Unconfirmed Properties Referred to Another Local or State Agency (REF)
6. Properties where a No Further Action Determination has been made (NFA)
Please Note: FirstSearch Reports list the above sites as DB Type (OTHER).
Each Category contains information on properties based upon the type of work taking place at the site. For example, the CalSites database is now one of the six categories within SMPBRD and contains only confirmed sites considered as posing the greatest threat to the public and/or the potential public school sites will be found within the School Property Evaluation Program, and those properties undergoing voluntary investigation and/or cleanup are in the Voluntary Cleanup Program.
LA COUNTY SITE MITIGATION COMPLAINT CONTROL LOG- The County of Los Angeles Public Health Investigation Compliant Control Log.
ORANGE COUNTY INDUSTRIAL SITE CLEANUPS- List maintained by the Orange County Environmental Health Agency.
RIVERSIDE COUNTY WASTE GENERATORS-A list of facilities in Riverside County which generate hazardous waste.
SACRAMENTO COUNTY MASTER HAZMAT LIST-Master list of facilities within Sacramento County with potentially hazardous materials.
SACRAMENTO COUNTY TOXIC SITE CLEANUPS-A list of sites where unauthorized releases of potentially hazardous materials have occurred.

Environmental FirstSearch Database Sources

NPL: ***EPA*** Environmental Protection Agency

Updated quarterly

NPL DELISTED: ***EPA*** Environmental Protection Agency

Updated quarterly

CERCLIS: ***EPA*** Environmental Protection Agency

Updated quarterly

NFRAP: ***EPA*** Environmental Protection Agency.

Updated quarterly

RCRA COR ACT: ***EPA*** Environmental Protection Agency.

Updated quarterly

RCRA TSD: ***EPA*** Environmental Protection Agency.

Updated quarterly

RCRA GEN: ***EPA*** Environmental Protection Agency.

Updated quarterly

RCRA NLR: ***EPA*** Environmental Protection Agency

Updated quarterly

Federal IC / EC: ***EPA*** Environmental Protection Agency

Updated quarterly

ERNS: ***EPA/NRC*** Environmental Protection Agency

Updated semi-annually

Tribal Lands: ***DOI/BIA*** United States Department of the Interior

Updated annually

State/Tribal Sites: ***CA EPA*** The CAL EPA, Depart. Of Toxic Substances Control
Phone: (916) 323-3400

Updated quarterly/when available

State Spills 90: ***CA EPA*** The California State Water Resources Control Board

Updated when available

State/Tribal SWL: ***CA IWMB/SWRCB/COUNTY*** The California Integrated Waste Management Board
Phone:(916) 255-2331
The State Water Resources Control Board
Phone:(916) 227-4365
Orange County Health Department

Updated quarterly/when available

State/Tribal LUST: ***CA SWRCB/COUNTY*** The California State Water Resources Control Board
Phone:(916) 227-4416
San Diego County Department of Environmental Health

Updated quarterly/when available

State/Tribal UST/AST: ***CA EPA/COUNTY/CITY*** The State Water Resources Control Board
Phone:(916) 227-4364
CAL EPA Department of Toxic Substances Control
Phone:(916)227-4404
US EPA Region 9 Underground Storage Tank Program
Phone: (415) 972-3372
ALAMEDA COUNTY CUPAS:
* County of Alameda Department of Environmental Health
* Cities of Berkeley, Fremont, Hayward, Livermore / Pleasanton, Newark, Oakland, San Leandro, Union
ALPINE COUNTY CUPA:
* Health Department (Only updated by agency sporadically)
AMADOR COUNTY CUPA:
* County of Amador Environmental Health Department
BUTTE COUNTY CUPA
* County of Butte Environmental Health Division (Only updated by agency biannually)
CALAVERAS COUNTY CUPA:
* County of Calaveras Environmental Health Department
COLUSA COUNTY CUPA:
* Environmental Health Dept.
CONTRA COSTA COUNTY CUPA:
* Hazardous Materials Program
DEL NORTE COUNTY CUPA:
* Department of Health and Social Services
EL DORADO COUNTY CUPAS:
* County of El Dorado Environmental Health - Solid Waste Div (Only updated by agency annually)
* County of El Dorado EMD Tahoe Division (Only updated by agency annually)
FRESNO COUNTY CUPA:
* Haz. Mat and Solid Waste Programs
GLENN COUNTY CUPA:
* Air Pollution Control District
HUMBOLDT COUNTY CUPA:
* Environmental Health Division
IMPERIAL COUNTY CUPA:
* Department of Planning and Building

INYO COUNTY CUPA:
* Environmental Health Department
KERN COUNTY CUPA:
* County of Kern Environmental Health Department
* City of Bakersfield Fire Department
KINGS COUNTY CUPA:
* Environmental Health Services
LAKE COUNTY CUPA:
* Division of Environmental Health
LASSEN COUNTY CUPA:
* Department of Agriculture
LOS ANGELES COUNTY CUPAS:
* County of Los Angeles Fire Department CUPA Data as maintained by the Los Angeles County Department of Public Works
* County of Los Angeles Environmental Programs Division
* Cities of Burbank, El Segundo, Glendale, Long Beach/Signal Hill, Los Angeles,Pasadena, Santa Fe Springs, Santa Monica, Torrance, Vernon
MADERA COUNTY CUPA:
* Environmental Health Department
MARIN COUNTY CUPA:
* County of Marin Office of Waste Management
* City of San Rafael Fire Department
MARIPOSA COUNTY CUPA:
* Health Department
MENDOCINO COUNTY CUPA:
* Environmental Health Department
MERCED COUNTY CUPA:
* Division of Environmental Health
MODOC COUNTY CUPA:
* Department of Agriculture
MONO COUNTY CUPA:
* Health Department
MONTEREY COUNTY CUPA:
* Environmental Health Division
NAPA COUNTY CUPA:
* Hazardous Materials Section
NEVADA COUNTY CUPA:
* Environmental Health Department
ORANGE COUNTY CUPAS:
* County of Orange Environmental Health Department
* Cities of Anaheim, Fullerton, Orange, Santa Ana
* County of Orange Environmental Health Department
PLACER COUNTY CUPAS:
* County of Placer Division of Environmental Health Field Office
* Tahoe City
* City of Roseville Roseville Fire Department
PLUMAS COUNTY CUPA:
* Environmental Health Department
RIVERSIDE COUNTY CUPA:
* Environmental Health Department
SACRAMENTO COUNTY CUPA:
* County Environmental Mgmt Dept, Haz. Mat. Div.
SAN BENITO COUNTY CUPA:
* City of Hollister Environmental Service Department
SAN BERNARDINO COUNTY CUPAS:
* County of San Bernardino Fire Department, Haz. Mat. Div.
* City of Hesperia Hesperia Fire Prevention Department
*City of Victorville Victorville Fire Department
SAN DIEGO COUNTY CUPA:
* The San Diego County Dept. of Environmental Health HE 17/58
SAN FRANCISCO COUNTY CUPA:

* Department of Public Health
SAN JOAQUIN COUNTY CUPA:
* Environmental Health Division
SAN LUIS OBISPO COUNTY CUPAS:
* County of San Luis Obispo Environmental Health Division
* City of San Luis Obispo City Fire Department
SAN MATEO COUNTY CUPA:
* Environmental Health Department
SANTA BARBARA COUNTY CUPA:
* County Fire Dept Protective Services Division
SANTA CLARA COUNTY CUPAS:
* County of Santa Clara Hazardous Materials Compliance Division
* Santa Clara County Central Fire Protection District (Covers Campbell, Cupertino, Los Gatos, & Morgan Hill)
* Cities of Gilroy, Milpitas, Mountain View, Palo Alto, San Jose Fire, Santa Clara, Sunnyvale
SANTA CRUZ COUNTY CUPA:
* Environmental Health Department
SHASTA COUNTY CUPA:
* Environmental Health Department
SIERRA COUNTY CUPA:
* Health Department
SISKIYOU COUNTY CUPA:
* Environmental Health Department
SONOMA COUNTY CUPAS:
* County of Sonoma Department Of Environmental Health
* Cities of Healdsburg / Sebastopol, Petaluma, Santa Rosa
STANISLAUS COUNTY CUPA:
* Department of Environmental Resources Haz. Mat. Division
SUTTER COUNTY CUPA:
* Department of Agriculture
TEHAMA COUNTY CUPA:
* Department of Environmental Health
TRINITY COUNTY CUPA:
* Department of Health
TULARE COUNTY CUPA:
* Environmental Health Department
TUOLUMNE COUNTY CUPA:
* Environmental Health
VENTURA COUNTY CUPAS:
* County of Ventura Environmental Health Division
* Cities of Oxnard, Ventura
YOLO COUNTY CUPA:
* Environmental Health Department
YUBA COUNTY CUPA:

Updated quarterly/annually/when available

State/Tribal IC: ***CA EPA*** The California EPA Department of Toxic Substances Control.

Updated Updated quarterly/annually/when available

State/Tribal VCP: ***CA EPA*** The California EPA Department of Toxic Substances Control.

Updated Updated quarterly/annually/when available

RADON: ***NTIS*** Environmental Protection Agency, National Technical Information Services

Updated periodically

State Permits: ***CA COUNTY*** The San Diego County Depart. Of Environmental Health
Phone:(619) 338-2211
San Bernardino County Fire Department

Updated quarterly/when available

State Other: ***CA EPA/COUNTY*** The CAL EPA, Depart. Of Toxic Substances Control
Phone: (916) 323-3400
The Los Angeles County Hazardous Materials Division
Phone: (323) 890-7806
Orange County Environmental Health Agency
Phone: (714) 834-3536
Riverside County Department of Environmental Health, Hazardous Materials Management Division
Phone:(951) 358-5055
Sacramento County Environmental Management Department

Updated quarterly/when available

Environmental FirstSearch
Street Name Report for Streets within .25 Mile(s) of Target Property

Target Property: WINCHESTER ROAD
MURRIETA CA 92563

JOB: P61100414

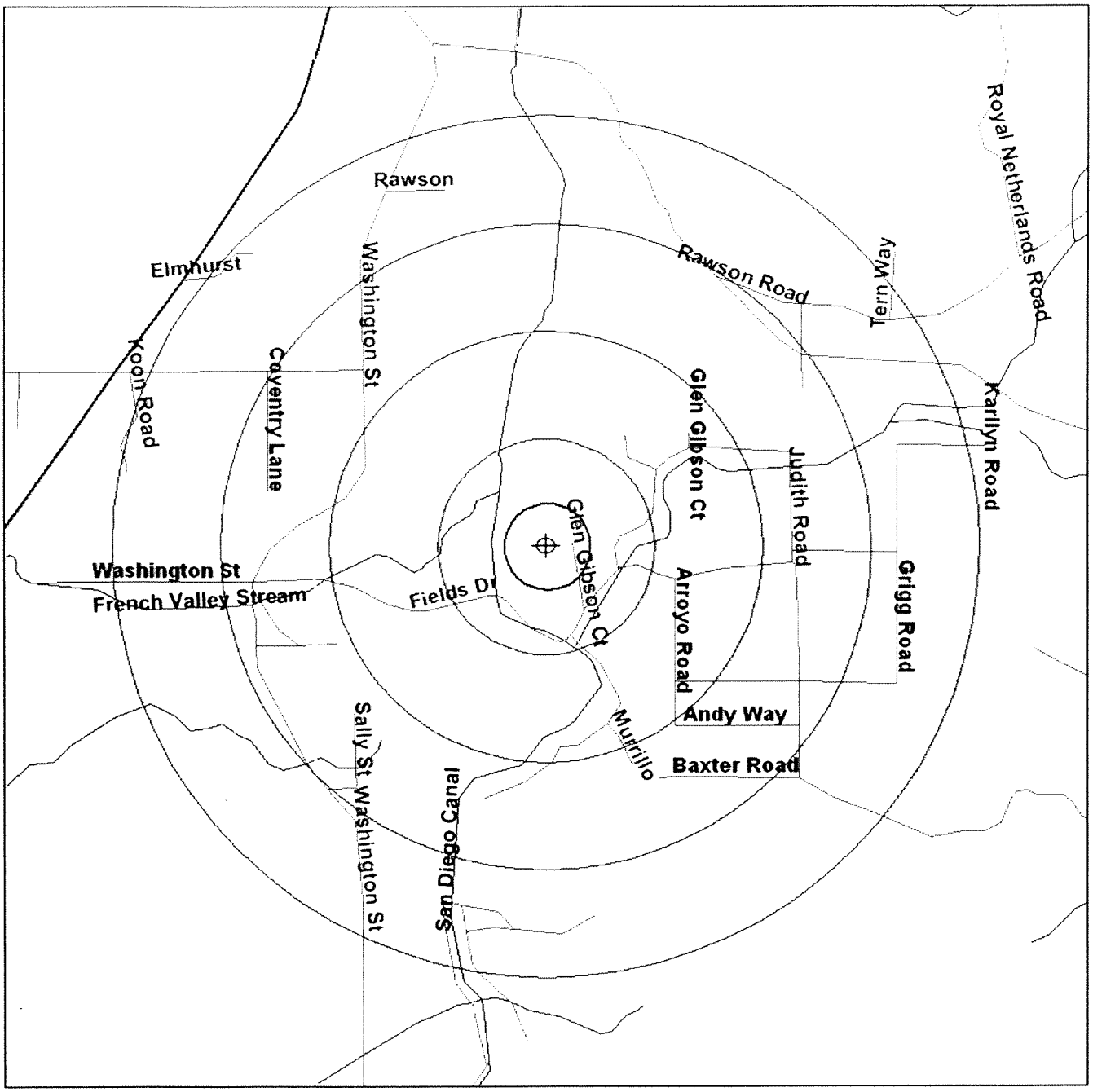
Street Name	Dist/Dir	Street Name	Dist/Dir
Fields Dr	0.16 SE		
Glen Gibson Ct	0.06 NE		
Rebecca St	0.22 SE		
Sidney Cir	0.18 SE		

Environmental FirstSearch

1 Mile Radius

Single Map:

WINCHESTER ROAD , MURRIETA CA 92563



Source: U.S. Census TIGER Files

Target Site (Latitude: 33.621188 Longitude: -117.076177) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

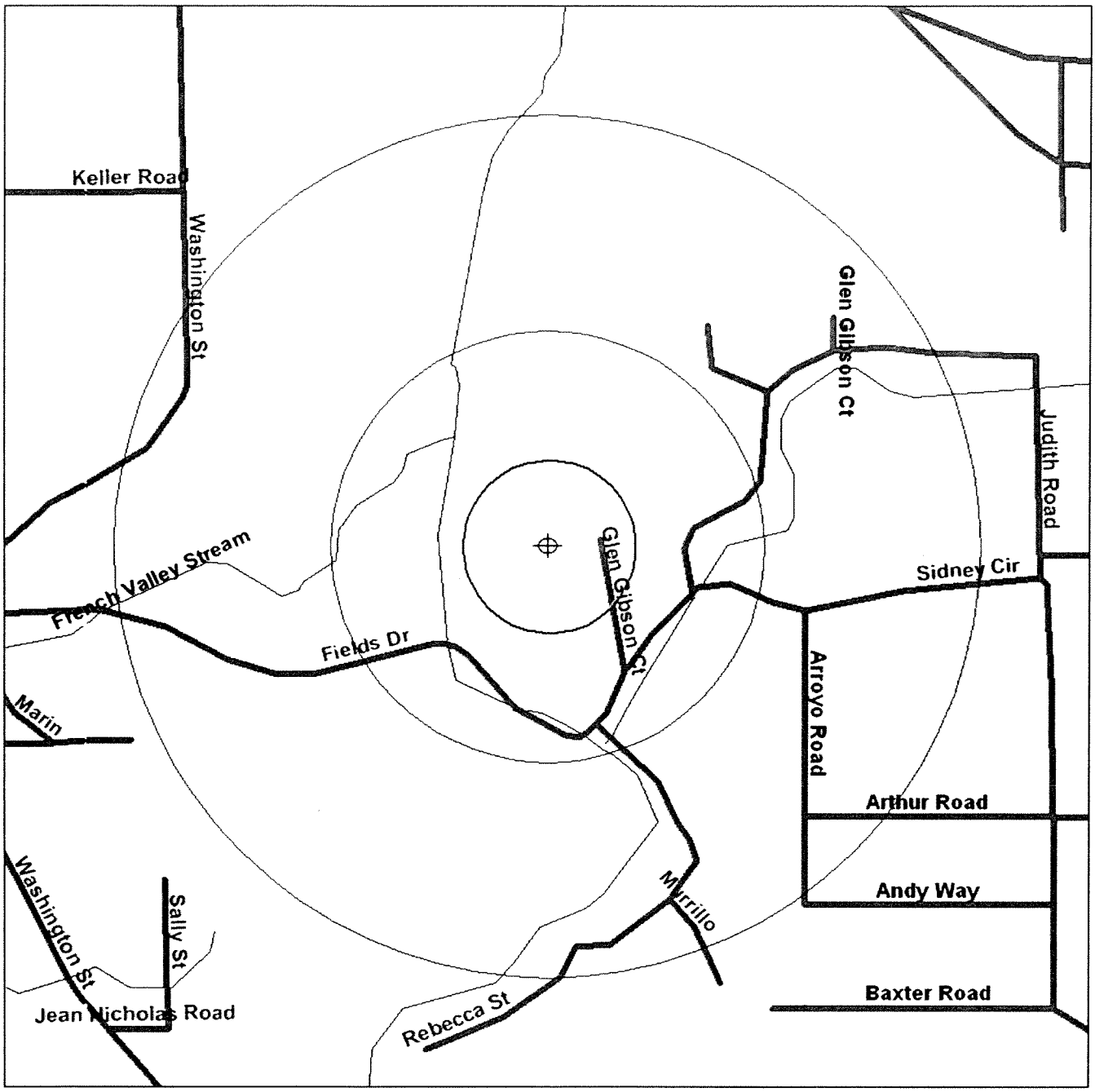
Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.5 Mile Radius

Single Map:

WINCHESTER ROAD , MURRIETA CA 92563



Source: U.S. Census TIGER Files

Target Site (Latitude: 33.621188 Longitude: -117.076177) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.25 Mile Radius

Single Map:

WINCHESTER ROAD , MURRIETA CA 92563

Source: U.S. Census TIGER Files

Target Site (Latitude: 33.621188 Longitude: -117.076177)

Identified Site, Multiple Sites, Receptor

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand

Railroads

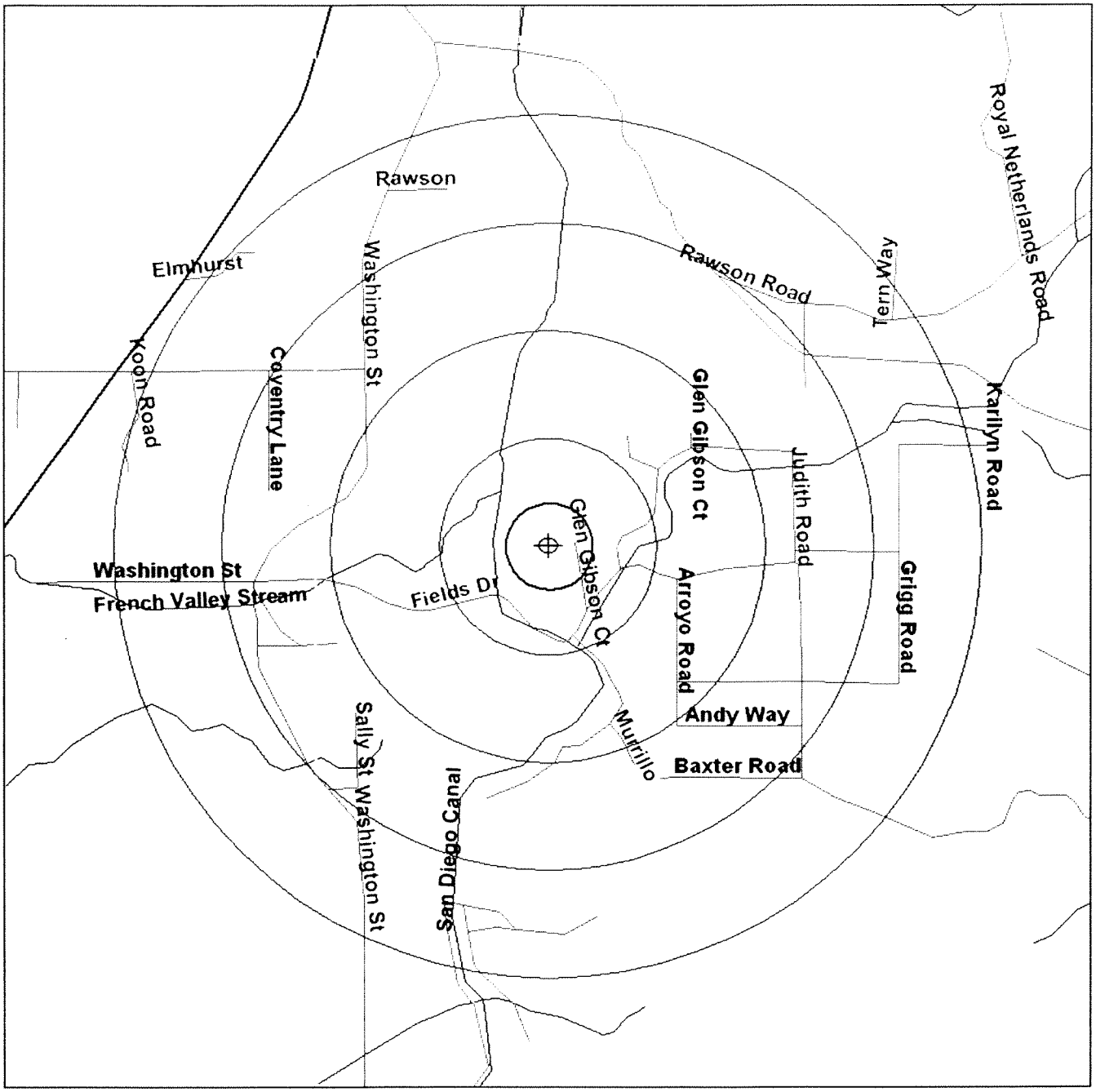
Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

1 Mile Radius

ASTM-05: NPL, RCRACOR, STATE

WINCHESTER ROAD , MURRIETA CA 92563



Source: U.S. Census TIGER Files

Target Site (Latitude: 33.621188 Longitude: -117.076177) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

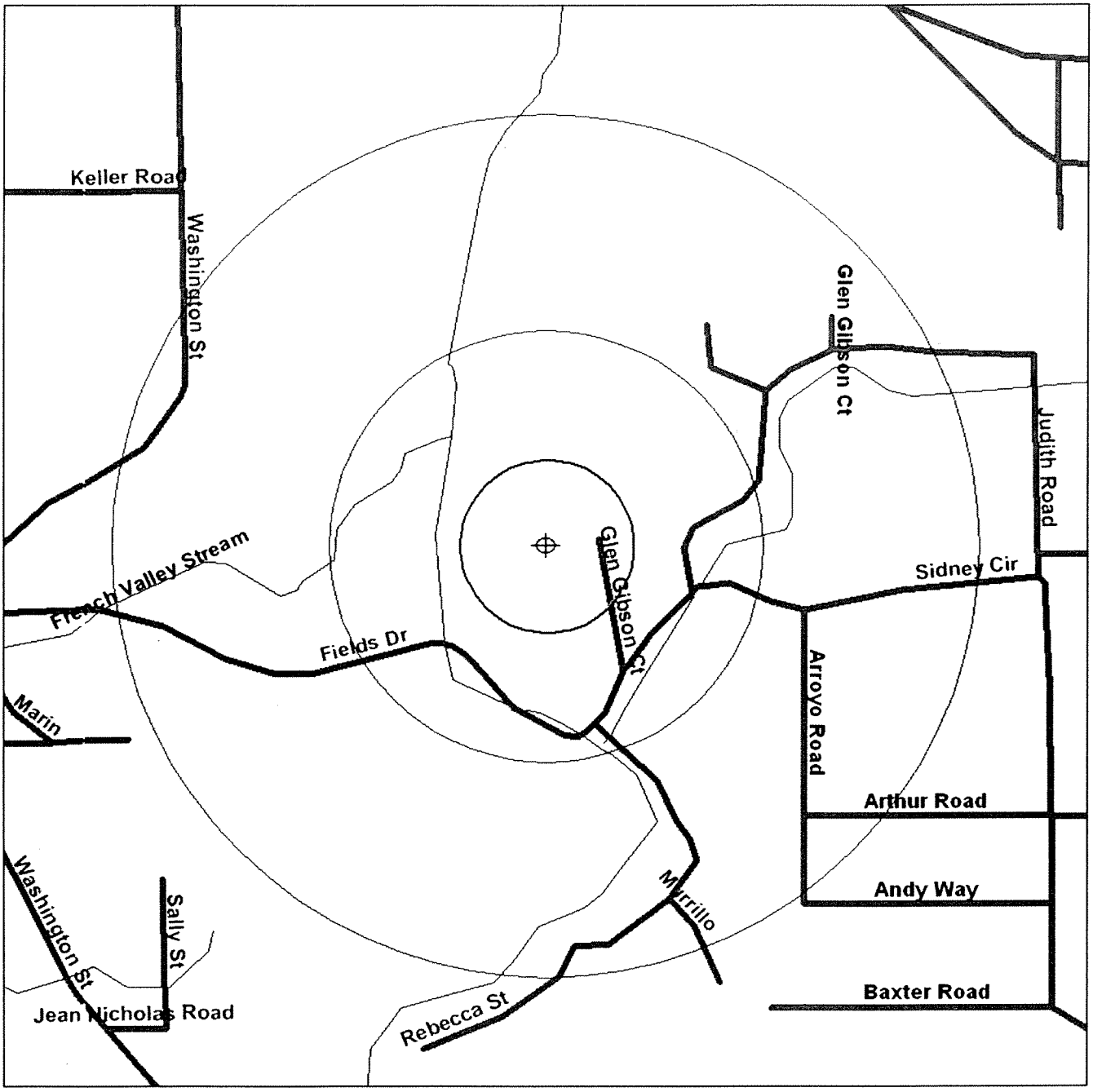
Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.5 Mile Radius

ASTM-05: Multiple Databases

WINCHESTER ROAD , MURRIETA CA 92563



Source: U.S. Census TIGER Files

Target Site (Latitude: 33.621188 Longitude: -117.076177)

Identified Site, Multiple Sites, Receptor

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand

Railroads

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.25 Mile Radius

ASTM-05: RCRAGEN, UST, PERMITS, OTHER

WINCHESTER ROAD , MURRIETA CA 92563

Source: U.S. Census TIGER Files

Target Site (Latitude: 33.621188 Longitude: -117.076177)

Identified Site, Multiple Sites, Receptor

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand

Railroads

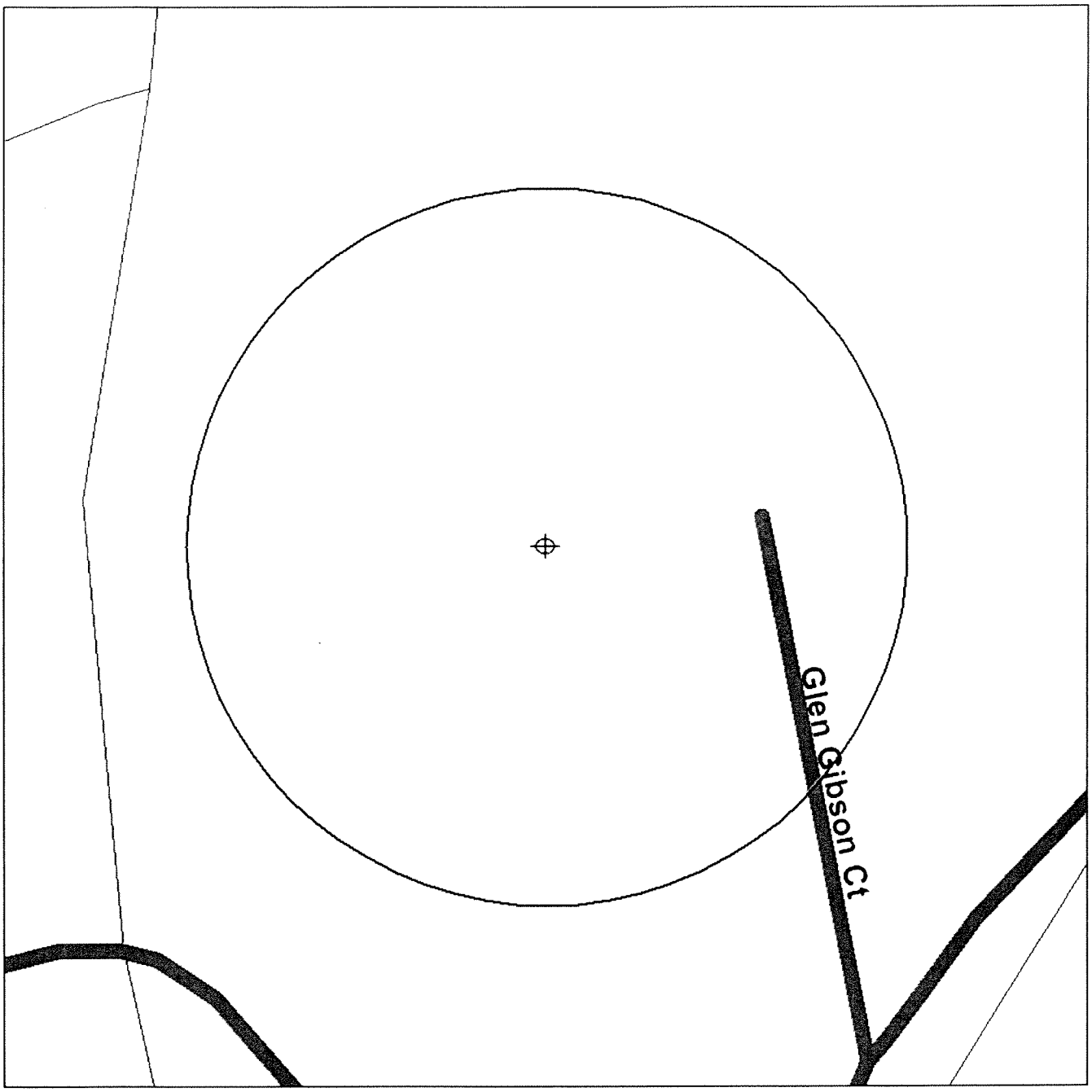
Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.12 Mile Radius

ASTM-05: SPILLS90, ERNS, RCRANLR

WINCHESTER ROAD , MURRIETA CA 92563



Source: U.S. Census TIGER Files

Target Site (Latitude: 33.621188 Longitude: -117.076177)

Identified Site, Multiple Sites, Receptor

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand

Railroads

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

UPDATE #1

First American Title Company

9130 Anaheim Pl., Suite 230
Rancho Cucamonga, CA 91730

Joyce Crosby
Ocean Springs, LLC c/o The Garrett, Group, LLC
One BetterWorld Circle, Ste 300
Temecula, CA 92590

Order Number:	NHRV-2107915 (22)
Title Officer:	Matt Hooks
Phone:	(909)477-5657
Fax No.:	(866)566-3980
E-Mail:	mhooks@firstam.com
Buyer:	
Property:	Vacant Land Riverside, CA

PRELIMINARY REPORT

In response to the above referenced application for a policy of title insurance, this company hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception below or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations of said policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Exhibit A attached. *The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties.* Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a binder or commitment should be requested.

Dated as of January 16, 2008 at 7:30 A.M.

The form of Policy of title insurance contemplated by this report is:

A specific request should be made if another form or additional coverage is desired.

Title to said estate or interest at the date hereof is vested in:

Paul Garrett, trustee of the Paul Garrett 1994 Revocable Trust, as to Parcels A and B,

PG Acquisitions LLC, a California limited liability company, as to Parcel C

The estate or interest in the land hereinafter described or referred to covered by this Report is:

A fee as to Parcel(s) A, B1 and C, an easement as to Parcel(s) B2.

The Land referred to herein is described as follows:

(See attached Legal Description)

At the date hereof exceptions to coverage in addition to the printed Exceptions and Exclusions in said policy form would be as follows:

1. General and special taxes and assessments for the fiscal year 2008-2009, a lien not yet due or payable.

2. General and special taxes and assessments for the fiscal year 2007-2008.

First Installment:	$729.00, PAID
Penalty:	$NONE
Second Installment:	$729.00, OPEN
Penalty:	$NONE
Tax Rate Area:	071-077
A. P. No.:	472-170-008-3

Affects Parcel A

3. General and special taxes and assessments for the fiscal year 2007-2008.

First Installment:	$1,059.48, PAID
Penalty:	$NONE
Second Installment:	$1,059.48, OPEN
Penalty:	$NONE
Tax Rate Area:	071-077
A. P. No.:	472-170-001-6

Affects a portion of Parcel B

4. General and special taxes and assessments for the fiscal year 2007-2008.

First Installment:	$407.01, PAID
Penalty:	$NONE
Second Installment:	$407.01, OPEN
Penalty:	$NONE
Tax Rate Area:	071-077
A. P. No.:	472-170-003-8

Affects a portion of Parcel B

5. General and special taxes and assessments for the fiscal year 2007-2008.

First Installment:	$102.66, PAID
Penalty:	$NONE
Second Installment:	$102.66, OPEN
Penalty:	$NONE
Tax Rate Area:	071-077
A. P. No.:	476-010-040-4

Affects: a portion of Parcel B

6. General and special taxes and assessments for the fiscal year 2007-2008.

First Installment:	$534.70, PAID
Penalty:	$NONE
Second Installment:	$534.70, OPEN
Penalty:	$NONE
Tax Rate Area:	071-077
A. P. No.:	472-180-003-9

Affects: Parcel C

7. The lien of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation Code.

8. Rights of the public in and to that portion of the land lying within any public street or road.

The Following Matters Affect Parcel A:

9. The effect of a recital on said Map stipulating that the areas designated as floodway and natural water courses must be kept free of all dwelling units, obstructions and encroachments by land fill.

10. An easement shown or dedicated on the Map as referred to in the legal description
For: Road purposes and incidental purposes.

11. An easement for either or both pole lines, conduits or underground facilities and incidental purposes, recorded February 8, 1978 as Instrument No. 24783 of Official Records.
In Favor of: Southern California Edison Company, a Corporation
Affects: The land

12. A non-exclusive easement for ingress, egress, public utilities and incidental purposes reserved in the document recorded May 9, 1979 as Instrument No. 94322 of Official Records.

Reserved by: Lake Skinner Ranch, a Limited Partnership.
Affects: The Northerly, Southerly, Easterly and Westerly 30 feet.

The terms and provisions contained in the document entitled "Affidavit", executed by Sidney O. Fields, recorded November 10, 1993 as Instrument No. 449910 of Official Records.

A document recorded November 10, 1993 as Instrument No. 449931 of Official Records provides that the interest of the easement holder was transferred to Tavarr, Incorporated, a California Corporation.

13. The effect of a map purporting to show the land and other property, filed in Book 87, Page 99 of Parcel Maps.

14. The effect of a map purporting to show the land and other property, filed in Book 93, Page 50 of Parcel Maps.

15. The terms and provisions contained in the document entitled "Affidavit" recorded November 10, 1993 as Instrument No. 449918 of Official Records.

The Following Matters Affect Parcels B and C:

16. An easement for public utilities and incidental purposes, recorded January 29, 1947 as Book 819 Page 97 of Official Records.
In Favor of: California Electric Power Company
Affects: Parcel B

17. An easement for public utilities and incidental purposes, recorded August 25, 1960 as Instrument No. 75219 of Official Records.
In Favor of: California Water and Telephone Company
Affects: Parcel B

18. An easement for ingress, egress and incidental purposes, recorded July 2, 1964 as Instrument No. 81236 of Official Records.
In Favor of: Shannon Management Company, an Arizona Corporation
Affects: Parcels B and C

19. An easement for ingress, egress and incidental purposes, recorded August 3, 1973 as Instrument No. 102366 of Official Records.
In Favor of: Sidney O. Fields, a single man and Lee Tully, a married man as tenants in common
Affects: Parcel B

20. An easement for ingress and egress and incidental purposes, recorded August 3, 1973 as Instrument No. 102368 of Official Records.

In Favor of: Sidney O. Fields, a single man and Lee Tully, a married man, as tenants in common

Affects: Parcel C

21. The effect of a map purporting to show the land and other property, filed in Book 23, Page 37 of Parcel Maps.

(Affects Parcel B)

22. An offer of dedication for public roads and incidental purposes, recorded January 11, 1978 as Instrument No. 5400 of Official Records.

To: The County of Riverside

(Parcel B)

23. The effect of a map purporting to show the land and other property, filed in Book 45, Page 26 of Parcel Maps.

(Affects Parcel B)

24. The effect of a map purporting to show the land and other property, filed in Book 45, Page 82 of Parcel Maps.

(Affects Parcel B)

25. The effect of a map purporting to show the land and other property, filed in Book 87, Page 99 of Parcel Maps.

(Affects Parcel B)

26. The effect of a map purporting to show the land and other property, filed in Book 91, Page 99 of Parcel Maps.

(Parcel B)

27. The effect of a map purporting to show the land and other property, filed in Book 93, Page 80 of Parcel Maps.

(Affects Parcel B)

28. The terms and provisions contained in the document entitled "Resolution No. 2002-238" recorded July 12, 2002 as Instrument No. 2002-382638 of Official Records.

(Affects Parcel B)

29. The terms and provisions contained in the document entitled "Easement Agreement" recorded April 1, 2004 as Instrument No. 2004-0231200 of Official Records.

(Affects Parcel B)

30. The effect of a deed of trust to secure an original indebtedness of $23,346,585.00 recorded June 30, 2006 as instrument no. 2006-0478482 of Official Records.

Dated:	June 27, 2006
Trustor:	Garrett Cattle Co., a California corporation
Trustee:	First American Title Company
Beneficiary:	Bank Midwest N.A.

(Affects a portion of Parcel B)

Prior to the issuance of any policy of title insurance, the Company will require:

31. **One of the following, in accordance with the Subdivision Map Act (Section 66410 et seq. of the California Government Code):**
a. A certificate of compliance recorded in the public records.
b. Filing of a final map or parcel map.
c. A waiver of a final map or parcel map.

32. With respect to PG Aquisitions LLC, a limited liability company:
a. A copy of its operating agreement and any amendments thereto;
b. If it is a California limited liability company, that a certified copy of its articles of organization (LLC-1) and any certificate of correction (LLC-11), certificate of amendment (LLC-2), or restatement of articles of organization (LLC-10) be recorded in the public records;
c. If it is a foreign limited liability company, that a certified copy of its application for registration (LLC-5) be recorded in the public records;
d. With respect to any deed, deed of trust, lease, subordination agreement or other document or instrument executed by such limited liability company and presented for recordation by the Company or upon which the Company is asked to rely, that such document or instrument be executed in accordance with one of the following, as appropriate:
(i) If the limited liability company properly operates through officers appointed or elected pursuant to the terms of a written operating agreement, such document must be executed by at least two duly elected or appointed officers, as follows: the chairman of the board, the president or any vice president, and any secretary, assistant secretary, the chief financial officer or any assistant treasurer;
(ii) If the limited liability company properly operates through a manager or managers identified in the articles of organization and/or duly elected pursuant to the terms of a written operating agreement, such document must be executed by at least two such managers or by one manager if the limited liability company properly operates with the existence of only one manager.
e. Other requirements which the Company may impose following its review of the material required herein and other information which the Company may require.

33. With respect to the trust referred to in the vesting:
a. A certification pursuant to Section 18100.5 of the California Probate Code in a form satisfactory to the Company.
b. Copies of those excerpts from the original trust documents and amendments thereto which designate the trustee and confer upon the trustee the power to act in the pending transaction.
c. Other requirements which the Company may impose following its review of the material required herein and other information which the Company may require.

INFORMATIONAL NOTES

Note: The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than the certain dollar amount set forth in any applicable arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. If you desire to review the terms of the policy, including any arbitration clause that may be included, contact the office that issued this Commitment or Report to obtain a sample of the policy jacket for the policy that is to be issued in connection with your transaction.

The map attached, if any, may or may not be a survey of the land depicted hereon. First American expressly disclaims any liability for loss or damage which may result from reliance on this map except to the extent coverage for such loss or damage is expressly provided by the terms and provisions of the title insurance policy, if any, to which this map is attached.

WIRE INSTRUCTIONS
for
First American Title Company, Sub-Escrow Deposits
Riverside County, California

First American Trust, FSB
5 First American Way
Santa Ana, CA 92707

ABA 122241255
Credit to First American Title Company Special Trust Account
Account No. 2000018012
Reference Title Order Number 2107915, and Title Officer Matt Hooks

Please wire the day before recording. Also, notify the Title Officer of your intent to wire.

LEGAL DESCRIPTION

Real property in the unincorporated area of the County of Riverside, State of California, described as follows:

PARCEL A: (472-170-008-3)

PARCEL 6, AS SHOWN BY AMENDED PARCEL MAP 9718, ON FILE IN BOOK 45 PAGE(S) 82 THROUGH 84, INCLUSIVE, OF PARCEL MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

PARCEL B: (472-170-001-6, 472-170-003-8 AND 476-010-040-4)

PARCEL B1:

THE NORTHWEST QUARTER OF SECTION 27, TOWNSHIP 6 SOUTH, RANGE 2 WEST, SAN BERNARDINO BASE AND MERIDIAN, AND THAT PORTION OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 28, TOWNSHIP 6 SOUTH, RANGE 2 WEST, SAN BERNARDINO BASE AND MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF THE NORTHEAST QUARTER OF SAID SECTION 28; THENCE NORTH OF THE EAST LINE OF SAID SECTION 1335.2 FEET TO A POINT IN THE CENTER LINE OF THE COUNTY ROAD; THENCE SOUTH 46° 48' 30" WEST, ON THE CENTER LINE OF SAID ROAD, 349.47 FEET;
THENCE DEFLECTING TO THE LEFT ON A CURVE HAVING A RADIUS OF 120 FEET, A TANGENT OF 57.53 FEET, A DISTANCE OF 107.29 FEET;
THENCE SOUTH 4° 25' EAST, ON THE CENTER LINE OF SAID ROAD, 1004.67 FEET TO THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION;
THENCE NORTH 89° 23' EAST, ON SAID SOUTH LINE, 215 FEET TO THE POINT OF BEGINNING;

EXCEPTING THEREFROM ANY PORTION OF THE FOLLOWING DESCRIBED PROPERTY LYING WITHIN THE NORTHWEST QUARTER OF SAID SECTION 27, TOWNSHIP 6 SOUTH, RANGE 2 WEST, SAN BERNARDINO BASE AND MERIDIAN;

A. A STRIP OF LAND 400 FEET WIDE LYING 200 FEET, MEASURED AT RIGHT ANGLES OR RADIALLY, ON EACH SIDE OF THE FOLLOWING DESCRIBED TRAVERSE LINE:

IN THE FOLLOWING TRAVERSE LINE DESCRIPTION ALL CURVES ARE TANGENT TO THE STRAIGHT LINES WHICH THEY JOIN:

BEGINNING AT A POINT ON THE NORTH LINE OF SAID SECTION 27, SAID POINT BEING DISTANT NORTH 89° 34' 50" EAST, ALONG SAID NORTH LINE, 1913.54 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 27;
THENCE SOUTH 13° 38' 17" WEST, 699.52 FEET TO A POINT HEREIN DESIGNATED "POINT A";
THENCE CONTINUING SOUTH 13° 38' 17" WEST, 299.90 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE EAST AND HAVING A RADIUS OF 300 FEET;
THENCE SOUTHERLY, ALONG SAID CURVE, 157.61 FEET;
THENCE SOUTH 16° 27' 51" EAST, 138.99 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE WEST AND HAVING A RADIUS OF 300 FEET;
THENCE SOUTHERLY, ALONG SAID LAST MENTIONED CURVE, 162.09 FEET;
THENCE SOUTH 14° 29' 37" WEST, 656.01 FEET TO THE BEGINNING OF A CURVE CONCAVE TO

THE EAST AND HAVING A RADIUS OF 250 FEET;
THENCE SOUTHERLY, ALONG SAID LAST MENTIONED CURVE, 178.58 FEET;
THENCE SOUTH 26° 26' 01" EAST, 199.47 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE WEST AND HAVING A RADIUS OF 250 FEET;
THENCE SOUTHEASTERLY, ALONG SAID LAST MENTIONED CURVE, 222.53 FEET;
THENCE SOUTH 24° 33' 59" WEST, 17.21 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE EAST AND HAVING A RADIUS OF 250 FEET;
THENCE SOUTHWESTERLY, ALONG SAID LAST MENTIONED CURVE, 196.35 FEET;
THENCE SOUTH 20° 26' 01" EAST, 108.91 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHEAST AND HAVING A RADIUS OF 250 FEET;
THENCE SOUTHERLY, ALONG SAID LAST MENTIONED CURVE, 146.71 FEET;
THENCE SOUTH 54° 03' 28" EAST, 304.22 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHEAST AND HAVING A RADIUS OF 200 FEET;
THENCE SOUTHEASTERLY, ALONG SAID LAST MENTIONED CURVE, 87.27 FEET;
THENCE SOUTH 79° 03' 28" EAST, 196.99 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE SOUTHWEST AND HAVING A RADIUS OF 200 FEET;
THENCE EASTERLY, ALONG SAID LAST MENTIONED CURVE, 108.46 FEET;
THENCE SOUTH 47° 58' 16" EAST, 601.48 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE WEST AND HAVE A RADIUS OF 180 FEET;
THENCE SOUTHEASTERLY, ALONG SAID LAST MENTIONED CURVE, 268.15 FEET;
THENCE SOUTH 37° 22' 56" WEST, 514.13 FEET TO A POINT HEREIN DESIGNATED "POINT B", SAID POINT ALSO BEING THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST AND HAVING A RADIUS OF 300 FEET;
THENCE SOUTHWESTERLY, ALONG SAID LAST MENTIONED CURVE, 217.96 FEET;
THENCE SOUTH 79° 00' 33" WEST, 97191 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE SOUTHEAST AND HAVING A RADIUS OF 300 FEET;
THENCE WESTERLY, ALONG SAID LAST MENTIONED CURVE, 253.93 FEET;
THENCE SOUTH 30° 28' 24" WEST, 207.34 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST AND HAVING A RADIUS OF 300 FEET;
THENCE SOUTHWESTERLY, ALONG SAID LAST MENTIONED CURVE, 259.17 FEET;
THENCE SOUTH 79° 58' 14" WEST, 373.61 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE SOUTHEAST AND HAVING A RADIUS OF 350 FEET;
THENCE WESTERLY, ALONG SAID LAST MENTIONED CURVE, 384.82 FEET;
THENCE SOUTH 16° 58' 28" WEST, 8.49 FEET TO A POINT ON THE SOUTH LINE OF SAID SECTION 27, SAID LAST MENTIONED POINT BEING DISTANT SOUTH 89° 42' 29" EAST, ALONG SAID SOUTH LINE, 1188.96 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 27;

THE SIDE LINES OF SAID 400 FOOT WIDE STRIP OF LAND SHALL BE PROLONGED OR SHORTENED SO AS TO TERMINATE NORTHERLY IN THE NORTH LINE OF SAID SECTION 27 AND SO AS TO TERMINATE SOUTHERLY IN A LINE WHICH IS AT RIGHT ANGLES TO SAID ABOVE DESCRIBED TRAVERSE LINE AT SAID "POINT B".

B. A STRIP OF LAND 200 FEET WIDE LYING 100 FEET, MEASURED AT RIGHT ANGLES OR RADIALLY, ON EACH SIDE OF SAID TRAVERSE LINE DESCRIBED IN PARCEL A HEREOF.

THE SIDE LINES OF SAID 200 FOOT WIDE STRIP OF LAND SHALL BE PROLONGED OR SHORTENED SO AS TO TERMINATE SOUTHERLY IN THE SOUTH LINE OF SAID SECTION 27 AND SO AS TO TERMINATE NORTHERLY IN SAID LINE WHICH IS AT RIGHT ANGLES TO SAID TRAVERSE LINE AT SAID "POINT B".

C. A PARCEL OF LAND DESCRIBED AS FOLLOWS:

BEGINNING AT SAID POINT A OF SAID TRAVERSE LINE DESCRIBED IN PARCEL A HEREOF;

THENCE NORTH 76° 21' 43" WEST, AT RIGHT ANGLES TO SAID TRAVERSE LINE, 200.00 FEET TO A POINT ON A LINE WHICH IS PARALLEL WITH AND 630 FEET SOUTHERLY, MEASURED AT RIGHT ANGLES, FROM THE NORTH LINE OF SAID SECTION 27, SAID POINT BEING ANGLES, FROM THE NORTH LINE OF SAID SECTION 27, SAID POINT BEING ALSO THE TRUE POINT OF BEGINNING;
THENCE SOUTH 89° 34' 50" WEST, ALONG SAID PARALLEL LINE, 400.00 FEET; THENCE NORTH 0° 25' 10" WEST, 630.00 FEET TO SAID NORTH LINE OF SECTION 27;
THENCE NORTH 89° 34' 50" EAST, ALONG SAID NORTH LINE OF SECTION 27, A DISTANCE OF 557.74 FEET TO A LINE WHICH IS PARALLEL WITH AND 200 FEET WESTERLY, MEASURED AT RIGHT ANGLES, FROM SAID TRAVERSE LINE;
THENCE SOUTH 13° 53' 17" WEST, ALONG SAID LAST MENTIONED PARALLEL LINE, 649.44 FEET TO SAID TRUE POINT OF BEGINNING.

PARCEL B2:

AN EASEMENT OVER THAT PORTION OF SAID LAND AS CONVEYED TO METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA AND SHOWN AS AN EXCEPTION IN PARCEL A ABOVE, DESCRIBED AS FOLLOWS:

AN EASEMENT ACROSS THE SIPHON LOCATED AT APPROXIMATE STA. 979+32 FOR INGRESS AND EGRESS FROM AND TO THE LANDS CONVEYED IN PARCEL A AND THE RIGHT TO MAINTAIN AND OPERATE IRRIGATION LINES OVER, UPON AND ACROSS SAID SIPHON; PROVIDED, SUCH FACILITIES SHALL BE LOCATED, OPERATED AND MAINTAINED IN SUCH A MANNER AS NOT TO INTERFERE WITH METROPOLITAN WATER DISTRICT OF SOUTHERN CLAIFORNIA'S USE OF SAID LAND OR STRUCTURES ERECTED THEREON OR THEREIN BY METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA.

PARCEL C: (472-180-003-9)

THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 27, TOWNSHIP 6 SOUTH, RANGE 2 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLATS THEREOF; LYING EASTERLY OF THE EASTERLY LINE OF THE PROPERTY CONVEYED TO METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA BY DEED RECORDED DECEMBER 4, 1958 IN BOOK 2375, PAGE 63 OF OFFICIAL RECORDS.

NOTICE

Section 12413.1 of the California Insurance Code, effective January 1, 1990, requires that any title insurance company, underwritten title company, or controlled escrow company handling funds in an escrow or sub-escrow capacity, wait a specified number of days after depositing funds, before recording any documents in connection with the transaction or disbursing funds. This statute allows for funds deposited by wire transfer to be disbursed the same day as deposit. In the case of cashier's checks or certified checks, funds may be disbursed the next day after deposit. In order to avoid unnecessary delays of three to seven days, or more, please use wire transfer, cashier's checks, or certified checks whenever possible.

If you have any questions about the effect of this new law, please contact your local First American Office for more details.

EXHIBIT A
LIST OF PRINTED EXCEPTIONS AND EXCLUSIONS (BY POLICY TYPE)

1. CALIFORNIA LAND TITLE ASSOCIATION STANDARD COVERAGE POLICY - 1990
SCHEDULE B

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records. Proceedings by a public agency which may result in taxes or assessments, or notice of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the public records.

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with applicable "doing business" laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate or interest insured by their policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

2. AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY FORM B - 1970
SCHEDULE OF EXCLUSIONS FROM COVERAGE

1. Any law, ordinance or governmental regulation (including but not limited to building and zoning ordinances) restricting or regulating or prohibiting the occupancy, use or enjoyment of the land, or regulating the character, dimensions or location of any improvement now or hereafter erected on the land, or prohibiting a separation in ownership or a reduction in the dimensions of area of the land, or the effect of any violation of any such law, ordinance or governmental regulation.
2. Rights of eminent domain or governmental rights of police power unless notice of the exercise of such rights appears in the public records at Date of Policy.
3. Defects, liens, encumbrances, adverse claims, or other matters (a) created, suffered, assumed or agreed to by the insured claimant; (b) not known to the Company and not shown by the public records but known to the insured claimant either at Date of Policy or at the date such claimant acquired an estate or interest insured by this policy and not disclosed in writing by the insured claimant to the Company prior to the date such insured claimant became an insured hereunder; (c) resulting in no loss or damage to the insured claimant; (d) attaching or

created subsequent to Date of Policy; or (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the estate or interest insured by this policy.

3. AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY FORM B - 1970 WITH REGIONAL EXCEPTIONS

When the American Land Title Association policy is used as a Standard Coverage Policy and not as an Extended Coverage Policy the exclusions set forth in paragraph 2 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage by reason of the matters shown in parts one and two following:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easement or encumbrances which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by public records.
5. Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
6. Any lien, or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the public records.

4. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY - 1970 WITH A.L.T.A. ENDORSEMENT FORM 1 COVERAGE SCHEDULE OF EXCLUSIONS FROM COVERAGE

1. Any law, ordinance or governmental regulation (including but not limited to building and zoning ordinances) restricting or regulating or prohibiting the occupancy, use or enjoyment of the land, or regulating the character, dimensions or location of any improvement now or hereafter erected on the land, or prohibiting a separation in ownership or a reduction in the dimensions or area of the land, or the effect of any violation of any such law ordinance or governmental regulation.
2. Rights of eminent domain or governmental rights of police power unless notice of the exercise of such rights appears in the public records at Date of Policy.
3. Defects, liens, encumbrances, adverse claims, or other matters (a) created, suffered, assumed or agreed to by the insured claimant, (b) not known to the Company and not shown by the public records but known to the insured claimant either at Date of Policy or at the date such claimant acquired an estate or interest insured by this policy or acquired the insured mortgage and not disclosed in writing by the insured claimant to the Company prior to the date such insured claimant became an insured hereunder, (c) resulting in no loss or damage to the insured claimant; (d) attaching or created subsequent to Date of Policy (except to the extent insurance is afforded herein as to any statutory lien for labor or material or to the extent insurance is afforded herein as to assessments for street improvements under construction or completed at Date of Policy).
4. Unenforceability of the lien of the insured mortgage because of failure of the insured at Date of Policy or of any subsequent owner of the indebtedness to comply with applicable "doing business" laws of the state in which the land is situated.

5. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY - 1970 WITH REGIONAL EXCEPTIONS

When the American Land Title Association Lenders Policy is used as a Standard Coverage Policy and not as an Extended Coverage Policy, the exclusions set forth in paragraph 4 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage by reason of the matters shown in parts one and two following:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easement or encumbrances which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by public records.
5. Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
6. Any lien, or right to a lien, for services, labor or material theretofore or hereafter furnished, imposed by law and not shown by the public records.

6. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY - 1992
WITH A.L.T.A. ENDORSEMENT FORM 1 COVERAGE
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy;
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims, or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy (except to the extent that this policy insures the priority of the lien of the insured mortgage over any statutory lien for services, labor or material or the extent insurance is afforded herein as to assessments for street improvements under construction or completed at date of policy); or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable "doing business" laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any statutory lien for services, labor or materials (or the claim of priority of any statutory lien for services, labor or materials over the lien of the insured mortgage) arising from an improvement or work related to the land which is contracted for and commenced subsequent to Date of Policy and is not financed in whole or in part by proceeds of the indebtedness secured by the insured mortgage which at Date of Policy the insured has advanced or is obligated to advance.
7. Any claim, which arises out of the transaction creating the interest of the mortgagee insured by this policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that is based on:
   (i) the transaction creating the interest of the insured mortgagee being deemed a fraudulent conveyance or fraudulent transfer; or
   (ii) the subordination of the interest of the insured mortgagee as a result of the application of the doctrine of equitable subordination; or
   (iii) the transaction creating the interest of the insured mortgagee being deemed a preferential transfer except where the preferential transfer results from the failure:
   (a) to timely record the instrument of transfer; or
   (b) of such recordation to impart notice to a purchaser for value or a judgment or lien creditor.

7. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY - 1992
WITH REGIONAL EXCEPTIONS

When the American Land Title Association policy is used as a Standard Coverage Policy and not as an Extended Coverage Policy the exclusions set forth in paragraph 6 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easement or encumbrances which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by public records.
5. Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
6. Any lien, or right to a lien, for services, labor or material theretofore or hereafter furnished, imposed by law and not shown by the public records.

8. AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY - 1992

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims, or other matters:
   (a) created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the estate or interest insured by this policy.
4. Any claim, which arises out of the transaction vesting in the insured the estate or interest insured by this policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that is based on:
   (i) the transaction creating the estate or interest insured by this policy being deemed a fraudulent conveyance or fraudulent transfer; or
   (ii) the transaction creating the estate or interest insured by this policy being deemed a preferential transfer except where the preferential transfer results from the failure:
   (a) to timely record the instrument of transfer; or
   (b) of such recordation to impart notice to a purchaser for value or a judgment or lien creditor.

9. AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY - 1992
WITH REGIONAL EXCEPTIONS

When the American Land Title Association policy is used as a Standard Coverage Policy and not as an Extended Coverage Policy the exclusions set forth in paragraph 8 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easement or encumbrances which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by public records.
5. Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
6. Any lien, or right to a lien, for services, labor or material theretofore or hereafter furnished, imposed by law and not shown by the public records.

10. AMERICAN LAND TITLE ASSOCIATION RESIDENTIAL
TITLE INSURANCE POLICY - 1987
EXCLUSIONS

In addition to the Exceptions in Schedule B, you are not insured against loss, costs, attorneys' fees and expenses resulting from:

1. Governmental police power, and the existence or violation of any law or government regulation. This includes building and zoning ordinances and also laws and regulations concerning:
   * land use
   * land division
   * improvements on the land
   * environmental protection

   This exclusion does not apply to violations or the enforcement of these matters which appear in the public records at Policy Date.
   This exclusion does not limit the zoning coverage described in items 12 and 13 of Covered Title Risks.
2. The right to take the land by condemning it, unless:

* a notice of exercising the right appears in the public records on the Policy Date
* the taking happened prior to the Policy Date and is binding on you if you bought the land without knowing of the taking.

3. Title Risks:
* that are created, allowed, or agreed to by you
* that are known to you, but not to us, on the Policy Date - unless they appeared in the public records
* that result in no loss to you
* that first affect your title after the Policy Date - this does not limit the labor and material lien coverage in Item 8 of Covered Title Risks

4. Failure to pay value for your title.

5. Lack of a right:
* to any land outside the area specifically described and referred to in Item 3 of Schedule A, or
* in streets, alleys, or waterways that touch your land
This exclusion does not limit the access coverage in Item 5 of Covered Title Risks.

11. EAGLE PROTECTION OWNER'S POLICY

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE - 1998
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE - 1998

Covered Risks 14 (Subdivision Law Violation). 15 (Building Permit). 16 (Zoning) and 18 (Encroachment of boundary walls or fences) are subject to Deductible Amounts and Maximum Dollar Limits of Liability

EXCLUSIONS

In addition to the Exceptions in Schedule B, you are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of any law or government regulation. This includes ordinances, laws and regulations concerning:
   a. building
   b. zoning
   c. land use
   d. improvements on the land
   e. land division
   f. environmental protection

   This exclusion does not apply to violations or the enforcement of these matters if notice of the violation or enforcement appears in the Public Records at the Policy Date.
   This exclusion does not limit the coverage described in Covered Risk 14, 15, 16, 17 or 24.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not apply to violations of building codes if notice of the violation appears in the Public Records at the Policy Date.

3. The right to take the Land by condemning it, unless:
   a. a notice of exercising the right appears in the Public Records at the Policy Date; or
   b. the taking happened before the Policy Date and is binding on You if You bought the Land without Knowing of the taking.

4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they appear in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they appear in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.d, 22, 23, 24 or 25.

5. Failure to pay value for Your Title.

6. Lack of a right:
   a. to any Land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.
   This exclusion does not limit the coverage described in Covered Risk 11 or 18.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

Covered Risk 14, 15, 16 and 18, Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 14:	1% of Policy Amount or $5,000.00 (whichever is less)	$10,000.00
Covered Risk 15:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 16:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00

Covered Risk 18: 1% of Policy Amount or $2,500.00 (whichever is less) $5,000.00

12. SECOND GENERATION EAGLE LOAN POLICY AMERICAN LAND TITLE ASSOCIATION EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (10/13/01)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the Land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the Land; (iii) a separation in ownership or a change in the dimensions or area of the Land or any parcel of which the Land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the Land has been recorded in the Public Records at Date of Policy. This exclusion does not limit the coverage provided under Covered Risks 12, 13, 14 and 16 of this policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the Public Records at Date of Policy. This exclusion does not limit the coverage provided under Covered Risks 12, 13, 14 and 16 of this policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the Public Records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without Knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) created, suffered, assumed or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (this paragraph does not limit the coverage provided under Covered Risks 8, 16, 18, 19, 20, 21, 22, 23, 24, 25 and 26); or
   (e) resulting in loss or damage which would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of the Insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with applicable doing business laws of the state in which the Land is situated.
5. Invalidity or unenforceability of the lien of the Insured Mortgage, or claim thereof, which arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, except as provided in Covered Risk 27, or any consumer credit protection or truth in lending law.
6. Real property taxes or assessments of any governmental authority which become a lien on the Land subsequent to Date of Policy. This exclusion does not limit the coverage provided under Covered Risks 7, 8 (e) and 26.
7. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This exclusion does not limit the coverage provided in Covered Risk 8.
8. Lack of priority of the lien of the Insured Mortgage as to each and every advance made after Date of Policy, and all interest charged thereon, over liens, encumbrances and other matters affecting title, the existence of which are Known to the Insured at:
   (a) The time of the advance; or
   (b) The time a modification is made to the terms of the Insured Mortgage which changes the rate of interest charged, if the rate of interest is greater as a result of the modification than it would have been before the modification.
   This exclusion does not limit the coverage provided in Covered Risk 8.
9. The failure of the residential structure, or any portion thereof to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This exclusion does not apply to violations of building codes if notice of the violation appears in the Public Records at Date of Policy.

13. SECOND GENERATION EAGLE LOAN POLICY AMERICAN LAND TITLE ASSOCIATION EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (10/13/01)
WITH REGIONAL EXCEPTIONS

When the American Land Title Association loan policy with EAGLE Protection Added is used as a Standard Coverage Policy and not as an Extended Coverage Policy the exclusions set forth in paragraph 12 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of said land or by making inquiry of persons in possession thereof.

3. Easements, claims of easement or encumbrances which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by public records.
5. Unpatented mining claims; reservations or exceptions in patents or in acts authorizing the issuance thereof; water rights, claims or title to water.
6. Any lien, or right to a lien, for services, labor or material theretofore or hereafter furnished, imposed by law and not shown by the public records.

14. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY - 2006

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to

   (i) the occupancy, use, or enjoyment of the Land;

   (ii) the character, dimensions, or location of any improvement erected on the Land;

   (iii) the subdivision of land; or

   (iv) environmental protection;

   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.

   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters

   (a) created, suffered, assumed, or agreed to by the Insured Claimant;

   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;

   (c) resulting in no loss or damage to the Insured Claimant;

   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or

   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors? rights laws, that the transaction creating the lien of the Insured Mortgage, is

   (a) a fraudulent conveyance or fraudulent transfer, or

   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

15. AMERICAN LAND TITLE ASSOCIATION LOAN POLICY - 2006

WITH REGIONAL EXCEPTIONS

When the American Land Title Association policy is used as a Standard Coverage Policy and not as an Extended Coverage Policy the exclusions set forth in paragraph 14 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.

16. AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY - 2006
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risks 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors? rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

17. AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY - 2006
WITH REGIONAL EXCEPTIONS

When the American Land Title Association policy is used as a Standard Coverage Policy and not as an Extended Coverage Policy the exclusions set forth in paragraph 16 above are used and the following exceptions to coverage appear in the policy.

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.

PRIVACY POLICY

We Are Committed to Safeguarding Customer Information

In order to better serve your needs now and in the future, we may ask you to provide us with certain information. We understand that you may be concerned about what we will do with such information – particularly any personal or financial information. We agree that you have a right to know how we will utilize the personal information you provide to us. Therefore, together with our parent company, The First American Corporation, we have adopted this Privacy Policy to govern the use and handling of your personal information.

Applicability

This Privacy Policy governs our use of the information which you provide to us. It does not govern the manner in which we may use information we have obtained from any other source, such as information obtained from a public record or from another person or entity. First American has also adopted broader guidelines that govern our use of personal information regardless of its source. First American calls these guidelines its *Fair Information Values*, a copy of which can be found on our website at www.firstam.com.

Types of Information

Depending upon which of our services you are utilizing, the types of nonpublic personal information that we may collect include:

- Information we receive from you on applications, forms and in other communications to us, whether in writing, in person, by telephone or any other means;
- Information about your transactions with us, our affiliated companies, or others; and
- Information we receive from a consumer reporting agency.

Use of Information

We request information from you for our own legitimate business purposes and not for the benefit of any nonaffiliated party. Therefore, we will not release your information to nonaffiliated parties except: (1) as necessary for us to provide the product or service you have requested of us; or (2) as permitted by law. We may, however, store such information indefinitely, including the period after which any customer relationship has ceased. Such information may be used for any internal purpose, such as quality control efforts or customer analysis. We may also provide all of the types of nonpublic personal information listed above to one or more of our affiliated companies. Such affiliated companies include financial service providers, such as title insurers, property and casualty insurers, and trust and investment advisory companies, or companies involved in real estate services, such as appraisal companies, home warranty companies, and escrow companies. Furthermore, we may also provide all the information we collect, as described above, to companies that perform marketing services on our behalf, on behalf of our affiliated companies, or to other financial institutions with whom we or our affiliated companies have joint marketing agreements.

Former Customers

Even if you are no longer our customer, our Privacy Policy will continue to apply to you.

Confidentiality and Security

We will use our best efforts to ensure that no unauthorized parties have access to any of your information. We restrict access to nonpublic personal information about you to those individuals and entities who need to know that information to provide products or services to you. We will use our best efforts to train and oversee our employees and agents to ensure that your information will be handled responsibly and in accordance with this Privacy Policy and First American's *Fair Information Values*. We currently maintain physical, electronic, and procedural safeguards that comply with federal regulations to guard your nonpublic personal information.

Leighton and Associates, Inc.

Phase I ESA Users Questionnaire

Project Name: ~~FRENCH~~ VALLEY ~~EAST~~ **Project Address or APN:** 472-170-003-8
472-170-008-3
472-180-003-9

Client (or user of the Phase I Environmental Site Assessment): THE GARRETT GROUP

Name/Title: WILL ROGERS / PROJECT MANAGER

Client Phone: 951-506-05556

Reason Phase I is required: REQUESTING A FOUNDATION CHANGE FROM THE COUNTY OF RIVERSIDE.

Type of property: VACANT

Type of property transaction (e.g., Sale, purchase, exchange): PURCHASE

Complete and Correct Address of the property and APN(s): 472-170-003-8 472-180-003-9
472-170-008-3

Any scope of services beyond the ASTM Practice E 1527: NONE

All Parties that will rely on the Phase I report: 1. CLIENT
2. COUNTY OF RIVERSIDE

Name and Contact Information for Site Contact: WILL ROGERS, PROJECT MANAGER
ONE BETTER WORLD CIRCLE
TEMECULA, CA 92590

Any special terms or conditions: NONE

Any other pertinent knowledge or experience with the property (e.g., prior reports, documents, correspondence concerning the environmental conditions of the property): NONE

Total Pages when Complete:

Phase I ESA Users Questionnaire

(1). Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25).

Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law? ☐ Yes | ☒ No

If Yes, Describe:

(2). Activity and land use limitations (AULs) that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).

Are you aware of any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law? ☐ Yes | ☒ No

If Yes, Describe:

(3). Specialized knowledge or experience of the person seeking to qualify for the Landowners Liability Protections (LLP) (40 CFR 312.28).

As the user of this ESA do you have any specialized knowledge or experience related to the property or the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business? ☐ Yes | ☒ No

If Yes, Describe:

(4). Relationship of the purchase price to the fair market value of the property if it were not contaminated (40 DRF 312.29).

Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property? ☐ Yes | ☒ No

If Yes, Describe:

(5). Commonly known or reasonable ascertainable information about the property (40 CFR 312.30).

Are you aware of commonly known or *reasonably ascertainable* information about the property that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example, as user,

(a.) Do you know the past uses of the property? ☐ Yes | ☒ No

(b.) Do you know of specific chemicals that are present or once were present at the property? ☐ Yes | ☒ No

(c.) Do you know of spills or other chemical releases that have taken place at the property? ☐ Yes | ☒ No

(d.) Do you know of any environmental cleanups that have taken place at the property? ☐ Yes | ☒ No

If Yes, Describe: _____

(6). The degree of obviousness of the presence of likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

As the *user of this ESA,* based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of contamination at the *property?* ☐ Yes | ☒ No

If Yes, Describe: _____

Continuation of any answer:

Question # _____

Question # _____

Question # _____

Leighton and Associates, Inc

Phase I ESA Owner/Site Contact Interview Form

Interviewee Name: NIL ROGERS Title: PROJECT MANAGER

Address: CUSTOMER WORLD CIRCLE Phone: 951-506-6556
TEMECULA, CA 92590

Relationship to Property: EMPLOYEE OF OWNER

Name and Address of Owner of the Property: CARRETT HOLDING, LLC

Date of Ownership: 10/04/02 Site Name: ~~FRENCH~~ VALLEY EAST

Property Address: VACANT PROPERTY OFF OF FIELDS ROAD

Previous Street Names/Numbers: NONE

General Business Type/Present Property Use: VACANT LAND

Assessor Parcel Number: 472-170-003-8
472-180-005-4 Total # of Buildings: NONE

Grand Total Square Footage: NA Date Built: NA

Current Property Use (include beginning date) VACANT LAND

Past Property Uses (include dates): VACANT LAND

Source of Potable Water Supply (municipal/groundwater wells): EMWD

Sewage Disposal (municipal/septic) (provide name of utility): EMWD

Means of Heating/Cooling (gas, electric, heating oil, etc.): NA

Fuel Source for Heating/Air Conditioning (provide name of utility): NA

Neighboring Property Types (commercial/industrial/residential): SINGLE FAMILY

Current Uses of Adjoining Properties: North: VACANT LAND

South: VACANT LAND

East: SINGLE FAMILY HOMES

West: SD AQUEDUCT

ARE THERE NOW, OR HAVE THERE BEEN IN THE PAST, ANY OF THESE ITEMS ONSITE OR ON ADJACENT PROPERTIES:

ITEM	YES	NO	UNK.	ADJACENT PROPERTY
Hazardous Materials/Chemical Usage on Site **(if so attached list of chemicals used on property)**		X		
Hazardous Waste		X		
MSDS Sheets		X		
Underground Storage Tanks		X		
Aboveground Storage Tanks		X		
Vent Pipes, fill pipes, or access ways indicating a fill pipe to an underground storage area		X		
Odors		X		
Drums		X		
Electrical or hydraulic equipment known to contain PCBs		X		
Stained soil or surfaces		X		
Drains		X		
Sumps		X		
Clarifier		X		
Pits, ponds, or lagoons		X		
Stressed vegetation		X		
Areas for dumping solid waste (landfill)		X		
Wastewater		X		
Wells (oil or gas)		X		
Septic Systems		X		
Fill Material (if fill material is on site, please state source of fill)		X		

ADDITIONAL QUESTIONS:	YES	NO	UNK	REMARKS
Has the Site been used as any of the following: gas station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard, or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility? If so, state which type of facility.		X		
Are you aware of any regulatory compliance audit reports, geotechnical reports, Phase I Environmental Site Assessments, or Phase II Environmental Site Assessments, or soil sampling reports prepared for the Site?		X		
Do you know of any notices or correspondence from any government agency relating to past or current violations of environmental laws with respect to the Site or relating to environmental liens encumbering the Site?		X		
Do you know of any pending, threatened, or past litigation or administrative proceedings relevant to hazardous substances or petroleum products in, on or from the Site?		X		
Do you know of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?		X		
Do you know of any environmental concerns associated with the Site? If so please state in remarks column.		X		
Do you know of any environmental concerns associated with any adjacent or nearby properties? If so please state in remarks column.		X		

Current Property Owner's Time Period of Ownership: 6 YRS

Property Utilization During Ownership: VACANT LAND

Name and Address of Past Owners: CARRETT TRUST

ONE BETTER WORLD CIRCLE, TEMECULA CA 92590

Additional Comments:

Preparer presents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's actual knowledge no material facts have been suppressed or misstated.

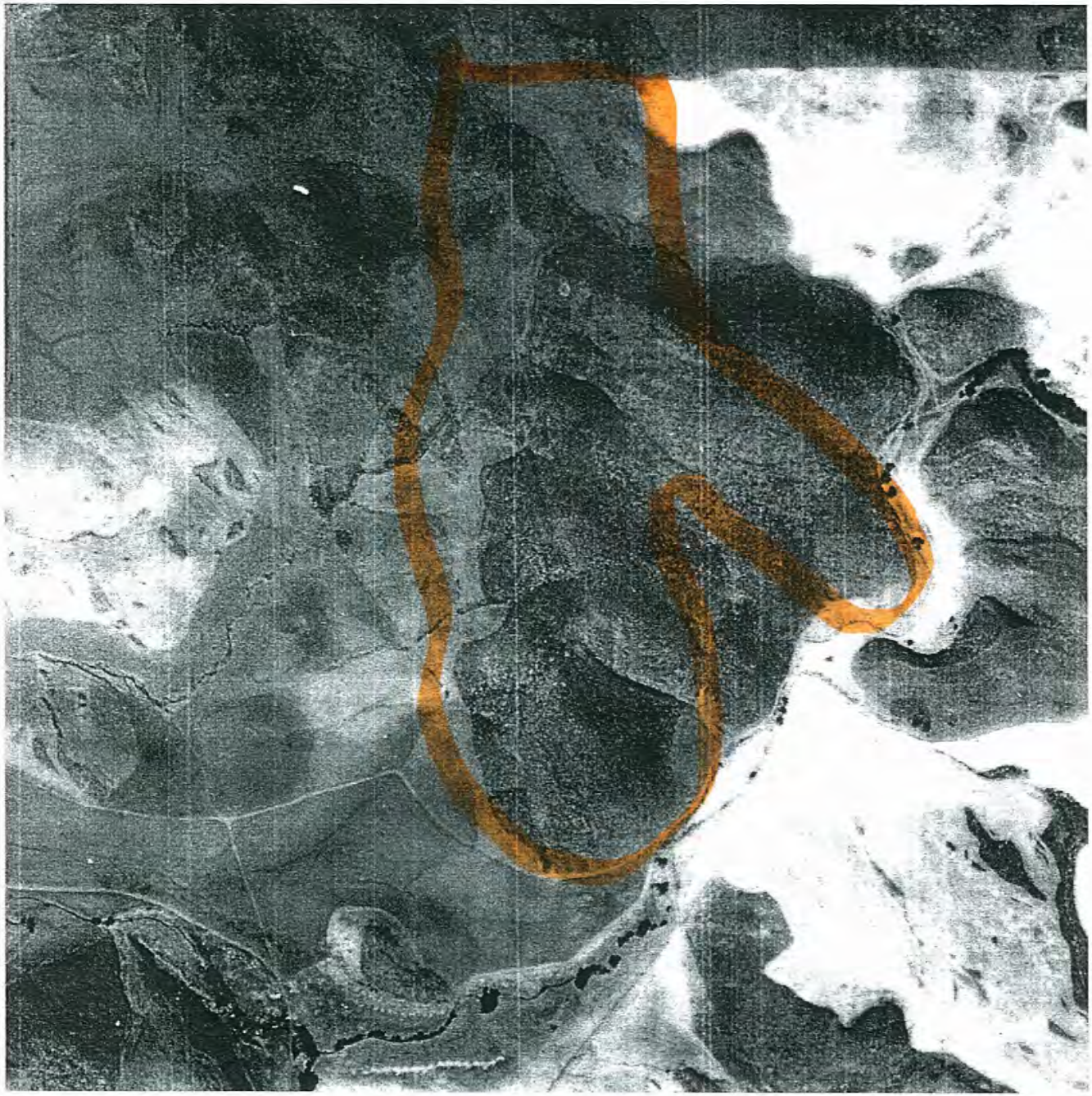
Signature

1/4/08

Date

1938

1:1,666



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1967 1:1,666

1976

1:3,000

1980

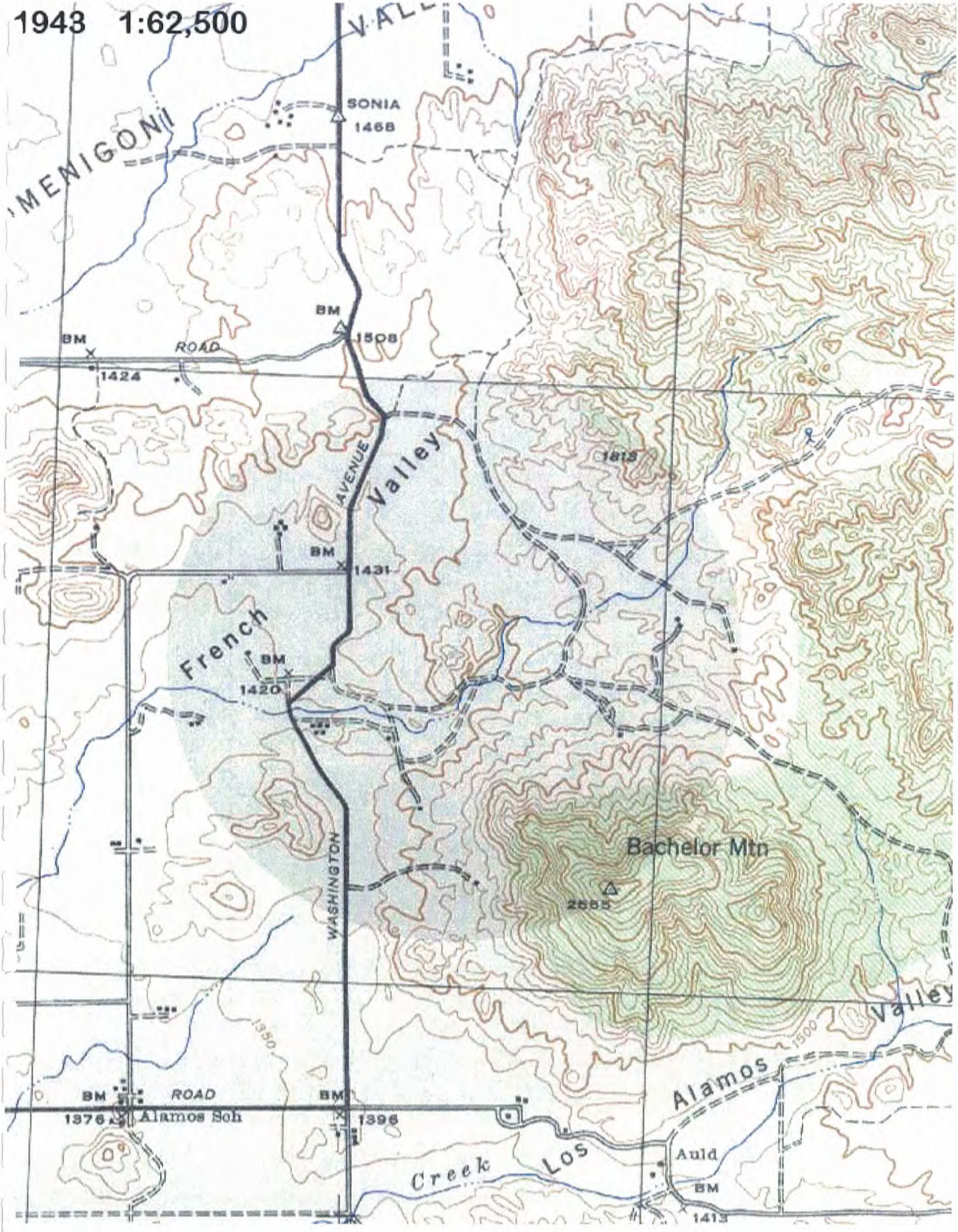
1:3,000

1994

1:3,333

2002

1:3,333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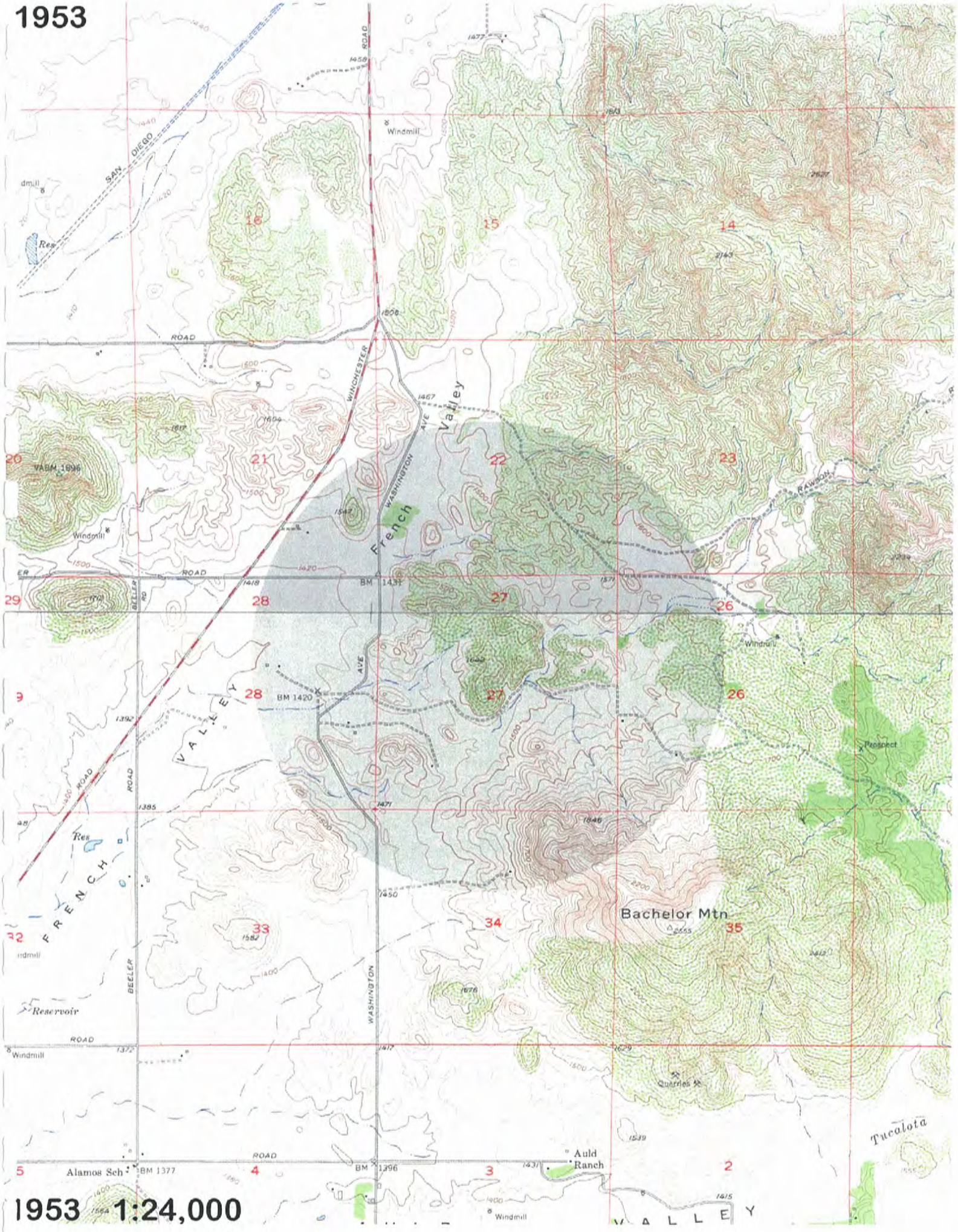
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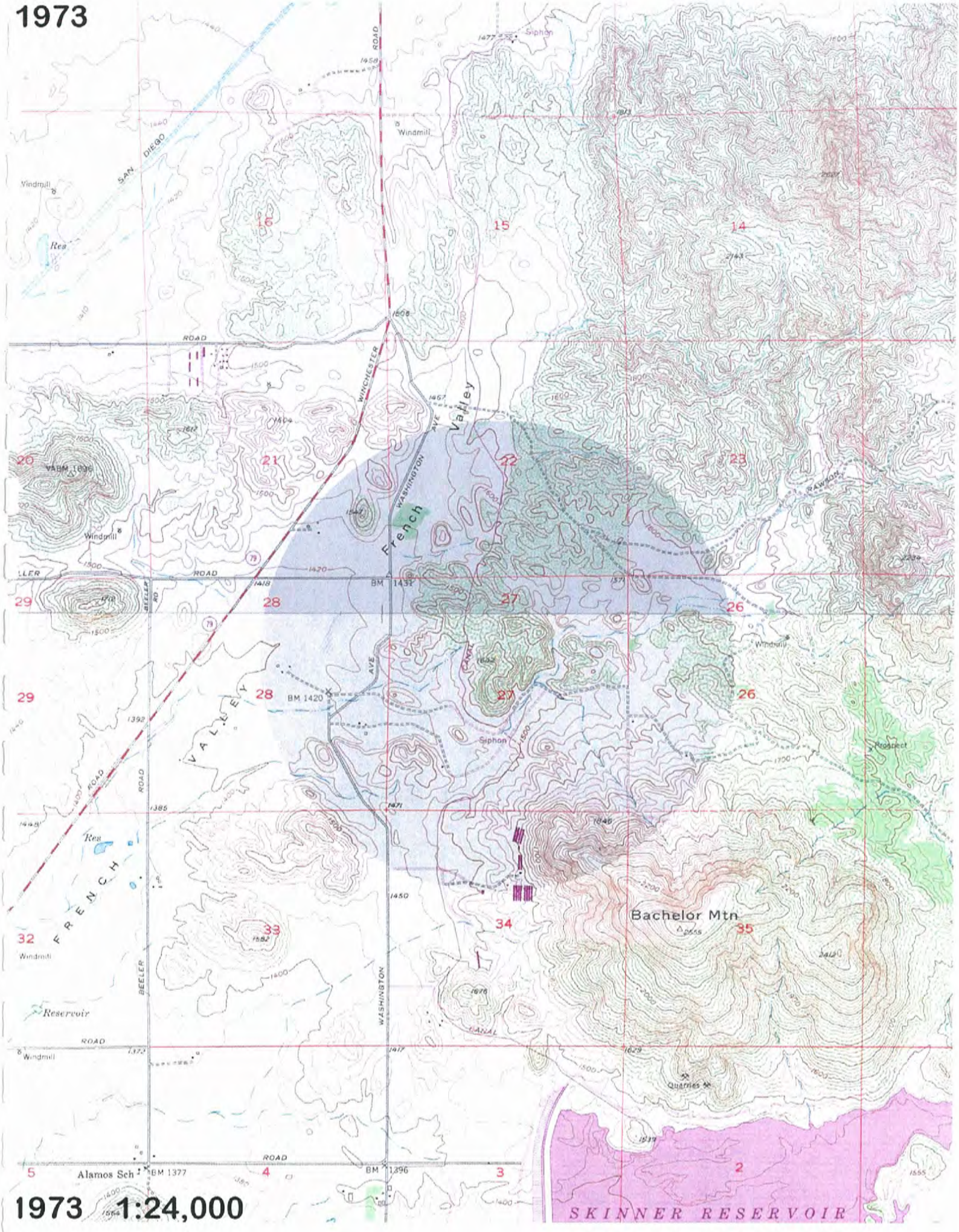
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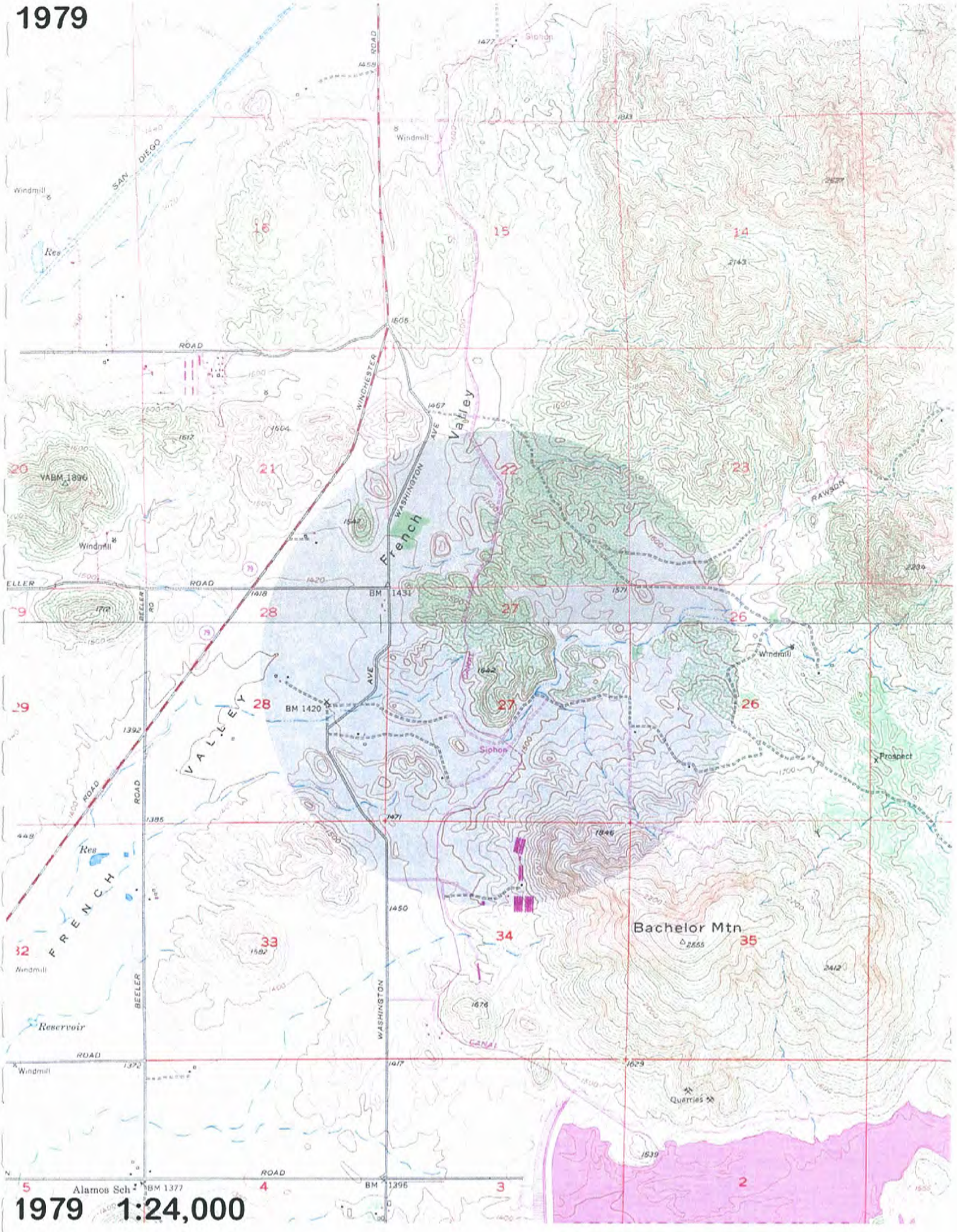
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BM 1296
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Leighton and Associates, Inc.
A LEIGHTON GROUP COMPANY

December 21, 2007

Ms. Jone Barrio
Department of Toxic Substances Control
1011 North Grand Avenue
Glendale, CA 91201
VIA FACSIMILE: (818) 551-2976

Subject: **File Review. French Valley East Phase 1**

Dear Ms. Barrio:

Leighton and Associates, Inc. is requesting information for a property located at Assessor Parcel Numbers (APN's) 472-170-003, 472-170-008, and 472-180-003 on Fields Drive and Rebecca Street, Murrieta, California. **French Valley East Phase 1.**

Included is a copy of a Thomas Guide Map with the Site Location noted. The subject site is located on Thomas Guide Page Number 899, Grid G4.

We are requesting information concerning hazardous waste/materials, underground storage tanks, leaking underground storage tanks, cleanups, inspections, violations, or any other environmental sensitive spills, responses or concerns. Thank you for your assistance.

Sincerely,

LEIGHTON AND ASSOCIATES, INC.
Abraham Marquez
Staff Environmental Scientist
(951) 252-8928
amarquez@leightongroup.com

Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maureen F. Gorsen, Director
1011 North Grandview Avenue
Glendale, California 91201

Arnold Schwarzenegger
Governor

January 1, 2008

Mr. Abraham Marquez, Staff Environmental Scientist
Leighton and Associates, Inc.
41715 Enterprise Circle N., Suite 103
Temecula, CA 92590-5661

VARIOUS SITES
PR31227071

Dear Mr. Marquez:

We have received your Public Records Act Request for records from the Department of Toxic Substances Control.

After a thorough review of our files we have found that no such records exist at this office pertaining to the sites/facilities referenced below.

- 472-170-003 on Fields Drive and Rebecca Street, Murrieta, CA - French Valley East Phase I.
- 472-170-008 on Fields Drive and Rebecca Street, Murrieta, CA - French Valley East Phase I.
- 1472-180-003 on Fields Drive and Rebecca Street, Murrieta, CA - French Valley East Phase I.

We would like to inform you about Envirostor, a database that provides information and documents on over 5,000 DTSC cleanup sites. EnviroStor can be accessed at: http://www.envirostor.dtsc.ca.gov/public. Also, a computer is available in the Central Files of each DTSC Regional Office for use by community members to view EnviroStor.

If you have any questions, would like further information regarding your request or would like an appointment to visit Glendale's Central Files, please contact me at (818) 551-2886.

Sincerely,

Jone Barrio/jv
Regional Records Coordinator

Leighton and Associates, Inc.
A LEIGHTON GROUP COMPANY

December 21, 2007

Ms. Julie Johnson
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
VIA FACSIMILE: (714) 484-5318

Subject: **File Review. French Valley East Phase 1**

Dear Ms. Johnson:

Leighton and Associates, Inc. is requesting information for a property located at Assessor Parcel Numbers (APN's) 472-170-003, 472-170-008, and 472-180-003 on Fields Drive and Rebecca Street, Murrieta, California. **French Valley East Phase 1.**

Included is a copy of a Thomas Guide Map with the Site Location noted. The subject site is located on Thomas Guide Page Number 899, Grid G4.

We are requesting information concerning hazardous waste/materials, underground storage tanks, leaking underground storage tanks, cleanups, inspections, violations, or any other environmental sensitive spills, responses or concerns. Thank you for your assistance.

Sincerely,

LEIGHTON AND ASSOCIATES, INC.
Abraham Marquez
Staff Environmental Scientist
(951) 252-8928
amarquez@leightongroup.com

Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maureen F. Gorsen, Director
5796 Corporate Avenue
Cypress, California 90630

Arnold Schwarzenegger
Governor

December 28, 2007

Mr. Abraham Marquez
Staff Environmental Scientist
Leighton and Associates, Inc.
41715 Enterprise Circle N. Suite 103
Temecula, California 92590-5661

FIELDS DRIVE AND REBECCA STREET, MURRIETA, CA
PR#41227071

Dear Mr. Marquez:

The Department of Toxic Substances Control has received your request to review records under the Public Records Act.

After a thorough review of our files we have found that no such records exist at this office pertaining to the site/facility referenced above.

We would like to inform you about Envirostor, a database that provides information and documents on over 5,000 DTSC cleanup sites. EnviroStor can be accessed at: http://www.envirostor.dtsc.ca.gov/public. Also, a computer is available at each DTSC Regional File Room for use by community members to view EnviroStor.

If you have any questions or would like further information regarding your request, please contact our Regional Records Coordinators at (714) 484-5337.

Sincerely,

Julie Johnson
Regional Records Coordinator

bm

Leighton and Associates, Inc.
A LEIGHTON GROUP COMPANY

December 21, 2007

Mrs. Lisa Dowdy
Office of the State Fire Marshall
Fax No. 916.445.8526

Subject: Pipeline Location Certification Form

Dear Lisa,

Leighton and Associates, Inc. is conducting a Phase I ESA. I am requesting the completion of a Pipeline Certification by an engineer for the subject property.

Included is a copy of a Thomas Guide Map with the Site Location noted. The subject site is located on Thomas Guide Page Number 899, Grids G4.

I am interested in the presence of high pressure oil and gas pipelines or other hazardous materials pipelines identified within approximately 500 feet of the subject property.

Sincerely,

LEIGHTON AND ASSOCIATES, INC.
Abraham Marquez
Staff Environmental Scientist
(951) 252-8928
amarquez@leightongroup.com

Office of the State Fire Marshal

Pipeline Safety Division
P.O. Box 944246
Sacramento, CA 94244-2460

Request ID: 01032008SFM005

TO: LEIGHTON & ASSOC
ABRAHAM MARQUEZ
41715 ENTERPRISE CIRCLE N #103
TEMECULA, CA 92590

Phone: 951 296 0530
Fax: 951 296 0534

FROM: Lisa Dowdy
Phone: (916) 445-8477
Fax: (916) 445-8526

PIPELINE LOCATION REQUEST FOR:

FIELDS DRIVE & REBECCA STREET
WINCHESTER, CA 92596

RIVERSIDE Thomas Brothers Book
Page 899, Grid F4

THERE ARE NO PIPELINES JURISDICTIONAL TO THE STATE FIRE MARSHAL IN THE AREA FOR WHICH YOU HAVE INQUIRED.

- FOR NATURAL GAS PIPELINES PLEASE CONTACT YOUR LOCAL GAS COMPANY

- FOR OTHER TYPES OF PIPELINE PLEASE CONTACT THE DIVISION OF OIL AND GAS AT (714) 816-6847

- FOR PUBLIC UTILITIES PLEASE CONTACT THE PUBLIC UTILITIES COMMISSION AT (415) 703-2782

Lisa Dowdy
Research Analyst I
Office fo the State Fire Marshal

Leighton and Associates, Inc.
A LEIGHTON GROUP COMPANY

December 21, 2007

Ms. Suzanne Cauffiel
Riverside County Environmental Health Department
Fax No. 951.358.5017

Subject: **File Review. French Valley East Phase 1**

Dear Suzanne,

Leighton and Associates, Inc. (Leighton) is conducting a Phase I ESA on the property located at Assessor Parcel Numbers (APN's) 472-170-003, 472-170-008, and 472-180-003 on Fields Drive and Rebecca Street, Murrieta, California. Leighton understands that we will be billed for $67.00 per site location researched. Please send us a bill in the amount of **$67.00** referencing **Project: French Valley East Phase 1.** Thank you for your assistance.

Included is a copy of a Thomas Guide Map with the Site Location noted. The subject site is located on Thomas Guide Page Number 899, Grids G4.

We are requesting any information concerning hazardous waste/materials, underground storage tanks, leaking underground storage tanks cleanup, inspections, violations, or any other environmental sensitive spills, responses or concerns. Thank you for your assistance.

Sincerely,

LEIGHTON AND ASSOCIATES, INC.
Abraham Marquez
Staff Environmental Scientist
(951) 252-8928
amarquez@leightongroup.com

COUNTY OF RIVERSIDE • COMMUNITY HEALTH AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH

Release of Records Response

February 4, 2008

Request No: 10231

Leighton & Associates
41715 Enterprise Circle
North #103
Temecula, CA 92590
Attn: Abraham Marquez

Your request dated 12/20/07 concerning **Hazardous Materials Management Records** has been received and a file search has been conducted. The appropriate action has been taken.

Records were (NOT) found for the following site(s).

Site Located Fields Drive & Rebecca Street Murrieta

Please direct questions or correspondence to:

Address: Department of Environmental Health
Hazardous Materials Management Division
Attention: Suzanne Cauffiel, Records Clerk
4065 County Circle Drive, Room 104
P.O. Box 7489
Riverside, CA 92513-7489
Telephone: (951) 358-5055

Important Information About Your Geoenvironmental Report

Geoenvironmental studies are commissioned to gain information about environmental conditions on and beneath the surface of a site. The more comprehensive the study, the more reliable the assessment is likely to be. But remember: Any such assessment is to a greater or lesser extent based on professional opinions about conditions that cannot be seen or tested. Accordingly, no matter how many data are developed, risks created by unanticipated conditions will always remain. *Have realistic expectations.* Work with your geoenvironmental consultant to manage known and unknown risks. Part of that process should already have been accomplished, through the risk allocation provisions you and your geoenvironmental professional discussed and included in your contract's general terms and conditions. This document is intended to explain some of the concepts that may be included in your agreement, and to pass along information and suggestions to help you manage your risk.

Beware of Change; Keep Your Geoenvironmental Professional Advised

The design of a geoenvironmental study considers a variety of factors that are subject to change. Changes can undermine the applicability of a report's findings, conclusions, and recommendations. *Advise your geoenvironmental professional about any changes you become aware of.* Geoenvironmental professionals cannot accept responsibility or liability for problems that occur because a report fails to consider conditions that did not exist when the study was designed. Ask your geoenvironmental professional about the types of changes you should be particularly alert to. Some of the most common include:

- modification of the proposed development or ownership group,
- sale or other property transfer,
- replacement of or additions to the financing entity,
- amendment of existing regulations or introduction of new ones, or
- changes in the use or condition of adjacent property.

Should you become aware of any change, *do not rely on a geoenvironmental report.* Advise your geoenvironmental professional immediately; follow the professional's advice.

Recognize the Impact of Time

A geoenvironmental professional's findings, recommendations, and conclusions cannot remain valid indefinitely. The more time that passes, the more likely it is that important latent changes will occur. *Do not rely on a geoenvironmental report if too much time has elapsed since it was completed.* Ask your environmental professional to define "too much time." In the case of Phase I Environmental Site Assessments (ESAs), for example, more than 180 days after submission is generally considered "too much."

Prepare To Deal with Unanticipated Conditions

The findings, recommendations, and conclusions of a Phase I ESA report typically are based on a review of historical information, interviews, a site "walkover," and other forms of noninvasive research. When site subsurface conditions are not sampled in any way, the risk of unanticipated conditions is higher than it would otherwise be.

While borings, installation of monitoring wells, and similar invasive test methods can help reduce the risk of unanticipated conditions, *do not overvalue the effectiveness of testing.* Testing provides information about actual conditions only at the precise locations where samples are taken, and only when they are taken. Your geoenvironmental professional has applied that specific information to develop a general opinion about environmental conditions. *Actual conditions in areas not sampled may differ (sometimes sharply) from those predicted in a report.* For example, a site may contain an unregistered underground storage tank that shows no surface trace of its existence. *Even conditions in areas that were tested can change,* sometimes suddenly, due to any number of events, not the least of which include occurrences at

adjacent sites. Recognize, too, that *even some conditions in tested areas may go undiscovered,* because the tests or analytical methods used were designed to detect only those conditions assumed to exist.

Manage your risks by retaining your geoenvironmental professional to work with you as the project proceeds. Establish a contingency fund or other means to enable your geoenvironmental professional to respond rapidly, in order to limit the impact of unforeseen conditions. And to help prevent any misunderstanding, identify those empowered to authorize changes and the administrative procedures that should be followed.

Do Not Permit Any Other Party To Rely on the Report

Geoenvironmental professionals design their studies and prepare their reports to meet the specific needs of the clients who retain them, in light of the risk management methods that the client and geoenvironmental professional agree to, and the statutory, regulatory, or other requirements that apply. The study designed for a developer may differ sharply from one designed for a lender, insurer, public agency...or even another developer. *Unless the report specifically states otherwise, it was developed for you and only you.* Do not unilaterally permit any other party to rely on it. The report and the study underlying it may not be adequate for another party's needs, and you could be held liable for shortcomings your geoenvironmental professional was powerless to prevent or anticipate. Inform your geoenvironmental professional when you know or expect that someone else—a third-party—will want to use or rely on the report. *Do not permit third-party use or reliance until you first confer with the geoenvironmental professional who prepared the report.* Additional testing, analysis, or study may be required and, in any event, appropriate terms and conditions should be agreed to so both you and your geoenvironmental professional are protected from third-party risks. *Any party who relies on a geoenvironmental report without the express written permission of the professional who prepared it and the client for whom it was prepared may be solely liable for any problems that arise.*

Avoid Misinterpretation of the Report

Design professionals and other parties may want to rely on the report in developing plans and specifications. They need to be advised, in writing, that their needs may not have been considered when the study's scope was developed, and, even if their needs were considered, they might misinterpret geoenvironmental findings, conclusions, and recommendations. *Commission your geoenvironmental professional to explain pertinent elements of the report to others who are permitted to rely on it, and to review any plans, specifications or other instruments of professional service that incorporate any of the report's findings, conclusions, or recommendations.* Your geoenvironmental professional has the best understanding of the issues involved, including the fundamental assumptions that underpinned the study's scope.

Give Contractors Access to the Report

Reduce the risk of delays, claims, and disputes by giving contractors access to the full report, *providing that it is accompanied by a letter of transmittal that can protect you* by making it unquestionably clear that: 1) the study was not conducted and the report was not prepared for purposes of bid development, and 2) the findings, conclusions, and recommendations included in the report are based on a variety of opinions, inferences, and assumptions and are subject to interpretation. Use the letter to also advise contractors to consult with your geoenvironmental professional to obtain clarifications, interpretations, and guidance (a fee may be required for this service), and that—in any event—they should conduct additional studies to obtain the specific type and extent of information each prefers for preparing a bid or cost estimate. Providing access to the full report, with the appropriate caveats, helps prevent formation of adversarial attitudes and claims of concealed or differing conditions. If a contractor elects to ignore the warnings and advice in the letter of transmittal, it would do so at its own risk. Your geoenvironmental professional should be able to help you prepare an effective letter.

Do Not Separate Documentation from the Report

Geoenvironmental reports often include supplemental documentation, such as maps and copies of regulatory files, permits, registrations, citations, and correspondence with regulatory agencies. If subsurface explorations were performed, the report may contain final boring logs and copies of laboratory data. If remediation activities occurred on site, the report may include: copies of daily field reports; waste manifests; and information about the disturbance of subsurface materials, the type and thickness of any fill placed on site, and fill placement practices, among other types of documentation. *Do not separate supplemental documentation from the report. Do not, and do not permit any other party to redraw or modify any of the supplemental documentation for incorporation into other professionals' instruments of service.*

Understand the Role of Standards

Unless they are incorporated into statutes or regulations, standard practices and standard guides developed by the American Society for Testing and Materials (ASTM) and other recognized standards-developing organizations (SDOs) are little more than aspirational methods agreed to by a consensus of a committee. The committees that develop standards may not comprise those best-qualified to establish methods and, no matter what, no standard method can possibly consider the infinite client- and project-specific variables that fly in the face of the theoretical "standard conditions" to which standard practices and standard guides apply. In fact, these variables can be so pronounced that geoenvironmental professionals who comply with every directive of an ASTM or other standard procedure could run afoul of local custom and practice, thus violating the standard of care.

Accordingly, when geoenvironmental professionals indicate in their reports that they have performed a service "in general compliance" with one standard or another, it means they have applied professional judgement in creating and implementing a scope of service designed for the specific client and project involved, and which follows some of the general precepts laid out in the referenced standard. To the extent that a report indicates "general compliance" with a standard, you may wish to speak with your geoenvironmental professional to learn more about what was and was not done. *Do not assume a given standard was followed to the letter.* Research indicates that that seldom is the case.

Realize That Recommendations May Not Be Final

The technical recommendations included in a geoenvironmental report are based on assumptions about actual conditions, and so are preliminary or tentative. Final recommendations can be prepared only by observing actual conditions as they are exposed. For that reason, you should retain the geoenvironmental professional of record to observe construction and/or remediation activities on site, to permit rapid response to unanticipated conditions. *The geoenvironmental professional who prepared the report cannot assume responsibility or liability for the report's recommendations if that professional is not retained to observe relevant site operations.*

Understand That Geotechnical Issues Have Not Been Addressed

Unless geotechnical engineering was specifically included in the scope of professional service, a report is not likely to relate any findings, conclusions, or recommendations about the suitability of subsurface materials for construction purposes, especially when site remediation has been accomplished through the removal, replacement, encapsulation, or chemical treatment of on-site soils. The equipment, techniques, and testing used by geotechnical engineers differ markedly from those used by geoenvironmental professionals; their education, training, and experience are also significantly different. If you plan to build on the subject site, but have not yet had a geotechnical engineering study conducted, your geoenvironmental professional should be able to provide guidance about the next steps you should take. The same firm may provide the services you need.

Read Responsibility Provisions Closely

Geoenvironmental studies cannot be exact; they are based on professional judgement and opinion. Nonetheless, some clients, contractors, and others assume geoenvironmental reports are or certainly should be unerringly precise. Such assumptions have created unrealistic expectations that have led to wholly unwarranted claims and disputes. To help prevent such problems, geoenvironmental professionals have developed a number of report provisions and contract terms that explain who is responsible for what, and how risks are to be allocated. Some people mistake these for "exculpatory clauses," that is, provisions whose purpose is to transfer one party's rightful responsibilities and liabilities to someone else. Read the responsibility provisions included in a report and in the contract you and your geoenvironmental professional agreed to. *Responsibility provisions are not "boilerplate."* They are important.

Rely on Your Geoenvironmental Professional for Additional Assistance

Membership in ASFE exposes geoenvironmental professionals to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a geoenvironmental project. Confer with your ASFE-member geoenvironmental professional for more information.

ASFE
THE BEST PEOPLE ON EARTH

8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@asfe.org www.asfe.org

IIGR06055.0M

M: Title Records

No documents have been associated with this appendix.

N: Other Supporting Documents

French Valley

ENVIRONMENTAL PRE-SURVEY QUESTIONNAIRE

GRS GROUP

Property Location Street, City & State, Zip: NE INT. WASHINGTON ST / JEAN NICOLAS / BAXTER Rd			Tax ID:
Site Area +/- 365 acres	Building Area ϕ	Number of Buildings ϕ	Number of Tenants ϕ
Current uses of the Property: Vacant land / agriculture		Past uses of the Property: Dry farming / grazing	

(Y) / N	Has an environmental risk study ever been performed for the property? Leighton, MAR 2007 / Petra 2000
Y / (N)	Are you aware of the current or past use, storage, generation, treatment, emission, disposal or cleanup of a hazardous substance or petroleum product at the property?
Y / (N)	If yes, are you aware of any of the following relative to the subject or surrounding properties - past or present.

☐	Activity and Use Limitation		Regulatory
☐	Engineering Control	☐	Violation
☐	Environmental Cleanup Lien	☐	Corrective Action Notice
☐	Judgment resulting from environmental conditions	☐	Citation
☐	Legal action	☐	Demand
☐	Other related public or generally known information	☐	Enforcement Action
☐	Covenant, Condition or Restriction	☐	Other Regulatory action

Y / (N) Are you aware of the current or past presence of: (Mark all which apply)

☐ Underground storage tank(s),	☐ Above ground storage tank(s),	☐ Vent pipes,
☐ Fill or evacuation ports,	☐ Fuel islands,	☐ Underground pipelines,
☐ Clarifiers, pits or sumps	☐ Drums, or containers >30 gallons	☐ Parts washer,
☐ Lagoons, or ponds	☐ Distressed vegetation,	☐ Septic systems,
☐ Oil or gas wells,	☐ Water wells,	☐ Dry wells,
☐ Monitoring wells,	☐ Stained soils or paving,	☐ Stockpiled soils,
☐ Hazardous waste storage,	☐ Electrical transformers	☐ Electrical capacitors
☐ Hydraulic equipment	☐ Stained floor drains or walls	☐ Unusual odors
☐ Fill dirt	☐ Solid Wastes (tires, batteries, etc.)	

Y / (N) Are you aware of the following past or present activities at the property? (Mark all which apply)

☐ Gas station,	☐ Dry cleaning,	☐ Convenience store with underground tanks
☐ Metal fabrication,	☐ Metal plating,	☐ Auto repair/wrecking,
☐ Manufacturing,	☐ Re-manufacturing,	☐ Salvage yard,
☐ Painting,	☐ Recycling,	☐ Commercial printing,
☐ Photo developing,	☐ Chemical processes,	☐ Landfill,
☐ Equipment rental, sales, service, repair or salvage,		☐ Liquid or solid waste disposal,
☐ Mining, milling, processing, treating or refining of natural resources,		

Y / (N) Are you aware of the following at the property (Past or Present): (Mark all which apply)

☐ Asbestos-containing materials	☐ Lead-based paint
☐ Lead in drinking water	☐ Radon gas in elevated concentrations
☐ Presence of mold	☐ Flooding

Y / (N)	Do you have specialized knowledge which would lead you to suspect a release at the subject or surrounding properties?
Y / (N)	Do you have any reason to believe the purchase or sale price of the property is or was discounted to reflect an existing or past release of a hazardous substance or petroleum product?
Y / (N)	Are you aware of any obvious evidence of a release of the of a hazardous substance or petroleum product at the subject or surrounding properties?
Y / (N)	Are you aware of public or generally known information relative to the known or suspected use, storage, generation, treatment, emission or disposal of a hazardous substance or petroleum product at the property or surrounding area?
Y / (N)	Has a search been conducted for environmental cleanup liens and judgments?

Attach clarification and comments as necessary Send the completed questionnaire to Marcus Breuer (mbreuer@grs-global.com)

Name/Title/Company Sam Kraus / Regent Properties	Phone 310-806-9810
Signature:	Date 3-7-11

O: Qualifications

Matt Hohne, REA

Professional

Education: Bachelor of Science, Geology
Western State College of Colorado, 1996

Licenses/Registrations: CA EPA Registered Environmental Assessor, No. 07830
EPA AHERA Asbestos Inspector

Years of Experience: 12 years

Summary of Professional Experience

Mr. Hohne has been conducting Phase I Environmental Assessments, Phase II Subsurface Investigations, Regulatory Compliance Audits and Property Condition Assessments for property transactions involving industrial, commercial and residential properties throughout the United States, Canada and Mexico since 1996. Mr. Hohne is experienced in the design, management and performance of various soil and groundwater sampling projects, drycleaner investigations, underground storage tank closures and upgrades, the delineation of contaminant plumes including the remediation of impacted areas, and the execution of geophysical surveys utilizing magnetometers and ground penetrating radar. Mr. Hohne has also provided such services as acting as a liaison between local, state and federal regulatory agencies and providing remedial alternatives and cost estimations. Mr. Hohne has also developed and implemented asbestos, lead-based paint and radon operation and maintenance plans.

For a national consulting firm Mr. Hohne was the West Coast Regional Manager responsible for nationwide environmental due diligence. Other responsibilities included business development, proposal preparation, management of staff, project estimating, project budget management, peer reviews, and developing project work plans.

In addition, Mr. Hohne was Assistant Vice President of Environmental Risk Underwriting for a major lender on the East Coast. Mr. Hohne was responsible for assessing and mitigating environmental risk on a total securitization portfolio value of over $1 Billion.

Additional professional duties have included working for insurance services, a national drilling company, and a local environmental service company providing support on an EPA Superfund project.

Mr. Hohne's diversity across public and private industrial environments is a major contribution to Global Realty Services Group Contractor team in the Western United States.

Hitesh Patel

Associate Director

Education: B.S., Environmental Science, Rutgers University, 1992

Licenses/Registrations: OSHA 29 CFR 1910.120 HAZWOPER – 40 Hr and 8-Hr Annual Updates

Years of Experience: 18 years

Summary of Professional Experience

Mr. Patel has over 18 years of experience in the due diligence industry. He has performed and managed over 750 environmental site assessments for residential, commercial and industrial properties to undergo real estate transactions and financial transactions throughout the continental United States. This included Phase I and Phase II ESAs, PCA and desktop review portfolios of properties up to 250 sites ranging in size from small vacant lots to ski resorts. Many of the assessments completed on industrial sites were performed in accordance with New Jersey's Property Transfer Law known as Industrial Site Recovery Act, the Voluntary Cleanup Program and the Brownfield's Program.

In addition to due diligence assessments, Mr. Patel has also performed and managed compliance audits, Phase II site investigations, underground storage tank management and closure activities, remedial investigations and cleanups under various regulatory programs. The clients serviced for these projects included industrial and commercial clients, financial institutions, real estate developers, individual investors, municipal agencies and non-profit organization. Furthermore, Mr. Patel has prepared and successfully implemented soil and groundwater remedial investigation and remedial action work plans for the cleanup of facilities including large bulk petroleum and industrial facilities, gasoline service stations, dry cleaner facilities and vacant and/or undeveloped properties. Management responsibilities included consulting clients, negotiations with the regulatory agencies and the use of innovative remedial technologies for cost effective mitigation of the project sites.

Appendix G:

Noise

ENTECH CONSULTING GROUP
PLANNING • ENVIRONMENTAL • CONSTRUCTION MANAGEMENT

Eastern Municipal Water District (EMWD) Belle Terre Water Tank

PREPARED FOR:	Melissa Perez, Webb & Associates
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DATE:	November 16, 2020
SUBJECT:	Eastern Municipal Water District Belle Terre Water Tank

1.0 Introduction

The following assessment was prepared to evaluate the potential noise and vibration impacts of the construction of the Eastern Municipal Water District (EMWD) Belle Water Tank project. The improvements will have construction activities that will occur within 500 feet of sensitive noise sources at either end of the project limits.

For CEQA purposes, this technical noise memorandum documents the existing noise conditions in the vicinity of the proposed project site describes the criteria for determining the significance of noise impacts utilizing the County of Riverside Municipal Code and the General Plan Noise Element; and determines the likely noise & vibration impacts that would result from construction activities. Recommended mitigation measures are presented to mitigate the impacts. Further, under Appendix G of the CEQA Guidelines, this technical memorandum summarizes whether the proposed Project will result in:

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

2.0 Project Summary

2.1 Project Location

The proposed Project site is approximately 3 acres and is located north of Fields Drive and east of San Diego Canal in the community of French Valley in the unincorporated area of Riverside County. The Project site is specifically located within Planning Area 24 of the Belle Terre Specific Plan No. 382 Substantial Conformance No. 1 (SP382S1) approved by the County of Riverside Board of Supervisors in December 2019, assessor parcel number 472-170-021, and within Section 27, Township 6 South, Range 2 West of the San Bernardino Baseline Meridian Map.

2.2 Existing Conditions

The Project area is currently an undeveloped knoll covered with Riverside sage scrub and surrounded by open space and large, rural single-family residential lots to the east. A roughly graded road up the knoll slope and pad near the top of the knoll is present. MWD's San Diego Canal is located along the west side of the knoll. French Valley Channel and Fields Drive are located just south of the knoll. A new potable water reservoir (tank) and extension of associated water pipelines is needed to serve to implement projects within the boundaries of SP382S1. This facility will be owned and operated by EMWD and would extend the area of EMWD 1627 Pressure Zone. SP382S1 designates Planning Area 24 (4.7 acres) for the development of the water tank.

Figure 1- Aerial Boundary

Belle Terre Water Storage Tank | Mitigated Negative Declaration

2.3 Project Description

As shown in Figure 2, the proposed Project includes the construction of a 1.79 million gallon (MG) potable water storage tank and associated infrastructure that will provide potable water service to the Belle Terre community as planned by SP382S1. The proposed tank will sit at an elevation of 1,590 feet above mean sea level (amsl). It will have an effective tank storage volume of 1.47 MG with a nominal tank diameter of 86-feet, a nominal height of 40-feet, and the highest point on the tank roof will be 46-feet from the ground.

An 18-inch diameter water pipeline will be constructed to connect the proposed tank to the nearest point of connection in Fields Drive for a length of approximately 1,070-feet. Other implementing projects of SP382S1 will install this point of connection. An 18-inch diameter overflow pipeline will be provided to drain overflow tank water to a proposed detention basin located at the entrance of the proposed access road. Both pipelines will be located underneath the proposed access road.

The Project also includes a detention basin. This detention basin will capture the stormwater runoff generated from the paved areas of the site, as well as overflows from the tank. The basin will have a holding capacity of approximately 3,700 cubic feet (CF). The detention basin will provide water quality treatment to the on-site runoff through the mechanisms of infiltration and evapotranspiration. The basin will be equipped with a restrictive outlet that will release flow slowly over a rip-rap apron to sheet flow over Fields Drive. An emergency concrete spillway will also be included. Any runoff beyond the capacity of the basin will sheet flow over Fields Drive into the existing natural wash south of Fields Drive, which is outside the Project area. The Project will also include a concrete-lined flat bottom ditch along the cut slope to collect runoff from the cut slope to drain to Fields Drive and flow via sheet flow to the natural wash. Fields Drive will be concrete-capped where runoff will flow.

Power from Southern California Edison will be routed to the tank site. No major site lighting is proposed. Smaller wattage lighting is proposed only for minor maintenance work at the tank site on the stairs in the block enclosure and near the access gate. The existing power pole located west of the access road will be relocated to clear EMWD access as part of other implementing projects of SP382. SCE service lines will extend the length of the access road, and separate SCE easements for SCE facilities are not anticipated. The access road, detention basin, and tank pad will all be fenced and gated to restrict access.

The PDR analysis for the Project provides conformance of the proposed water storage facility with the latest edition of EMWD's Reservoir Design and Submittal Guidelines, American Water Works Association (AWWA) Design Standards for Steel Water Storage Tanks, AWWA D100-11, and the American Society of Civil Engineers (ASCE) 7-05, Minimum Design Loads for Buildings and Other Structures. The analysis of the proposed tank includes hydrostatic, vertical (gravity), and dynamic forces exerted on the proposed tank. For the seismic analysis, the AWWA General Design curves and uniform hazard response spectra for the Probabilistic Maximum Considered Earthquake (return period of two percent in 50 years and 10 percent in 100 years). The seismic analysis of the tank included seismic overturning, hydrodynamic hoop, and compression stresses, sloshing wave, foundation, and anchorage calculations in accordance with the requirements of AWWA D-100-11 Section 13 and Section 14 for the seismic design of water storage tanks. Site-Specific analyses were performed for those parameters where site-specific analysis governs the design, such as sloshing height.

There are several existing water tanks serving EMWD's 1627 Pressure Zone. The nearest tank is Menifee Village Tank (5.0 MG) and is located 7.7 miles away from the project site. The 1627 Pressure Zone is supplied by the Pat Road Booster Station, and it is located approximately 2.5 miles away from the Project site. The proposed 1.79 MG tank is in the far southeasterly corner of EMWD 1627 Pressure Zone.

EMWD's existing potable water system without the proposed tank is designed to meet the water demands of up to 192 new homes in SP382. Any houses in excess of that number will require the proposed tank to be in operation to get water service. It is expected that the implementing Project (s) of Phase 1 will install the required water line (and other utilities) in Fields Drive so that this Project can connect at the base of the proposed access road. Fields Drive is also expected to be paved by others before the operation of the proposed tank.

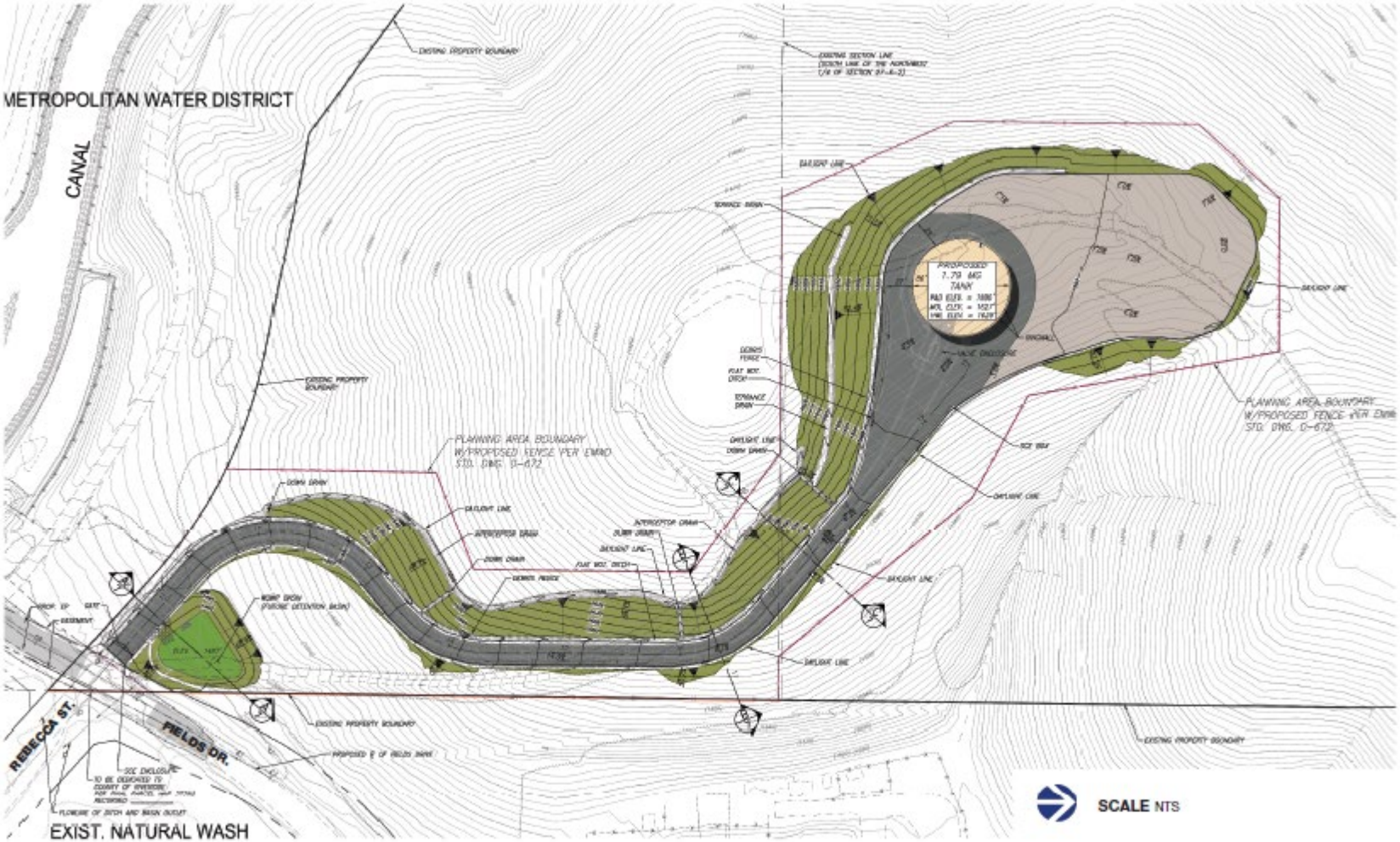


Figure 2 - Conceptual Site Plan

Belle Terre Water Storage Tank | Mitigated Negative Declaration

2.4 Construction Activities

Although one tank is proposed herein, the tank pad will be graded large enough to hold two tanks to allow space for a future tank to be constructed when determined by EMWD. The area for the second pad will be graded and covered with gravel as part of this Project.

A 20-foot wide access road will be graded beginning from Fields Drive to the tank pad site for a length of approximately 1,350-feet. The access road will be paved with concrete curb and gutter on the downhill (east) side and a concrete drainage ditch on the up-hill (west) side. Also, the access road will surround the proposed tank for a total paved area of approximately 28,400 square feet (SF).

The total area disturbed by grading is approximately 133,000 SF, including an estimated 55,620 cubic yards (CY) of cut soil and 531 CY of fill dirt. The net volume of cut soil will be used for grading of the implementing projects of SP382S1. Cut slopes up to 40 feet in height and fill slopes of up to 15 feet in height will be required. Because of the grading required to create the access road, the exposed hillside slopes will have concrete terrace and interceptor drains along the slope top and down-drains to vertically convey runoff to the proposed concrete drainage ditch.

Construction is anticipated to take approximately one year to complete with anticipated operation commencing in November 2021. Soil export is anticipated to be approximately 3,500 CY per day. The soil will be exported a distance of approximately one mile (one-way) to Planning Areas 9 and 28, via Rebecca Road and Autumn Glen Circle to be stockpiled.

Project-related trips would include daily construction worker trips and occasional material delivery and haul truck trips. A total of up to four daily vendor trips (one-way) for material delivery and removal (excluding grading and paving phases) and two water truck trips per day are assumed during Project grading. The duration of grading activities is anticipated to take approximately 45 days. Appropriate traffic control measures would be implemented as necessary in pertinent areas to maintain access and ensure safety. Such measures would likely include standard efforts such as the use of cones, barriers, signs, and flaggers, where applicable.

2.5 Operation and Maintenance

EMWD will operate and maintain the maintenance road, detention basin, water tank, and all associated tank facilities.

3.0 Fundamentals of Noise

3.1 Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and the obstructions or atmospheric factors affecting the propagation path to the receiver determines the noise level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

3.2 Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

3.3 Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (μPa). One μPa is approximately one hundred billionths (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 μPa. Because of this huge range of values, the sound is rarely expressed in terms of μPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL)) in terms of decibels (dB). The threshold of hearing for young people is about 0 dB, which corresponds to 20 μPa.

3.4 Addition of Decibels

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be approximately 3 dB higher than one source under the same conditions (10log[2]). For example, if one automobile produces an SPL of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB – rather, they would combine to produce approximately 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level of approximately 5 dB louder than one source.

3.5 A-weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies, as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000-8,000 Hz and perceive sounds within that range better than sounds of the same amplitude is higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an "A-weighted" sound level (expressed in units of dBA) can be computed based on this information.

The A-weighting network approximates the frequency response of average human hearing when listening to most ordinary sounds. When we make judgments regarding the relative loudness or annoyance of a given sound, these judgments generally correlate well with A-weighted sound levels. Other weighting networks have been devised to address high noise levels or other special acoustical characteristics (e.g., B-, C-, and D-scales), but these scales are rarely used in conjunction with highway traffic noise. Noise levels for traffic noise reports are typically reported in terms of A-weighted decibels or dBA. **Table 1.** *Typical A-weighted Noise levels* describe typical A-weighted noise levels for various noise sources.

Table 1. Typical A-Weighted Noise Levels

Common Outdoor Noise	Noise Level (dBA)	Common Indoor Noise
	— 110 —	Rock band (noise to some, music to others)
Jet fly-over at 1000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	**— 70 —**	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	**— 60 —**	
		Large business office
Quiet urban daytime	**— 50 —**	Dishwasher in neighboring room
Quiet urban nighttime	**— 40 —**	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	**— 0 —**	Lowest threshold of human hearing

Source: Caltrans, 1998.

Using the decibel scale, sound levels from two or more sources cannot be directly added together to determine the overall sound level. Rather, the combination of two sounds at the same level yields an increase of 3 dBA. The smallest recognizable change in sound levels is approximately 1 dBA. A 3-dBA increase is generally considered perceptible, whereas a 5-dBA increase is readily perceptible. Most people judge a 10-dBA increase as an approximate doubling of the sound loudness.

Two of the primary factors that reduce levels of environmental sounds are increasing the distance between the sound source to the receiver and having intervening obstacles such as walls, buildings, or terrain features between the sound source and the receiver. Factors that act to increase the loudness of environmental sounds include moving the sound source closer to the receiver, sound enhancements caused by reflections, and focusing caused by various meteorological conditions.

3.6 Human Response to Changes in Noise Levels

As discussed above, doubling sound energy results in a 3 dB increase in sound level. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different than what is measured. Under controlled conditions in an acoustical laboratory, trained, healthy human hearing can discern 1 dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000 Hz–8,000 Hz) range. In typical noisy environments, changes in the noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people can begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3 dB increase in sound would generally be perceived as barely detectable.

3.7 Noise Descriptors

Noise in our daily environment fluctuates over time. Some fluctuations are minor, but others are substantial. Some noise levels occur in regular patterns, but others are random. Some noise levels fluctuate rapidly, but others slowly. Some noise levels vary widely, but others are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors most commonly used in traffic noise analysis.

- **Equivalent Sound Level (L_{eq}):** L_{eq} represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound that occurs during the same period. The one-hour, A-weighted equivalent sound level (L_{eq}[h]) is the energy-average of A-weighted sound levels occurring during a one-hour period and is the basis for noise abatement criteria (NAC) used by Caltrans and FHWA.

- **Percentile-Exceeded Sound Level (L_n):** L_n represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time).

- **Maximum Sound Level (L_{max}):** L_{max} is the highest instantaneous sound level measured during a specified period.

- **Day-Night Level (L_{dn}):** L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during nighttime hours (10 p.m.-7 a.m.).

- **Community Noise Equivalent Level (CNEL):** Similar to L_{dn}, CNEL is the energy-average of the A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during the nighttime hours between (10 p.m.-7 a.m.) and a 5-dB penalty applied to the A-weighted sound levels occurring during evening hours (7 p.m.-10 p.m.).

3.8 Sound Propagation

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

3.9 Geometric Spreading

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

3.10 Ground Absorption

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver – such as soft dirt, grass, or scattered bushes and trees), an excess ground-attenuation value of 1.5 decibels per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 decibels per doubling of distance.

3.11 Atmospheric Effects

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

3.12 Shielding by Natural or Man-Made Features

A large object or sound wall in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise. Natural terrain features (e.g., hills and dense woods) and man-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver, specifically to reduce noise. A sound wall that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. Taller sound walls provide increased noise reduction. Vegetation between the highway and receiver is rarely effective in reducing noise unless it is sufficiently dense.

3.13 Effects of Noise on People

Noise is generally loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity that is a nuisance or disruptive. The effects of noise on people can be placed into four general categories:

- Subjective effects (e.g., dissatisfaction, annoyance)
- Interference effects (e.g., communication, sleep, and learning interference)
- Physiological effects (e.g., startle response)
- Physical effects (e.g., hearing loss)

Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. Interference effects refer to interruption of daily activities and include interference with human communication activities, such as normal conversations, watching television, telephone conversations, and interference with sleep. Sleep interference effects can consist of both awakening and arousal to a lesser state of sleep. With regard to the subjective effects, the responses of individuals to similar noise events are diverse and are influenced by many factors, including the type of noise, the perceived importance of the noise, the appropriateness of the noise to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity.

Overall, a wide variation of tolerance to noise exists, based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted (i.e., comparison to the ambient noise environment). In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships generally occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived.
- Outside of the laboratory, a 3 dBA change in noise levels is considered to be a barely perceivable difference.
- A change in noise levels of 5 dBA is considered to be a readily perceivable difference.
- A change in noise levels of 10 dBA is subjectively heard as doubling of the perceived loudness.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a straightforward additive fashion, but rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

3.14 Noise Attenuation

Stationary point sources of noise, including stationary, mobile sources such as idling vehicles, attenuate (lessen) at a rate between 6 dBA for hard sites and 7.5 dBA for soft sites for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver, such as asphalt or concrete surfaces or smooth bodies of water. No excess ground attenuation is assumed for hard sites, and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass, or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dBA (per doubling distance) is normally assumed for soft sites. Line sources (such as traffic noise from vehicles) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement (Caltrans 1998).

4.0 Fundamentals of Vibration

Vibration is energy transmitted in waves through the ground or man-made structures. These energy waves generally dissipate with distance from the vibration source. Familiar sources of groundborne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving, and operation of heavy earth-moving equipment. As described in the Federal Transit Administration's (FTA) Transit Noise and Vibration Impact Assessment (FTA 2018), ground-borne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most commonly used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The relationship of PPV to RMS velocity is expressed in terms of the "crest factor," defined as the ratio of the PPV amplitude to the RMS amplitude. Peak particle velocity is typically a factor of 1.7 to 6 times greater than RMS vibration velocity (FTA 2018). The decibel notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment.

The effects of ground-borne vibration include movement of the building floors, the rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration levels exceed the threshold of perception by only a small margin. A vibration level that causes an annoyance will be well below the damage threshold for normal buildings. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 in/sec PPV (FTA 2018).

In residential areas, the background vibration velocity level is usually around 50 VdB (approximately 0.0013 in/sec PPV). This level is well below the vibration velocity level threshold of perception for humans, which is approximately 65 VdB. A vibration velocity level of 75 VdB is considered to be the approximate dividing line between barely perceptible and distinctly perceptible levels for many people (FTA 2018).

5.0 Regulatory Setting

Several statutes, regulations, plans, and policies have been adopted which address noise and vibration concerns. Detailed below is a discussion of the relevant regulatory setting and noise and vibration regulations, plans, and policies.

5.1 Federal

There are no federal noise standards that directly regulate environmental noise related to the construction of the proposed Project. Therefore, the FTA's guidance, 2018 Transit Noise, and Vibration Impact Assessment was used to evaluate vibration levels resulting from proposed project construction activities on human annoyance and structural damage. Based on this guidance, the vibration standards are presented in **Table 2,** *Ground-Borne Vibration Criteria: Human Annoyance,* and **Table 3***, Ground- Borne Vibration Criteria: Architectural* Damage.

Table 2. Ground-borne Vibration Criteria: Human Annoyance

Land Use Category	Max Lv (VdB)	Description
Workshop	90	Distinctly felt vibration. Appropriate to workshops and non-sensitive
Office	84	Felt vibration. Appropriate to offices and non-sensitive areas.
Residential – Daytime	78	Barely felt vibration. Adequate for computer equipment.
Residential – Nighttime	72	Vibration is not felt, but groundborne noise may be audible inside quiet rooms.

SOURCE: FTA, 2018.
NOTE:
Max Lv (VdB): Lv is the velocity level in decibels, as measured in 1/3-octave bands of frequency over the frequency ranges of 8 to 80 Hz.

Table 3. Ground-borne Vibration Criteria: Architectural Damage

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

SOURCE: FTA 2018; PEIR, 2014
NOTE:
Max Lv (VdB): Lv is the velocity level in decibels, as measured in 1/3-octave bands of frequency over the frequency ranges of 8 to 80 Hz.

5.2 State

The State of California, Office of Planning and Research has published, with regard to community noise exposure, recommended guidelines for land use compatibility. These guidelines rate land use compatibility in terms of being normally acceptable, normally unacceptable, and clearly unacceptable. Each jurisdiction is required to consider these guidelines when developing a general plan noise element and when determining acceptable noise levels within its community. These guidelines are representative of various land uses that include residential, commercial/mixed-use, industrial, and public facilities. **Table 4.** *Land Use Compatibility Matrix* identifies the acceptable limit of noise exposure for various land use categories within the County. Noise exposure for single-family uses is normally acceptable when the CNEL at exterior residential locations is equal to or below 60 dBA, conditionally acceptable when the CNEL is between 55 to 70 dBA, and normally unacceptable when the CNEL exceeds 70 dBA. These guidelines apply to noise sources such as vehicular traffic, aircraft, and rail movements.

Table 4. Land Use Compatibility Matrix

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dB)						
	55	60	65	70	75	80	
Residential - Low-Density Single-Family, Duplex, Mobile Homes							
Residential - Multi-Family							
Transient Lodging - Motels Hotels							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditoriums, Concert Halls, Amphitheaters							
Sports Arena, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business Commercial and Professional							
Industrial, Manufacturing, Utilities, Agriculture							

Normally Acceptable - Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

Normally Unacceptable - New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable - New construction or development should generally not be undertaken.

SOURCE:
Adapted from: Governor's Office of Planning and Research. 2003. State of California General Plan Guidelines. Appendix C, Noise Element Guidelines, Figure 2. Sacramento, CA.

The California Noise Insulation Standards require that interior noise levels from exterior sources are 45 dBA or less in any habitable room of a multi residential-use facility (e.g., hotels, motels, dormitories, long-term care facilities, and apartment houses, except detached single-family dwellings) with doors and windows closed. Measurements are based on CNEL or Ldn (the day-night average), whichever is consistent with the noise element of the local general plan. Where exterior noise levels exceed 60 dBA CNEL, an acoustical analysis for new development may be required to show that the proposed construction will reduce interior noise levels to 45 dBA CNEL. If the interior 45 dBA CNEL limit can be achieved only with the windows closed, the residence must include mechanical ventilation that meets applicable Uniform Building Code (UBC) requirements.

5.3 Local

Local noise issues are addressed through the implementation of general plan policies, including noise and land use compatibility guidelines, and through enforcement of noise ordinance standards. A city or county's noise ordinance will typically include regulations that restrict the amount and duration of noise from various noise sources occurring within its jurisdiction as well as prescribe noise limits for different land-use types. For the proposed Project, noise regulations and standards of the County of Riverside is considered with respect to evaluating the proposed Project's noise impacts on the surrounding environment. As a public agency, EMWD is not subject to other local jurisdictional agencies' noise ordinances, nor is EMWD required to obtain variances from local agencies. However, for purposes of evaluation, local agency noise ordinances are utilized as thresholds to analyze noise levels from the construction of the proposed EMWD facility and potential impacts to sensitive receptors. They are also used as a guideline to develop mitigation measures that would typically be used to minimize noise impacts to sensitive receptors.

5.3.1 County of Riverside Noise Element

The California Government Code Section 65302(g) requires that a noise element be included in the General Plan of each county and city in the State. The Noise Element of the County of Riverside General Plan is intended to provide a systematic approach to identifying and appraising noise problems in the community, quantifying existing and projected noise levels, addressing excessive noise exposure, and community planning for the regulation of noise.

The County's primary goal with regard to community noise is to ensure that noise-producing land uses would be compatible with adjacent land uses. To this end, the Noise Element establishes noise/land use compatibility guidelines based on cumulative noise criteria for outdoor noise. These guidelines are based, in part, on the community noise compatibility guidelines established by the Office of Planning Research in assessing the compatibility of various land-use types with a range of noise levels, as previously shown in Table 4.

The County of Riverside's General Plan Noise Element has developed the following temporary construction policies to reduce noise from construction activities near sensitive areas.

Temporary Construction Policies:

N 13.1 Minimize the impacts of construction noise on adjacent uses within acceptable practices.

N 13.2 Ensure that construction activities are regulated to establish hours of operation to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.

N 13.3 Condition subdivision approval adjacent to developed/occupied noise-sensitive land uses by requiring the developer to submit a construction-related noise mitigation plan to the County for review and approval prior to issuance of a grading permit. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during the construction of this Project, through the use of such methods as:
a. Temporary noise attenuation fences;
b. Preferential location of equipment; and
c. Use of current noise suppression technology and equipment.

N 13.4 Require that all construction equipment utilizes noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

County of Riverside Municipal Code

With respect to residential and recreational open space uses, Section 9.52.040 (General Sound Level Standards) of the County of Riverside Municipal Code identifies the following general sound level standards, as shown in **Table 5.** *County of Riverside Sound Level Standard*. These sound level standards apply to sound emanating from all noise sources.

Table 5. County of Riverside Sound Level Standard

Land Use	Maximum Decibel Level (dB Lmax)
Community Development Residential 10:00 p.m. to 7:00 a.m.	45
7:00 a.m. to 10:00 p.m.	55
Open Space Recreation 10:00 p.m. to 7:00 a.m.	45
7:00 a.m. to 10:00 p.m.	45

SOURCE: County of Riverside Ordinance 847 Adopted 2006.

For construction noise levels, Section 9.52.020 (Exemptions) of the County of Riverside Municipal Code states that private construction projects located within one-quarter of a mile from an inhabited dwelling are exempt from the County's noise standards if 1) Construction does not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September, and 2) Construction does not occur between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May.

In addition, Section 9.52.060 (Special Sound Sources Standards) of the County of Riverside Municipal Code also prohibits the operation of any power tools or equipment between the hours of 10:00 p.m. and 8:00 a.m. such that the power tools or equipment are audible to the human ear inside an inhabited dwelling other than a dwelling in which the power tools or equipment may be located. Furthermore, the operation of any power tools or equipment is prohibited at any other time such that the power tools or equipment are audible to the human ear at a distance greater than 100 feet from the power tools or equipment. However, exceptions to the standards set forth in Section 9.52.040 and 9.52.060 of the County of Riverside Municipal Code may be requested for construction-related events, which would be considered by the County's Director of Building and Safety.

5.3.2 County of Riverside Groundborne Vibration Regulation

The County of Riverside has not adopted any criteria or regulations for groundborne vibration impacts. While the Noise Element of the Riverside County General Plan contains policies that stipulate restricting the placement of sensitive land

uses in proximity to vibration-producing lands and prohibiting exposure of residential dwellings to perceptible ground vibration from passing trains, these policies do not apply to the proposed Project.

6.0 Thresholds of Significance

According to Appendix G of the State CEQA Guidelines, the proposed Project could have a potentially significant impact with respect to noise if it would:

- Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose people to or generate excessive groundborne vibration or groundborne noise levels;
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the proposed Project;
- Expose people residing or working in the project area to excessive noise levels for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport; or
- Expose people residing or working in the project area to excessive noise levels for a project within the vicinity of a private airstrip.

7.0 Existing Noise

The existing noise environment was characterized by collecting one (1) long-term 24-hour field noise measurement at the project property line. The noise measurement was performed on September 2, 2020. Appendix A includes the field monitoring data, and **Figure 3** shows the monitoring locations.

The Long-term noise measurement was taken using a Larson Davis Type 1 precision sound level meter. The noise meter was programmed in a "slow" mode to record noise levels in the "A" weighted form. The sound level microphone was mounted on a tripod, five feet above the ground, and equipped with a windscreen during all measurements. The sound level meter was calibrated before the monitoring using a CAL200 calibrator. All noise level measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA).

Table 6 shows the measured noise levels at the project site. The current noise level for the project area is 48.5 CNEL. This noise level falls well below the Normally Acceptable land us compatibility category for residential uses.

Table 6. Existing (Ambient) Long-Term (24-hour) Noise Level Measurements[1]

Noise Monitoring Location ID[2,3]	Description	Hourly Noise Levels (1hr-L_{eq})				24-hour Noise Levels (CNEL)
		Daytime Minimum	Daytime Maximum	Nighttime Minimum	Nighttime Maximum	
LT-1	Property Boundary	45.3	52.8	31.1	44.8	48.5

1 Noise measurement was taken on September 2, 2020

2 See Figure 3 for the location of the monitoring site, and Appendix A for Field Monitoring Data.

3 Taken with Larson Davis 824 Type 1 noise meter

8.0 METHODOLOGY

8.1 Ambient Noise Measurements.

One (1) long term measurement was performed to document the existing noise environment. Noise measurements were taken with a Larson Davis Type 1 meter. This meter satisfies the American National Standards Institute standard for general environmental noise measurement instrumentation. Random incidence microphones with windscreens were used, given the outdoor (i.e., free field) conditions of monitoring. The sound level averages were measured as A-weighted, slow-time weighted (1-minute period) sound pressure level variables, commonly used for measuring environmental sounds. Sound levels presented in this report are in terms of dBA. The location of the long-term noise measurement is shown in **Figure 3**. *Noise Monitoring Location*.

8.2 Construction Noise Analysis Methodology

Construction activities typically generate noise from the operation of equipment required for the construction of various facilities. Noise impacts from on-site construction were evaluated by determining the noise levels caused by different types of construction activity, calculating the construction-related noise level at nearby noise-sensitive receptor locations, and comparing these construction-related noise levels to existing ambient noise levels (i.e., noise levels without Project-related construction noise). The actual noise level would vary, depending upon the equipment type, model, the type of work activity being performed, and the condition of the equipment. Construction noise was assessed using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM), which calculates noise levels for a variety of construction operations based on a compilation of empirical data and the application of acoustical propagation formulas.

The following section outlines the analysis methods utilized to predict future noise and vibration levels from the construction and operation of the proposed Project.

The assessment of the construction noise impacts must be relatively general at this phase of the Project because many of the decisions affecting noise will be at the discretion of the contractor. However, an assessment based on the type of equipment expected to be used by the contractor can provide a reasonable estimate of potential noise impacts and the need for noise mitigation. A worst-case construction noise scenario was developed to estimate the loudest activities that would be occurring at the project site. Pile driving and blasting activities are not anticipated; therefore, the noisiest construction activities are centered around the movement of heavy construction equipment during excavation, grading operations, and tank construction. Noise levels were estimated based on a worst-case scenario, which assumed all pieces of equipment would be operating simultaneously during each construction phase. The calculated noise level was then compared to the respective local noise regulation to determine if construction would cause a short-term noise impact at nearby residential land uses. Receiver distance to the construction activity along with the construction equipment operating at the maximum load will have the greatest influence on construction noise levels experienced at residential land uses.

Construction noise levels will be predicted using reference noise levels for standard construction equipment, the distance to the noise-sensitive uses, and noise attenuation standards. The FHWA Roadway Construction Noise Model (RCNM) will be utilized to predict noise levels using this methodology. The RCNM is a Windows-based noise prediction model that enables the prediction of construction noise levels for a variety of construction operations based on a compilation of empirical data and the application of acoustical propagation formulas. Outputs from the RCNM will determine the combined noise levels from equipment that will be operated simultaneously. Projected noise levels without construction equipment will be subtracted from the projected noise level during construction activities to determine the change in noise level on the existing environment. The difference in noise level, the number of days various noise levels are projected, will be compared to significance thresholds to determine whether construction activities would cause significant increases.

Figure 3- Noise Monitoring Location

Belle Terre Water Storage Tank | Mitigated Negative Declaration

LT-1 Long-Term Measurement Site

8.3 Construction Vibration Analysis Methodology

Groundborne vibration levels resulting from construction activities within the project area were estimated using the data published by the FTA in its Transit Noise and Vibration Impact Assessment Manual (FTA, 2018). Potential vibration levels resulting from construction activities of the proposed Project are identified at the nearest off-site sensitive receptor location and compared to the FTA damage criteria, as shown previously in Table 3.

9.0 Construction Analysis & Results

Construction noise represents a temporary impact on ambient noise levels. Construction noise is primarily caused by diesel engines (trucks, dozers, backhoes), impacts (jackhammers, pile drivers, hoe rams), and backup alarms. Construction equipment can be stationary or mobile. Stationary equipment operates in one location for hours or days in a constant mode (generators, compressors) or generates variable noise operation (pile drivers, jackhammers), producing constant noise for a period of time. Mobile equipment moves around the site and is characterized by variations in power and location, resulting in significant variations in noise levels over time. Grading activities and rock blasting typically generate the most significant noise impacts during construction. This section assesses the potential noise impacts to the existing sensitive residential land uses during construction.

9.1 Construction Equipment

A worst-case construction scenario was developed utilizing the loudest pieces of equipment for each construction phase. **Table 7** presents the off-road equipment anticipated to be in operation for each construction phase.

Table 7. Construction equipment by phase

Construction Activity	Off-Road Equipment	L_{max} Noise Level	Unit Amount	Load Usage Factor
Water Basin Construction	Dump Truck	84	1	40%
	Excavator	85	1	40%
	Backhoes	77.6	2	40%
Tank Construction	Tractor	85	1	40%
	Loader	85	1	40%
	Backhoe	80	1	40%
Road Construction	Backhoe	77.6	1	8%
	Grader	85	1	8%
	Dozer	81.7	1	8%

9.2 Construction Noise Levels

The RCNM model was used to determine which phase of activity for the proposed Project would generate the greatest construction noise level. **Table 8** presents the hourly noise levels in L_{eq} for each construction phase. The highest noise level that would be experienced by the closest sensitive residential receivers adjacent to the project site is 73.1 dBA L_{eq}. This noise level occurs during the road construction phase of the proposed Project. This noise level would be a noticeable increase of 20 dBA over existing maximum daytime levels of 52.8 dBA L_{eq}. In addition, the geotechnical report identified that blasting may be required depending on the excavation depth, location, equipment used, and desired rate of production. If blasting is required, it is not anticipated to occur more than one day of construction. The maximum noise level for blasting at the nearest residential location is 63.9 dBA L_{eq}.

The County of Riverside does not establish a construction noise level and exempts private construction projects from general noise standards, as long as the construction occurs during allowable hours. The County of Riverside Municipal Code exempts private construction projects located within one-quarter of a mile from an inhabited dwelling

from the County's noise standards if 1) Construction does not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September, and 2) Construction does not occur between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May.

Although the proposed EMWD Project is considered a capital improvement project of a government agency, if construction occurs outside of the above restricted hours, construction noise levels would not be considered an impact. Further, the maximum predicted noise level of 73.1 dBA L_{eq} is below the FTA residential construction noise standards of 90 dBA Leq (1-hr) for daytime noise levels and 80 dBA (1-hr) for nighttime noise levels.

Table 8. Construction Noise Levels by Construction Phase

Proposed Project Phase	Construction Hourly dBA, L_{eq}
WQMP Basin	63.0
Road (closest point)	73.1
Tank Site	66.0
Blasting	63.9

Because construction activities are typically limited to weekdays, during daylight hours, this noise level is considered a nuisance or annoying, rather than a significant impact

9.4 Construction Vibration

Ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the FTA. Construction activities that would occur within the Project site include excavation, grading, tank construction, and paving. These activities have the potential to generate low levels of ground-borne vibration.

Using the vibration source level for a large bulldozer and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. **Table 9** presents the expected Project-related vibration levels at 160 feet to the nearest residential property.

Table 9. Construction Equipment Vibration Levels

Noise Receiver	Distance to Property Line	Large Bulldozer Reference Vibration Level PPV (in/sec) at 25ft	Peak Vibration PPV (in/sec) at 160ft	Significant Impact
Closest Residence to Project site	160 feet	0.089	0.0055	No

Based on the reference vibration levels provided by the FTA, a large bulldozer represents the peak source of vibration with a reference level of 0.089 (in/sec) at a distance of 25 feet. At 160 feet, construction vibration levels are expected to approach 0.0055 (in/sec). This is below the construction vibration assessment annoyance criteria provided by the FTA of 0.2 in/sec.

If blasting activities are required for a duration of one day, blasting will generate the greatest source of vibration. Based on the reference vibration levels provided by the FTA, for blasting peak source reference level is 1.518 (in/sec) at a distance of 25 feet. **Table 10** shows the blasting vibration level at 160 feet is expected to approach 0.103 (in/sec). This is below the construction vibration assessment annoyance criteria provided by the FTA of 0.2 in/sec.

Table 10. Construction Equipment Vibration Levels				
Noise Receiver	Distance to Property Line	Blasting Reference Vibration Level PPV (in/sec) at 25ft	Peak Vibration PPV (in/sec) at 160ft	Significant Impact
Closest Residence to Project site	160 feet	1.518	0.094	No

Further, impacts at the site of the closest sensitive receptor are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating in proximity to the Project site perimeter. Moreover, construction at the Project site will be restricted to daytime hours, thereby eliminating potential vibration impact during the sensitive nighttime hours. On this basis, the potential for the proposed Project to result in the exposure of persons to or generation of excessive ground-borne vibration is determined to be less than significant.

9.5 Construction Mitigation Measures

Construction noise is of short-term duration and will not present any long-term impacts on the project site or the surrounding area. Although the proposed Project is exempt from Riverside County construction hours limitations, it is recommended that the following mitigation measures discussed below are employed as applicable and will serve to reduce the construction noise impacts to the nearby residential areas.

During all Project site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with the manufacturers' standards. The construction contractors shall place all stationary construction equipment so that emitted noise is directed away from the noise-sensitive receptors (residences) nearest the Project site.

The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all project construction.

The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours provided in the County of Riverside noise ordinance for construction.

The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.

9.6 Construction Vibration Impacts

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures, and soil type. It is expected that ground-borne vibration from project construction activities would cause only intermittent, localized intrusion. The proposed Project's construction activities most likely to cause vibration impacts are:

• Heavy Construction Equipment: Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to a building, the vibration is usually short-term and is not of sufficient magnitude to cause building damage. It is not expected that heavy equipment such as large bulldozers would operate close enough to any residences to cause a vibration impact.

• Trucks: Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

10.0 Conclusion

Would the proposed Project generate 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?

As a public agency, EMWD is not subject to other local jurisdictional agencies' noise ordinances, nor is EMWD required to obtain variances from local agencies. However, for purposes of evaluation, local agency noise ordinances are utilized as thresholds to analyze noise levels from the construction of the proposed EMWD facility and potential impacts to sensitive receptors for CEQA purposes. They are also used as a guideline to develop mitigation measures that would typically be used to minimize noise impacts to sensitive receptors.

Based on a worst-case construction scenario of utilizing the loudest pieces of equipment for each construction phase and evaluated at the nearest residential receiver, the highest noise level that would be experienced at the closest sensitive residential receivers is 73.1 dBA L_{eq}. This noise level would be a noticeable increase of 20 dBA over existing maximum daytime levels of 52.8 dBA L_{eq}.

However, the County of Riverside does not establish a construction noise level and exempts private construction projects from general noise standards, as long as the construction occurs during allowable hours. The County of Riverside Municipal Code exempt private construction projects located within one-quarter of a mile from an inhabited dwelling from the County's noise standards if 1) Construction does not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September, and 2) Construction does not occur between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May.

Although the proposed EMWD Project is considered a capital improvement project of a government agency, if construction occurs outside of the above restricted hours, construction noise levels would not be considered an impact. Further, the maximum predicted noise level of 73.1 dBA L_{eq} is below the FTA residential construction noise standards of 90 dBA Leq (1-hr) for daytime noise levels and 80 dBA (1-hr) for nighttime noise levels.

Recommend Mitigation Measures: The following mitigation measures are recommended to be implemented during the construction of the proposed Project.

- During all Project site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with the manufacturers' standards. The construction contractors shall place all stationary construction equipment so that emitted noise is directed away from the noise-sensitive receptors (residences) nearest the Project site.

- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all project construction.

- The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours provided in the County of Riverside noise ordinance for construction.
- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.

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

For general construction activities during grading and excavation, construction vibration levels are expected to approach 0.0055 (in/sec) at the nearest residential receiver. If blasting activities are required for a duration of one day, blasting vibration levels are expected to approach 0.103 (in/sec). Both vibration levels are below the construction vibration assessment annoyance criteria provided by the FTA of 0.2 in/sec.

Further, impacts at the site of the closest sensitive receptor are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating in proximity to the Project site perimeter. Moreover, construction at the Project site will be restricted to daytime hours, thereby eliminating potential vibration impact during the sensitive nighttime hours. On this basis, the potential for the proposed Project to result in the exposure of persons to or generation of excessive ground-borne vibration is determined to be less than significant.

Recommend Mitigation Measures:

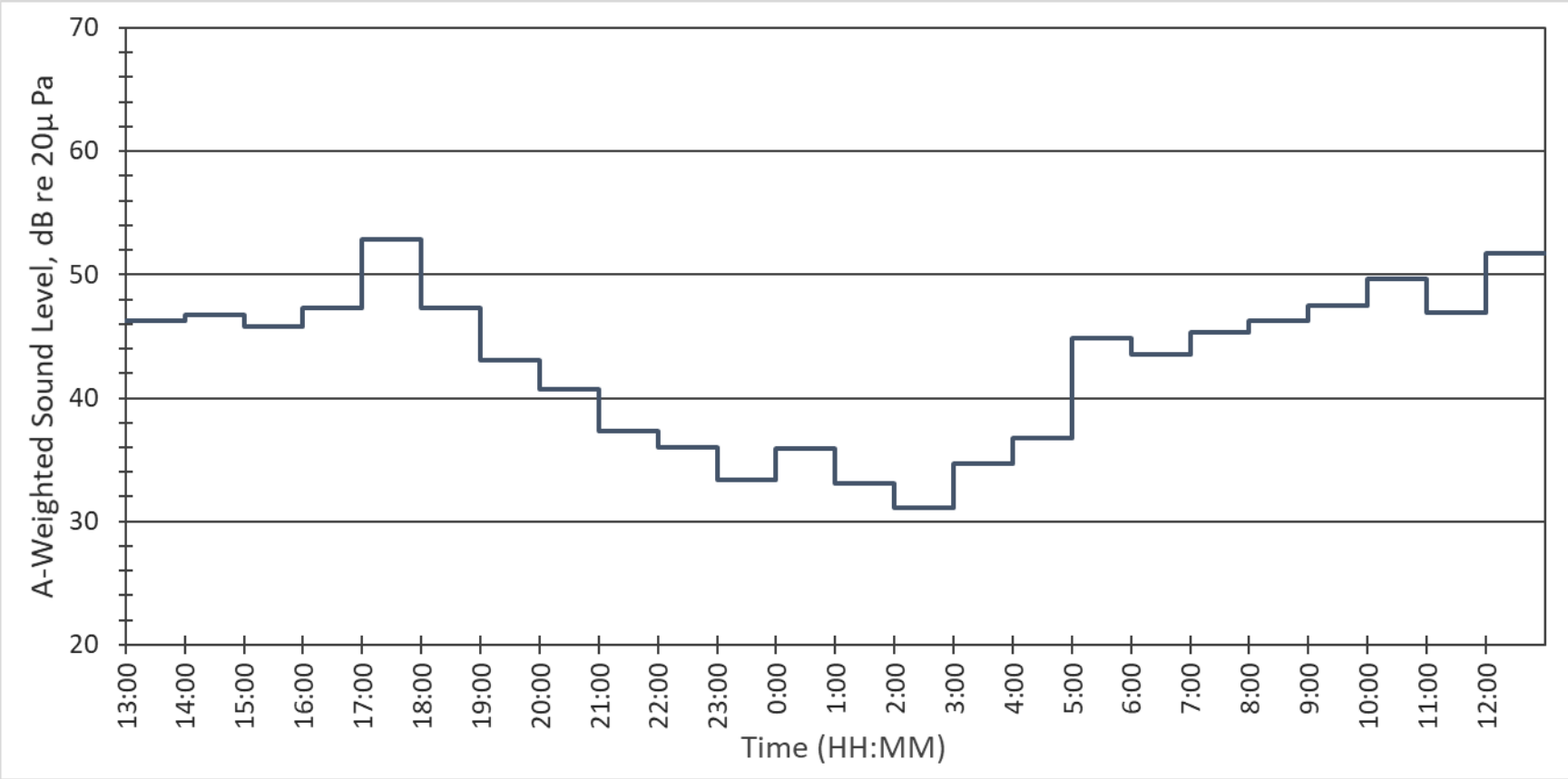
Operating large bulldozers away from residential land uses.

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

The proposed Project will not generate operational noise levels that would increase the noise within the existing environment. Therefore, the proposed project area would not exposure people working in the project area to excessive noise levels associated with aircraft.

Appendix A-24-hr Long Term Monitoring Data

Time	Leq (1-hr)	Ldn	CNEL
13:00	46.2	46.2	46.2
14:00	46.8	46.8	46.8
15:00	45.8	45.8	45.8
16:00	47.3	47.3	47.3
17:00	52.8	52.8	52.8
18:00	47.3	47.3	47.3
19:00	43.1	43.1	48.1
20:00	40.7	40.7	45.7
21:00	37.4	37.4	42.4
22:00	36.0	46.0	46.0
23:00	33.4	43.4	43.4
0:00	35.9	45.9	45.9
1:00	33.1	43.1	43.1
2:00	31.1	41.1	41.1
3:00	34.7	44.7	44.7
4:00	36.8	46.8	46.8
5:00	44.8	54.8	54.8
6:00	43.5	53.5	53.5
7:00	45.3	45.3	45.3
8:00	46.3	46.3	46.3
9:00	47.4	47.4	47.4
10:00	49.6	49.6	49.6
11:00	46.9	46.9	46.9
12:00	51.7	51.7	51.7
		CNEL	48.5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60
50
40
30
20
A-Weighted Sound Level, dB re 20µ Pa
13:00
14:00
15:00
16:00
17:00
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19:00
20:00
21:00
22:00
23:00
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
Time (HH:MM)

Appendix B- Roadway Construction Noise Model Runs

			Roadway Construction Noise Model (RCNM),Version 1.1													
Report date:	9/11/2020															
Case Description:	Tank Construction															
				---- Receptor #1 ----												
		Baselines (dBA)														
Description	Land Use	Daytime	Evening	Night												
Home/Yard	Residential	47.7	41	39.1												
				Equipment												
				Spec	Actual	Receptor	Estimated									
		Impact		Lmax	Lmax	Distance	Shielding									
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)									
Backhoe		No	40		77.6	360	0									
Grader		No	40	85		360	0									
Dozer		No	40		81.7	360	0									
				Results												
		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night		
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	
Backhoe		60.4	56.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Grader		67.9	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Dozer		64.5	60.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Total	67.9	66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
		*Calculated Lmax is the Loudest value.														

			Roadway Construction Noise Model (RCNM),Version 1.1												
Report date:	9/11/2020														
Case Description:	Water Basin Construction														
				---- Receptor #1 ----											
		Baselines (dBA)													
Description	Land Use	Daytime	Evening	Night											
Home/Yard	Residential	47.7	41	39.1											
				Equipment											
				Spec	Actual	Receptor	Estimated								
		Impact		Lmax	Lmax	Distance	Shielding								
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)								
Backhoe		No	40		77.6	330	0								
Excavator		No	40		80.7	330	0								
Dump Truck		No	40		76.5	330	0								
				Results											
		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe		61.2	57.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator		64.3	60.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dump Truck		60.1	56.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	64.3	63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		*Calculated Lmax is the Loudest value.													

			Roadway Construction Noise Model (RCNM),Version 1.1												
Report date:	9/11/2020														
Case Description:	Road Construction														
				---- Receptor #1 ----											
		Baselines (dBA)													
Description	Land Use	Daytime	Evening	Night											
Home/Yard	Residential	47.7	41	39.1											
				Equipment											
				Spec	Actual	Receptor	Estimated								
		Impact		Lmax	Lmax	Distance	Shielding								
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)								
Backhoe		No	40		77.6	160	0								
Grader		No	40	85		160	0								
Dozer		No	40		81.7	160	0								
				Results											
		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe		67.5	63.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader		74.9	70.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		71.6	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	74.9	73.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		*Calculated Lmax is the Loudest value.													

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/16/2020
Case Description:

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Home/Yard	Residential	47.7	41	39.1

			Equipment			
	Impact		Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Blasting	Yes	1	94		160	0

		Results															
		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)							
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Blasting		83.9	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	83.9	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/16/2020
Case Description:

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Home/Yard	Residential	47.7	41	39.1

			Equipment			
Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Blasting	Yes	1	94		330	0

		Calculated (dBA)		Results											
				Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Blasting		77.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	77.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/16/2020
Case Description:

				---- Receptor #1 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Home/Yard	Residential	47.7	41	39.1

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Blasting	Yes	1	94		360	0

				Results													
						Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
		Calculated (dBA)		Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Blasting		76.9	56.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	76.9	56.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Appendix H:

Energy Calculations

Table 1 – Total Construction-Related Fuel Consumption

EMWD Water Tank Project

Fuel	Consumption	
Diesel		
On-Road Construction Trips[1]	5,155	Gallons
Off-Road Construction Equipment[2]	15,753	Gallons
Diesel Total	**20,908**	**Gallons**
Gasoline		
On-Road Construction Trips[1]	6,224	Gallons
Off-Road Construction Equipment[3]	-	Gallons
Gasoline Total	**6,224**	**Gallons**

Notes:

1. On-road mobile source fuel use based on vehicle miles traveled (VMT) from CalEEMod for construction in 2020 and fleet-average fuel consumption in gallons per mile from EMFAC2017 web based data for Riverside County. See Table 2 for calculation details.
2. Off-road mobile source fuel usage based on a fuel usage rate of 0.05 gallons of diesel per horsepower (HP)-hour, based on SCAQMD CEQA Air Quality Handbook, Table A9-3E.
3. All emissions from off-road construction equipment were assumed to be diesel.

Table 2 – On-Road Construction Trip Estimates

EMWD Water Tank Project

Trip Type	Trips	Trip length	Vehicle Miles Traveled (VMT)	Fuel Efficiency	Annual Fuel Usage[1]	
	(trips)	(miles)	(miles)	(mpg)	(Fuel)	(gallon)
Worker[2,3]	11,665	14.7	171,476	26.9	Gasoline	6,224
Vendor[4]	5,020	6.9	34,638	8.7	Diesel	4,172
Hauling[5]	6,722	1	6,722	6.8	Diesel	983

Notes:

1. On-road mobile source fuel use based on vehicle miles traveled (VMT) from CalEEMod output (See Air Quality/GHG Memo) for construction and fleet-average fuel consumption in gallons per mile from EMFAC2017 web based data for 2020 in Riverside County.
2. Worker trips were assumed to be 100% gasoline powered vehicles.
3. Per CalEEMod, worker Trips were assumed to be 50% LDA, 25% LDT1, and 25% LDT2.
4. Vendor trips were assumed to be 50% MHDT and 50% HHDT, split evenly between the MHDT and HHDT construction categories.
5. Per CalEEMod, hauling trips were assumed to be 100% HHDT.