Appendix A

Preliminary Project Plans

VICINITY MAP

NOT TO SCALE

CURVE TABLE			
NO	RADIUS	DELTA	LENGTH
C1	692.00'	9°37'39"	116.28'
C2	542.00'	13°53'28"	131.41'
C3	542.00'	19°39'27"	185.95'
C4	30.00'	93°49'47"	49.13'
C5	140.00'	65°29'51"	160.04'

LINE TABLE		
NO	BEARING	LENGTH
L1	S62°33'37"E	58.59'
L2	S35°32'16"E	68.82'
L3	N62°45'05"W	52.77'

TYPICAL IN-TRACT STREET SECTION

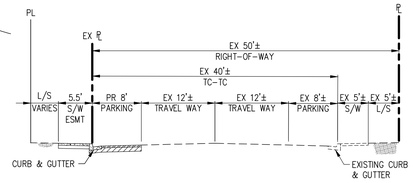
NOT TO SCALE

CENTER AVENUE STREET SECTION

(ADJACENT TO LOTS 38, 39, 48)
NOT TO SCALE

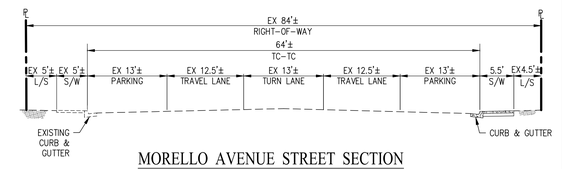
CENTER AVENUE STREET SECTION

(ADJACENT TO LOTS 50-55)
NOT TO SCALE



VINE HILL WAY STREET SECTION

NOT TO SCALE



MORELLO AVENUE STREET SECTION

NOT TO SCALE

GENERAL NOTES:

1. DEVELOPER/ OWNER: DeNOVA HOMES, 1500 WILLOW PASS COURT, CONCORD, CA 94520, (925) 685-0110, DAVE SANSON
2. CIVIL ENGINEER: CARLSON, BARBEE, & GIBSON, INC., 2633 CAMINO RAMON, SUITE 350, SAN RAMON, CA 94583, (925) 866-0322, LEW CARPENTER RCE# 59416
3. APN: 162-020-019
4. EXISTING ZONING: R-7.5; PROPOSED ZONING: R-7.5
5. GROSS SITE AREA: 26.77 Ac.±; LOT AREA (LOTS 1-92): 17.42 Ac.±; PRIVATE STREETS AREA (STREETS A-J): 5.71 Ac.±; OPEN SPACE AREA (PARCELS A-C & F): 3.57 Ac.±; EVA AREA (PARCEL D): 0.07 Ac.±; NET SITE AREA: 21.06 Ac.±
6. NUMBER OF UNITS: 92; NET DENSITY: 4.4 DU / NET ACRE
7. PARCELS:
   - PARCEL A – PRIVATE OPEN SPACE/DRAINAGE (7,716 SF)
   - PARCEL B – PRIVATE OPEN SPACE/DRAINAGE (98,017 SF)
   - PARCEL C – PRIVATE OPEN SPACE/DRAINAGE (48,696 SF)
   - PARCEL D – EMERGENCY VEHICLE ACCESS EASEMENT (2,465 SF)
   - PARCEL E – R/W-R/W (STREETS A-J, INCLUDING S/W) (248,557 SF)
   - PARCEL F – PRIVATE OPEN SPACE/DRAINAGE (1,448 SF)
8. MINIMUM LOT SIZE: 7,500 SF (LOTS 15, 41, 42, 56-59, 64-67, 70-73, 82-84, 87, 88, 91); MAXIMUM LOT SIZE: 13,227 SF (LOT 38); AVERAGE LOT SIZE: 8,281 SF
9. STREET PARKING: ALL PROPOSED PRIVATE STREETS HAVE 8' PARKING ON BOTH SIDES. SEE TYPICAL IN-TRACT STREET SECTION ON THIS SHEET.
10. ALL NEW STREETS SHALL BE PRIVATELY OWNED AND MAINTAINED BY PROJECT HOA.
11. UTILITY PROVIDERS:

SEWER	MOUNTAIN VIEW SANITARY DISTRICT (MVSD)
WATER	CITY OF MARTINEZ
STORM DRAIN	CITY OF MARTINEZ
GAS/ELECTRIC	PACIFIC GAS & ELECTRIC
TRASH	ALLIED WASTE
CABLE/TELEPHONE	COMCAST

12. FLOOD ZONE DESIGNATION: ZONE X PER FEMA FIRM PANEL NUMBER 06013C0277F & 06013C0280F DATED, JUNE 16, 2009.
13. GRADING SHOWN IS PRELIMINARY AND SUBJECT TO CHANGES DURING FINAL DESIGN.
14. ALL PROPOSED UTILITIES SHOWN ARE TENTATIVE AND MAY CHANGE DURING FINAL DESIGN. FINAL DESIGN SHALL ADHERE TO CITY OF MARTINEZ STANDARDS.
15. ALL EXISTING STRUCTURES ARE TO BE REMOVED. ALL EXISTING TREES WITHIN GRADING LIMIT LINE ARE TO BE REMOVED. SEE SHEET 2 & 5 FOR GRADING LIMIT LINE, AND SEE NOTE 2 ON SHEET 5.
16. FOR TREE INFORMATION, SEE REPORT PREPARED BY BAEFSKY & ASSOCIATES, ENVIRONMENTAL LANDSCAPE CONSULTING, DATED OCTOBER 27, 2011.
17. ALL EXISTING ONSITE UTILITIES ARE TO BE REMOVED.
18. CUT AND FILL SLOPES SHALL BEGIN A MINIMUM OF 2' FROM BEHIND THE RIGHT-OF-WAY LINE AT A 2:1 MAXIMUM SLOPE.
19. PROJECT SHALL BE DEVELOPED IN A SINGLE PHASE.
20. DEVELOPMENT RIGHTS TO PARCEL A THROUGH E (OPEN SPACES AND WATER QUALITY BASINS/BIORETENTION AREAS) SHALL BE DEDICATED TO THE CITY, AS WELL AS ABUTTERS RIGHTS FOR CENTER AVENUE, VINE HILL WAY, AND MORELLO AVENUE.
21. FRONTAGE IMPROVEMENTS ON MORELLO AVENUE, CENTER AVENUE, AND VINE HILL WAY SHALL BE MAINTAINED BY PROJECT'S HOMEOWNERS ASSOCIATION (HOA).

LEGEND:

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY LINE
		LOT LINE
		RIGHT-OF-WAY LINE
		CENTER LINE
		EASEMENT LINE
		TOP OF CURB

ABBREVIATIONS:

AB	AGGREGATE BASE
Ac.	ACRES
AC	ASPHALTIC CONCRETE
CB	CATCH BASIN
CL	CENTERLINE
EL	ELECTROLIER
EP	EDGE OF PAVEMENT
EVA	EMERGENCY VEHICLE ACCESS EASEMENT
EX	EXISTING
FC	FACE OF CURB
FH	FIRE HYDRANT
FI	FIELD INLET
FL	FLOWLINE
GB	GRADE BREAK
HP	HIGH POINT
INV	INVERT
JT	JOINT TRENCH (BY OTHERS)
LL	LOT LINE
LP	LOW POINT
LT	LEFT
L/S	LANDSCAPE
MAX	MAXIMUM
MIN	MINIMUM
MH	MANHOLE
PL	PROPERTY LINE
P	PAD
PSDE	PRIVATE STORM DRAIN EASEMENT
PUE	PUBLIC UTILITY EASEMENT
RT	RIGHT
RW	RIGHT OF WAY
SD	STORM DRAIN
SF	SQUARE FEET
SS	SANITARY SEWER
SSE	SANITARY SEWER EASEMENT
S/W	SIDEWALK
TC	TOP OF CURB
TSM	TOP OF SOIL MIX
TYP	TYPICAL
W	WATER

SHEET INDEX

TM-1	SITE PLAN
TM-2	PRELIMINARY GRADING & DRAINAGE PLAN
TM-3	PRELIMINARY UTILITY PLAN
TM-4	PRELIMINARY STORMWATER CONTROL PLAN
TM-5	TREE REMOVAL & DEMOLITION PLAN
TM-6	EXISTING TREE SURVEY EXHIBIT

R-7.5 LOT SETBACK SUMMARY

FRONT	15' MIN
GARAGE	20' MIN
SIDE	5' MIN/10' MAX
SIDE (CORNER LOT) ADJACENT TO STREET	5' MIN/10' MAX
REAR	*25' AVERAGE (15' MIN)

*NOTE: THE REAR YARD SHALL HAVE AN AVERAGE SETBACK OF 25' FROM STRUCTURE/BUILDING TO PROPERTY LINE. NO MORE THAN 50% OF THE STRUCTURE/BUILDING CAN EXTEND INTO 25' SETBACK. THE REAR YARD, FROM STRUCTURE/BUILDING TO TOP/TOE OF SLOPE SHALL BE AN AVERAGE 15' MIN LEVEL AREA.

BENCHMARK:

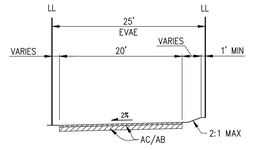
CONTRA COSTA COUNTY BM #3059
CONTRA COSTA COUNTY BRASS DISK SET IN TOP OF DRAIN INLET IN CURB, NORTH SIDE OF CENTER AVENUE, 175' EAST OF VINE HILL WAY
EL: 187.801 FEET (NGVD 29)

EASEMENTS:

1. DRAINAGE EASEMENT IN FAVOR OF THE CITY OF MARTINEZ, PER BOOK 5491 OF OFFICIAL RECORDS, PAGE 496.

BASIS OF BEARING:

THE BASIS OF BEARINGS FOR THIS SURVEY IS DETERMINED BY FOUND MONUMENTS IN MORELLO AVENUE, THE BEARING BEING N 1°47'19" E PER SUBDIVISION 3357 (102 M 30).

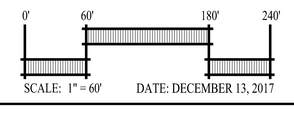


EVA ROAD SECTION

NOT TO SCALE

VESTING TENTATIVE MAP
SUBDIVISION 9358
SITE PLAN
VINE HILL

CITY OF MARTINEZ CONTRA COSTA COUNTY CALIFORNIA



SCALE: 1" = 60' DATE: DECEMBER 13, 2017

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SHEET NO. TM-1 OF 6 SHEETS

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LEGEND:

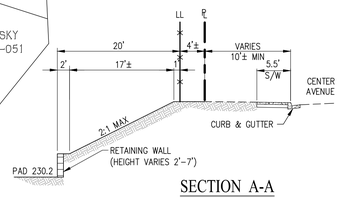
EXISTING	PROPOSED	DESCRIPTION
		PROPERTY LINE
		LOT LINE
		RIGHT-OF-WAY LINE
		CENTER LINE
		EASEMENT LINE
		TOP OF CURB
		HINGE LINE
		SLOPE
x 67.0	x 67.0	SPOT ELEVATIONS
		EXISTING TREE
EX SD	SD	STORM DRAIN LINE
		STORM DRAIN MANHOLE
		FIELD INLET
		CATCH BASIN
		DIRECTION OF DRAINAGE
		DIRECTION OF EXISTING STREET DRAINAGE
		BIO-RETENTION AREA

PRELIMINARY EARTHWORK SUMMARY

ITEM	CUT (CY)	FILL (CY)
EARTHWORK	97,000±	103,000±
STREET/UTILITY SPOILS	10,000±	–
TOTALS	107,000±	103,000±
NET	4,000±	–

EARTHWORK NOTES:

1. A SHRINK/SWELL FACTOR HAS NOT BEEN APPLIED, AND NEEDS TO BE VERIFIED BY A GEOTECHNICAL ENGINEER WITH FINAL DESIGN.



SECTION A-A
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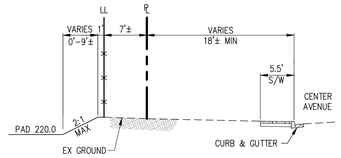

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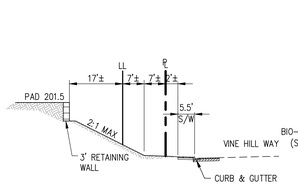

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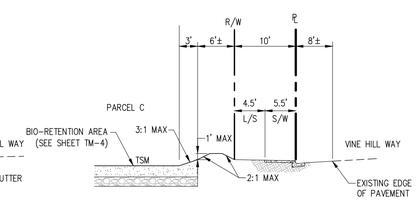

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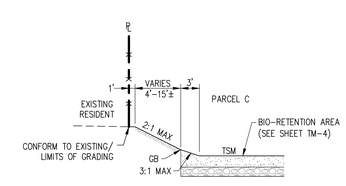

SECTION E-E
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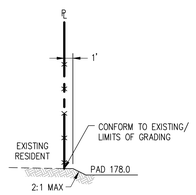

SECTION F-F
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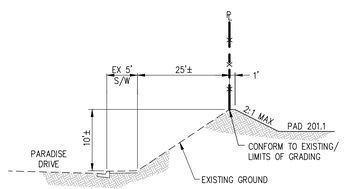
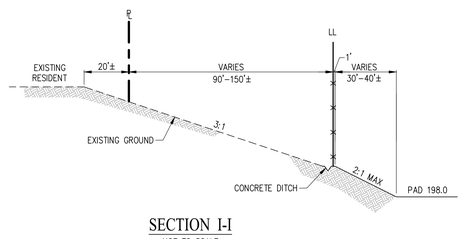
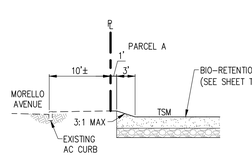


SECTION G-G
NOT TO SCALE



SECTION I-I
NOT TO SCALE



SECTION H-H
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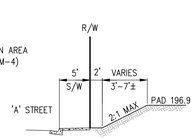

SECTION J1-J1
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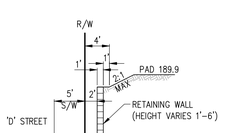

SECTION J2-J2
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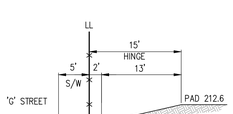

SECTION K-K
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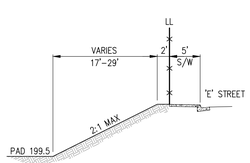

SECTION L-L
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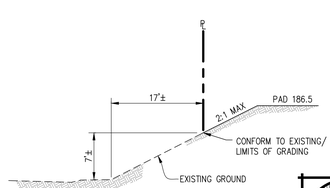

SECTION M-M
NOT TO SCALE

VESTING TENTATIVE MAP
SUBDIVISION 9358
PRELIMINARY GRADING & DRAINAGE PLAN
VINE HILL

CITY OF MARTINEZ CONTRA COSTA COUNTY CALIFORNIA

0' 60' 180' 240'

SCALE: 1" = 60' DATE: DECEMBER 13, 2017

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SHEET NO.
TM-2
OF 6 SHEETS

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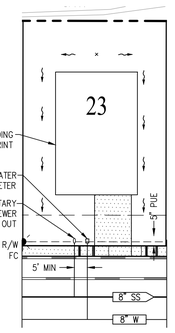
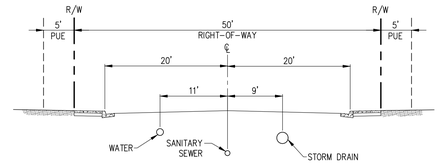


TYPICAL LOT UTILITY SERVICE

NOT TO SCALE

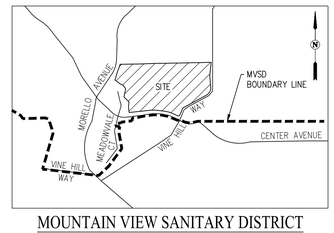
NOTES:

1. WATER METER AND SANITARY SEWER CLEAN OUT LOCATIONS TO BE DETERMINED WITH FINAL DESIGN AND TO COMPLY WITH CITY OF MARTINEZ STANDARDS.
2. DRIVEWAY DETAIL TO BE DETERMINED WITH FINAL DESIGN AND TO COMPLY WITH ALL CURRENT ADA REQUIREMENTS.



TYPICAL STREET UTILITY SECTION

NOT TO SCALE



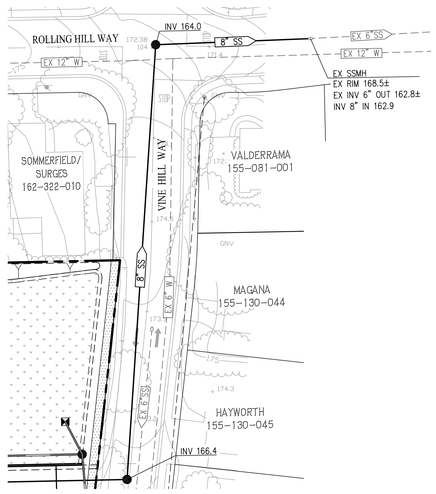
MOUNTAIN VIEW SANITARY DISTRICT BOUNDARY LINE

NOT TO SCALE

LEGEND:

EXISTING	PROPOSED	DESCRIPTION
	1	PROPOSED LOT NUMBER
		PROPERTY LINE
		LOT LINE
		RIGHT-OF-WAY LINE
		CENTER LINE
		EASEMENT LINE
		TOP OF CURB
x 67.0	x 67.0	SPOT ELEVATIONS
EX SD	SD	STORM DRAIN LINE
EX SS	SS	PROPOSED SANITARY SEWER
EX 8"W	8" W	PROPOSED WATER
EX OHE		OVERHEAD ELECTRIC
○	●	STORM DRAIN MANHOLE
⊠	⊠	FIELD INLET
□	■	CATCH BASIN
○	●	SANITARY SEWER MANHOLE
		FIRE HYDRANT
		BUBBLE UP
		BIO-RETENTION AREA

NOTE: JOINT TRENCH FACILITIES (BOXES, VAULTS, ETC.) AND LOCATION TO BE DETERMINED WITH FINAL DESIGN.



OFF - SITE SEWER DETAIL

SCALE: 1"=40'

VESTING TENTATIVE MAP
SUBDIVISION 9358
PRELIMINARY UTILITY PLAN
VINE HILL

CITY OF MARTINEZ CONTRA COSTA COUNTY CALIFORNIA

0' 60' 180' 240'

SCALE: 1" = 60' DATE: DECEMBER 13, 2017

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SHEET NO. TM-3 OF 6 SHEETS

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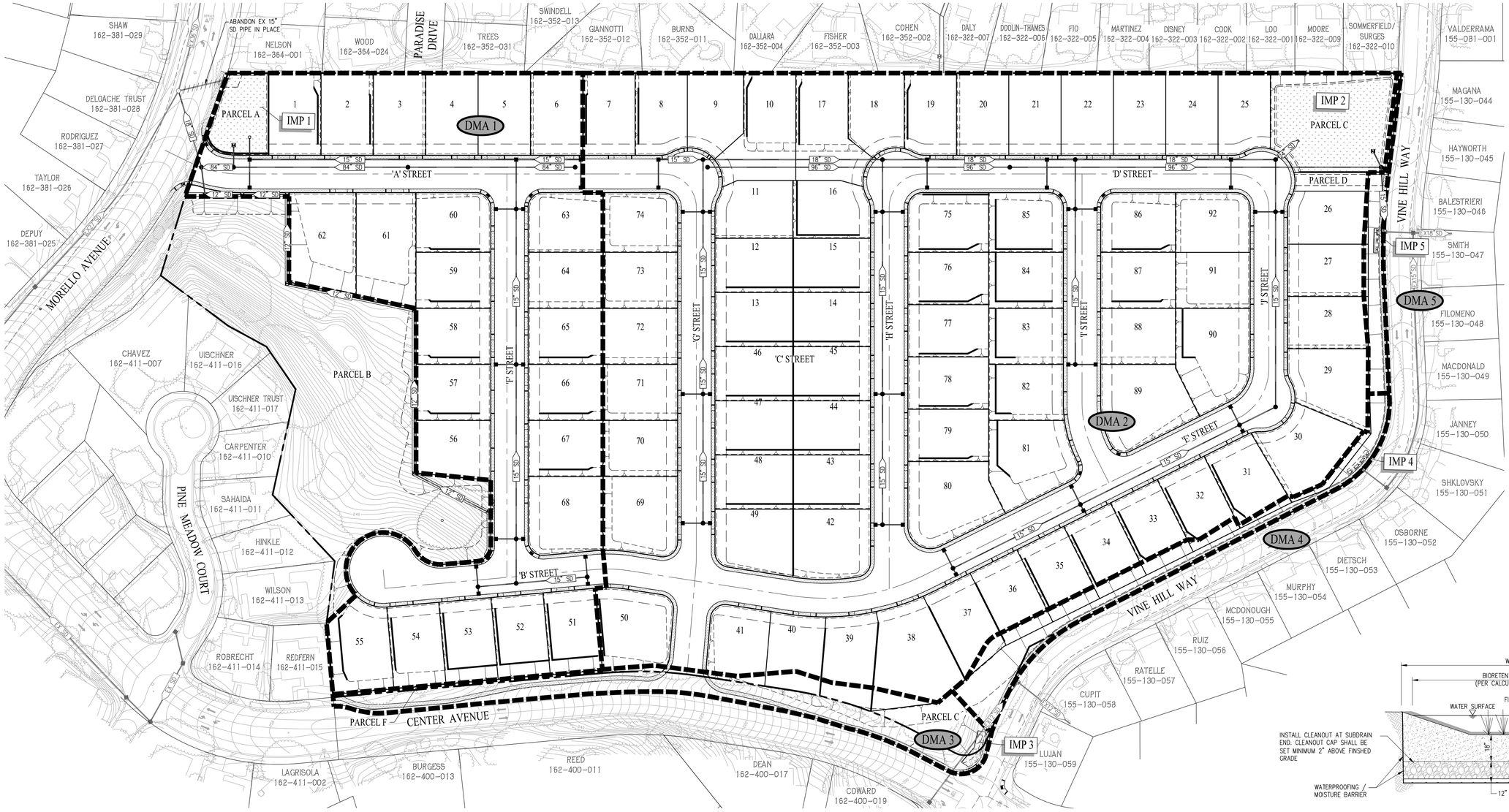
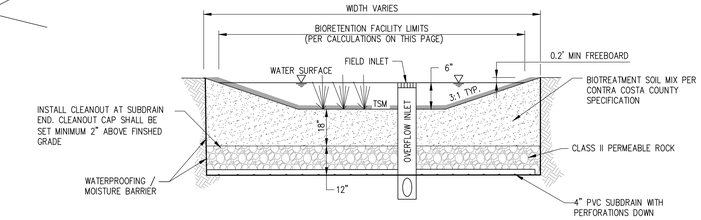


LEGEND:

EXISTING	PROPOSED	DESCRIPTION
	1	PROPOSED LOT NUMBER
		PROPERTY LINE
		LOT LINE
		RIGHT-OF-WAY LINE
		TOP OF CURB
x 67.0 EX SD	x 67.0 SD	SPOT ELEVATIONS / STORM DRAIN LINE
○	●	MANHOLE
⊠	⊠	FIELD INLET
□	■	CATCH BASIN
		BIO-RETENTION AREA
		COBBLES
	DMA 1	DRAINAGE MANAGEMENT AREA
	IMP 1	INTEGRATED MANAGEMENT PRACTICE
		DRAINAGE MANAGEMENT AREA BOUNDARY



STORMWATER TREATMENT SIZING CRITERIA SUMMARY

NOTES:

1. CALCULATIONS BASED ON CONTRA COSTA CLEAN WATER PROGRAM STORMWATER C.3 GUIDEBOOK, "STORMWATER QUALITY REQUIREMENTS FOR DEVELOPMENT APPLICATIONS" 6TH EDITION FEBRUARY 15, 2012.
2. SIZING CRITERIA FOR "BIORETENTION + VAULT"

   2a. THE BIORETENTION FACILITY IS SIZED AND DESIGNED TO THE TREATMENT ONLY CRITERIA (PER BIORETENTION FACILITY DESIGN SHEET, PG. 69 IN THE C.3 GUIDEBOOK)

   2b. THE VAULT IS SIZED USING EQUATION 4-3 (PAGE 52) AND THE FACTORS AND RAINFALL ADJUSTMENT EQUATIONS IN TABLES 4-11 AND 4-12 PER THE C.3 GUIDEBOOK.

BIORETENTION FACILITY SIZING CALCULATIONS & SUMMARY

DMA	IMPERVIOUS				PERVIOUS				*EFFECTIVE IMPERVIOUS AREA	TREATMENT SIZING FACTOR	**REQUIRED TREATMENT AREA (SF)	PROVIDED TREATMENT AREA (SF)
	TYPE	AREA (SF)	RUNOFF FACTOR	ADJUSTED IMPERVIOUS AREA (AREA x RUNOFF FACTOR) (SF)	TYPE	AREA (SF)	RUNOFF FACTOR	ADJUSTED PERVIOUS AREA (AREA x RUNOFF FACTOR) (SF)				
DMA 1	CONCRETE/ ROOF/ PAVEMENT/ ASPHALT	156,057	1.0	156,057	LANDSCAPE	112,422	0.1	11,242	167,299	0.04	6,692	6,700
DMA 2	CONCRETE/ ROOF/ PAVEMENT/ ASPHALT	389,714	1.0	389,714	LANDSCAPE	323,690	0.1	32,369	442,083	0.04	16,883	16,950
DMA 3	CONCRETE/ ROOF/ PAVEMENT/ ASPHALT	12,005	1.0	12,005	LANDSCAPE	23,651	0.1	2,365	14,370	0.04	575	587
DMA 4	CONCRETE/ ROOF/ PAVEMENT/ ASPHALT	3,731	1.0	3,731	LANDSCAPE	20,035	0.1	2,003	5,734	0.04	229	231
DMA 5	CONCRETE/ ROOF/ PAVEMENT/ ASPHALT	2,840	1.0	2,840	LANDSCAPE	5,985	0.1	598	3,438	0.04	138	160

*EFFECTIVE IMPERVIOUS AREA = ADJUSTED IMPERVIOUS AREA + ADJUSTED PERVIOUS AREA

**REQUIRED TREATMENT AREA = EFFECTIVE IMPERVIOUS AREA x TREATMENT SIZING FACTOR

SIZING CALCULATIONS FOR OVERSIZED PIPE

EQUATION 4-3:

MIN. IMP VOLUME = $\sum \left(\frac{DMA\ Square\ Footage}{} \times \frac{DMA\ Runoff\ Factor}{} \right) \times \left(\frac{IMP\ Sizing\ Factor}{} \right) \times \left(\frac{Rain\ Adjustment\ Factor}{} \right)$

- DMA RUNOFF FACTOR PER C.3 GUIDEBOOK TABLE 4-5 AS SHOWN ON THIS SHEET
- IMP FACTOR FOR SOIL TYPE D: VOLUME FACTOR: 0.064

RAIN ADJUSTMENT EQ. 4-9

$$Rain\ Adjustment = \frac{-0.0022 \times (MAP_{project\ site} - 20.2) + 0.05}{0.05}$$

$MAP_{project\ site}$ = 17.5

RAIN ADJUSTMENT = 1.119

MAX UNDERDRAIN FLOW EQ. 4-11

$$Flow\ (cfs\ per\ ft^2) = \frac{0.122 \times (MAP_{project\ site} - 20.2) + 1.85}{10^6}$$

ORIFICE AREA EQ. 4-18

$$Orifice\ Area\ (in\ feet) = \frac{UnderdrainMaxFlow}{c \times \sqrt{64.4 \times H}}$$

c = THE ORIFICE COEFFICIENT, 0.6

H= HEIGHT OF STORAGE ABOVE THE ORIFICE

ORIFICE DIAMETER EQ. 4-19

$$Orifice\ Diameter\ (in\ inches) = 12 \times \sqrt{\frac{4 \times Orifice\ Area}{\pi}}$$

OVERSIZED PIPE SUMMARY

DMA	VOLUME REQUIRED (CUBIC FT)	VOLUME PROVIDED (CUBIC FT)	PIPE SIZE
DMA 1	16,812	16,817	84" SD
DMA 2	44,137	44,240	96" SD

CALCULATIONS FOR OVERSIZED PIPE

DMA $1_{IMPERVIOUS}$

DMA SQUARE FOOTAGE: 156,057
DMA RUNOFF FACTOR: 1.0
IMP SIZING FACTOR: 0.064
RAIN ADJUSTMENT FACTOR: 1.119

TOTAL: 156,057 X 1.0 X 0.064 X 1.119 = 11,176

DMA $1_{PERVIOUS}$

DMA SQUARE FOOTAGE: 112,422
DMA RUNOFF FACTOR: 0.7
IMP SIZING FACTOR: 0.064
RAIN ADJUSTMENT FACTOR: 1.119

TOTAL: 112,422 X 0.7 X 0.064 X 1.119 = 5,636

DMA $2_{IMPERVIOUS}$

DMA SQUARE FOOTAGE: 389,714
DMA RUNOFF FACTOR: 1.0
IMP SIZING FACTOR: 0.064
RAIN ADJUSTMENT FACTOR: 1.119

TOTAL: 389,714 X 1.0 X 0.064 X 1.119 = 27,910

DMA $2_{PERVIOUS}$

DMA SQUARE FOOTAGE: 323,690
DMA RUNOFF FACTOR: 0.7
IMP SIZING FACTOR: 0.064
RAIN ADJUSTMENT FACTOR: 1.119

TOTAL: 323,690 X 0.7 X 0.064 X 1.119 = 16,227

MIN. IMP VOLUME
DMA 1 : 11,176 + 5,636 = 16,812
DMA 2 : 27,910 + 16,227 = 44,137

CALCULATIONS FOR OVERSIZED PIPE (con't)

MAX UNDERDRAIN FLOW EQ. 4-11

FLOW = $(-0.122 \times (17.5-20.2)+1.85)/10^6 = 1.0526 \times 10^{-6}$ CFS/FT^2

FLOW DMA 1 (CFS) =
(1.5206 X 10^{-6}) X (TOTAL DRAINAGE AREA DMA 1 = 268,479 FT^2)
= 0.4082 CFS

FLOW DMA 2 (CFS) =
(1.5206 X 10^{-6}) X (TOTAL DRAINAGE AREA DMA 2 = 713,404 FT^2)
= 1.0848 CFS

ORIFICE AREA EQ. 4-18

DMA 1
C = 0.6, H = 5.7 FT
0.4082/(0.6 X $\sqrt{}$(64.4 FT/S X 5.7 FT))
ORIFICE AREA DMA 1 = 0.03551 FT^2

DMA 2
C = 0.6, H = 5.8 FT
1.0848/(0.6 X $\sqrt{}$(64.4 FT/S X 5.8 FT))
ORIFICE AREA DMA 2 = 0.09355 FT^2

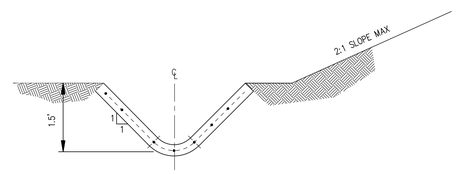
ORIFICE DIAMETER EQ. 4-19

DMA 1 ORIFICE DIAMETER
= 12 X $\sqrt{}$((4 X 0.03551)/π) = 2.55 INCHES
DMA 2 ORIFICE DIAMETER
= 12 X $\sqrt{}$((4 X 0.09355)/π) = 4.14 INCHES

RUNOFF FACTORS PER CCCCW PROGRAM

TABLE 4-5. RUNOFF FACTORS for evaluating drainage to self-retaining areas and for sizing IMPs.

Surface	Treatment and Flow Control	Treatment only
Roofs	1.0	1.0
Concrete or Asphalt	1.0	1.0
Pervious Concrete	0.1	0.1
Porous Asphalt	0.1	0.1
Grouted Unit Pavers	1.0	1.0
Solid Unit Pavers Set in Sand	0.5	0.2
Open and Porous Pavers	0.1	0.1
Crushed Aggregate	0.1	0.1
Turfblock	0.1	0.1
Landscape, Group A Soil	0.1	0.1
Landscape, Group B Soil	0.3	0.1
Landscape, Group C Soil	0.5	0.1
Landscape, Group D Soil	0.7	0.1



CONCRETE "V" DITCH DETAIL
NOT TO SCALE

VESTING TENTATIVE MAP
SUBDIVISION 9358
PRELIMINARY STORMWATER CONTROL PLAN
VINE HILL

CITY OF MARTINEZ CONTRA COSTA COUNTY CALIFORNIA

0' 60' 180' 240'
SCALE: 1" = 60'

DATE: DECEMBER 13, 2017

Carlson, Barbee & Gibson, Inc.
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SAN RAMON, CALIFORNIA 94583
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SHEET NO.
TM-4
OF 6 SHEETS

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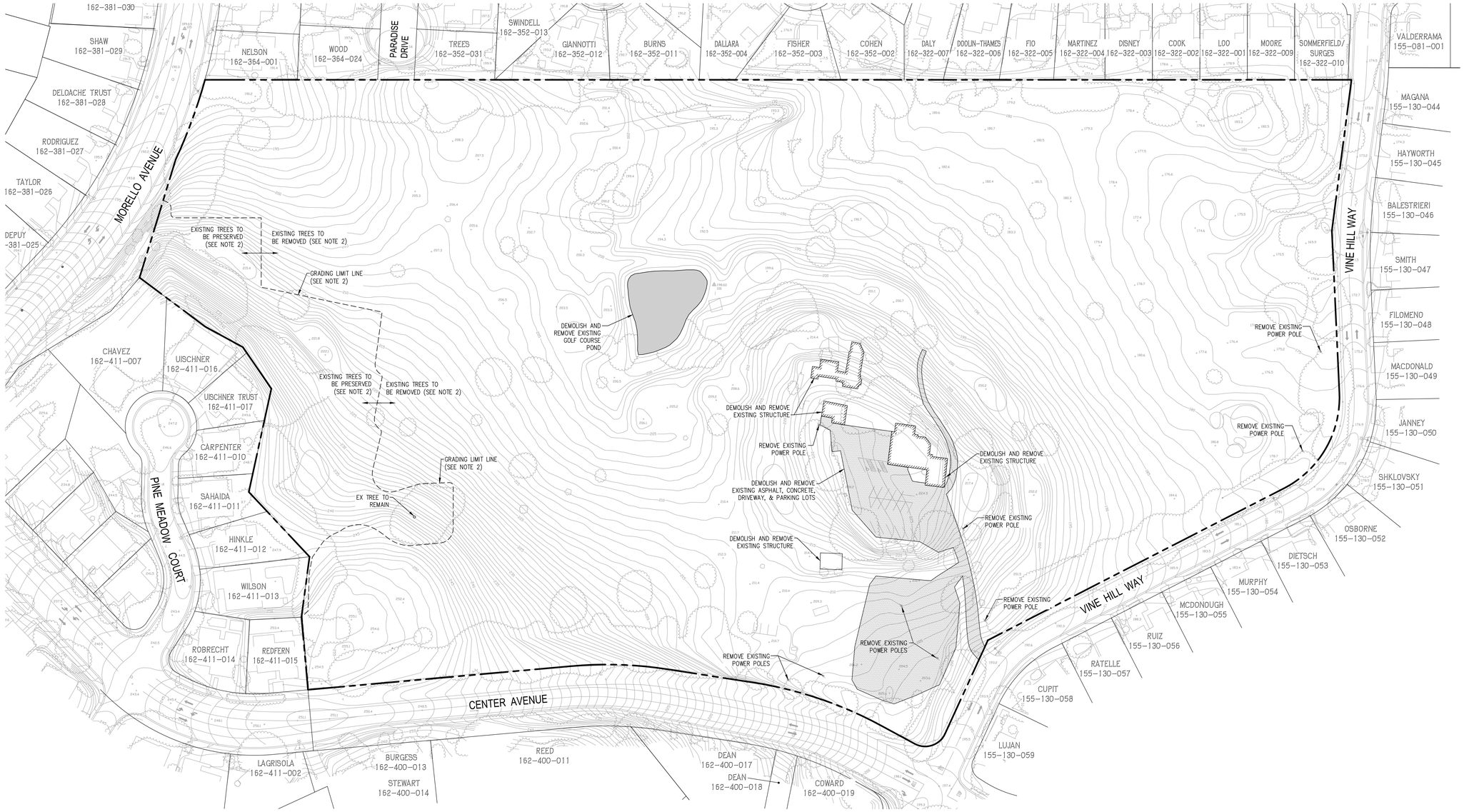

LEGEND:

EXISTING	PROPOSED	DESCRIPTION
———	———	PROPERTY LINE
———		RIGHT-OF-WAY LINE
———		TOP OF CURB

NOTES:

1. A TREE REPORT HAS BEEN PREPARED FOR THE SITE BY BAEFSKY & ASSOCIATES ENVIRONMENTAL LANDSCAPE CONSULTING ON OCTOBER 27, 2011. TITLED: VINE HILL GOLF COURSE – PRELIMINARY ARBORIST EVALUATION.
2. ALL EXISTING TREES ON-SITE ARE TO BE REMOVED, EXCEPT FOR TREES OUTSIDE THE GRADING LIMIT LINE, ON THE WESTERN PORTION OF THE SITE. (SEE THIS SHEET & SHEET TM-2 FOR REFERENCE). THE GRADING LIMIT LINE IS PRELIMINARY AND MAY ADJUST WITH FINAL DESIGN.
3. ALL EXISTING ON-SITE STRUCTURES, CONCRETE, ASPHALT, AND HARDSCAPE TO BE DEMOLISHED AND REMOVED.
4. ALL EXISTING ON-SITE UTILITIES TO BE REMOVED.
5. EXISTING CHAIN LINK FENCES ON MORELLO AVENUE, CENTER AVENUE, AND VINE HILL WAY TO BE REMOVED.

VESTING TENTATIVE MAP
SUBDIVISION 9358
TREE REMOVAL & DEMOLITION PLAN
VINE HILL

CITY OF MARTINEZ CONTRA COSTA COUNTY CALIFORNIA

0' 60' 180' 240'

SCALE: 1" = 60' DATE: DECEMBER 13, 2017

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TM-5
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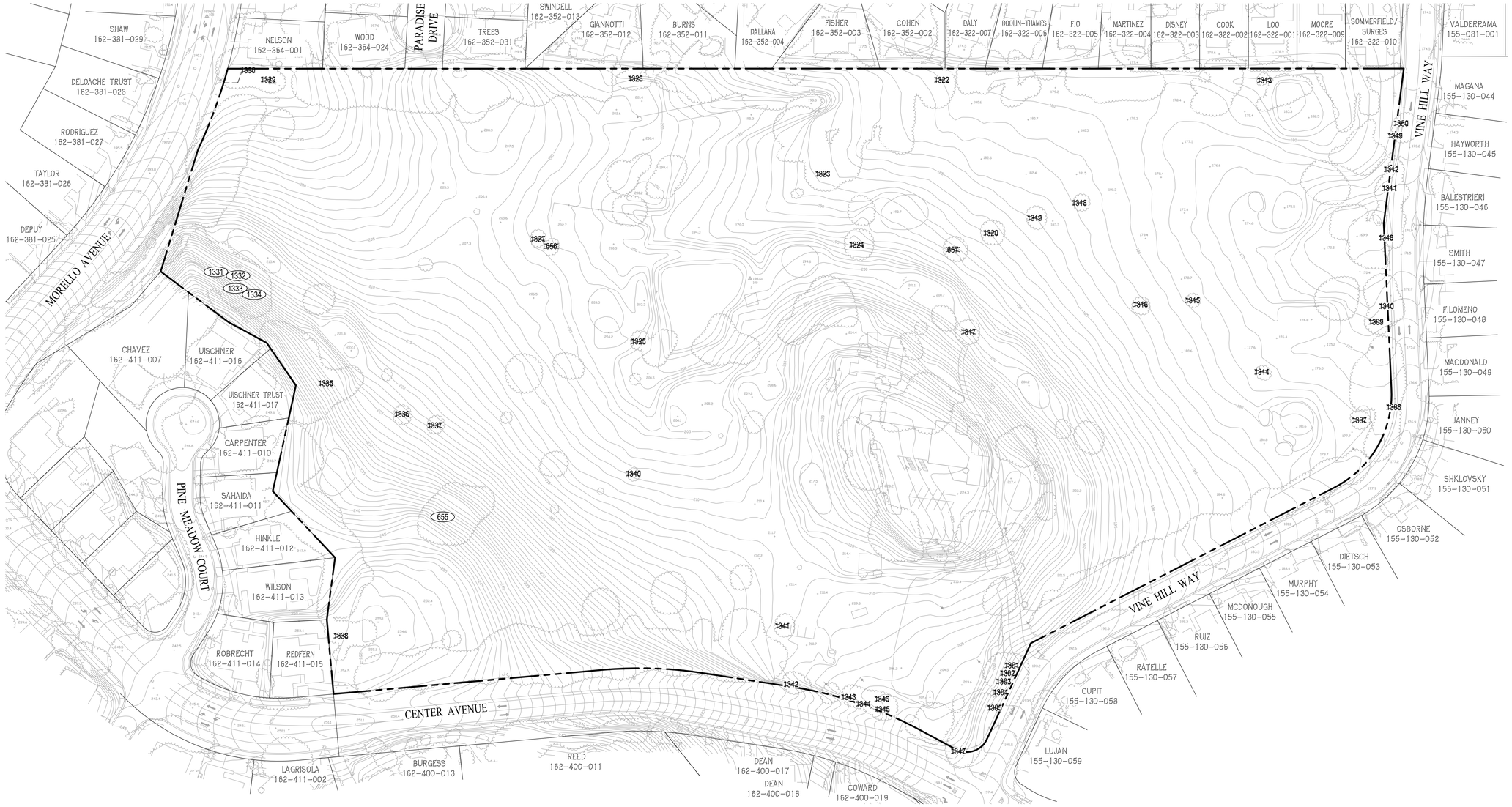

LEGEND:

(1300)	TREES TO BE PRESERVED
~~1300~~	TREES TO BE REMOVED

NOTES:

1. TREE INFORMATION PROVIDED ON THIS EXHIBIT IS PER THE PRELIMINARY ARBORIST EVALUATION PREPARED BY BAEFSKY & ASSOCIATES DATED OCTOBER 27, 2011, AND PER TREE RE-EVALUATION PREPARED BY BAEFSKY & ASSOCIATES DATED MARCH 15, 2016.
2. TREE NUMBERS & DATA WITH LINES THROUGH THEM WERE ORIGINALLY IDENTIFIED AS PROTECTED, BUT THEIR SMALL DIAMETERS DISQUALIFIED THEM FOR THIS STUDY, AND SO ARE NOT LISTED AS PROTECTED TREES ON THIS SITE.
3. TREE LOCATIONS ARE APPROXIMATE AND HAVE NOT BEEN FIELD VERIFIED.

PRELIMINARY TREE SURVEY

TREE #	COMMON NAME	DIAMETER (IN)	HEALTH	STRUCTURE	ACTION
1301	COAST LIVE OAK	11.8"	DEAD	VERY POOR	REMOVE
1302	COAST LIVE OAK	14.6"	FAIR	FAIR	REMOVE
1303	COAST LIVE OAK	13.4"	FAIR	FAIR	REMOVE
1304	COAST LIVE OAK	18.8"	FAIR	POOR	REMOVE
1305	COAST LIVE OAK	11.8"	FAIR	FAIR	REMOVE
~~1307~~	~~CA BLACK WALNUT~~	~~30.9"~~	~~VERY POOR~~	~~VERY POOR~~	~~REMOVE~~
~~1308~~	~~COAST LIVE OAK~~	~~4" 4"~~	~~VERY POOR~~	~~VERY POOR~~	~~REMOVE~~
1309	COAST LIVE OAK	17.8"	VERY POOR	FAIR	REMOVE
1310	BLUE OAK	21.7"	POOR	POOR	REMOVE
1311	BLUE OAK	8.8"	POOR	POOR	REMOVE
1312	VALLEY OAK	8.9"	FAIR	POOR	REMOVE
~~1313~~	~~BLUE OAK~~	~~3.1", 3.5"~~	~~FAIR~~	~~FAIR~~	~~REMOVE~~
1314	COAST REDWOOD	10.4"	DEAD	FAIR	REMOVE
1315	COAST REDWOOD	8.4"	VERY POOR	FAIR	REMOVE
1316	COAST REDWOOD	22.8"	DEAD	FAIR	REMOVE
1317	COAST REDWOOD	23.6"	FAIR	FAIR	REMOVE
1318	COAST REDWOOD	13.7"	DEAD	FAIR	REMOVE
1319	COAST REDWOOD	18.5"	DEAD	GOOD	REMOVE
1320	COAST REDWOOD	21.2"	FAIR	FAIR	REMOVE
657 (1321)	COAST REDWOOD	29.3"	FAIR	FAIR	REMOVE
1322	COAST LIVE OAK	25.6"	FAIR	POOR	REMOVE
1323	VALLEY OAK	29.0"	FAIR	FAIR	REMOVE
1324	COAST REDWOOD	30.9"	FAIR	GOOD	REMOVE
1325	COAST REDWOOD	11.8"	DEAD	FAIR	REMOVE
656 (1326)	COAST REDWOOD	12.4"	DEAD	GOOD	REMOVE
1327	COAST REDWOOD	12.4"	DEAD	FAIR	REMOVE

PRELIMINARY TREE SURVEY

TREE #	COMMON NAME	DIAMETER (IN)	HEALTH	STRUCTURE	ACTION
1328	COAST REDWOOD	17.7"	FAIR	POOR	REMOVE
1329	VALLEY OAK	12.7"	FAIR	FAIR	REMOVE
1330	VALLEY OAK	11.6"	FAIR	FAIR	REMOVE
1331	VALLEY OAK	15.6"	FAIR	FAIR	PRESERVE
1332	VALLEY OAK	11.8"	POOR	POOR	PRESERVE
1333	VALLEY OAK	14.3"	FAIR	GOOD	PRESERVE
1334	VALLEY OAK	55.1"	POOR	POOR	PRESERVE
1335	VALLEY OAK	18.5"	POOR	POOR	REMOVE
1336	COAST REDWOOD	13.5"	DEAD	FAIR	REMOVE
1337	COAST REDWOOD	12.9"	DEAD	GOOD	REMOVE
655	VALLEY OAK	37.2"	GOOD		PRESERVE
1338	COAST LIVE OAK	13", 7"	EXCELLENT/FAIR		REMOVE
1340	COAST REDWOOD	8.3"	DEAD	FAIR	REMOVE
1341	VALLEY OAK	14.3"	FAIR	FAIR	REMOVE
1342	COAST LIVE OAK	13.4"	GOOD	FAIR	REMOVE
1343	COAST LIVE OAK	21.0"	GOOD	FAIR	REMOVE
1344	COAST LIVE OAK	12.7"	POOR	FAIR	REMOVE
1345	BLUE OAK	24.0"	FAIR	POOR	REMOVE
1346	COAST REDWOOD	11.9"	FAIR	GOOD	REMOVE
1347	VALLEY OAK	31.7"	FAIR	FAIR	REMOVE
1348	VALLEY OAK	14.6"	POOR	POOR	REMOVE
1349	BLUE OAK	22.5"	POOR	POOR	REMOVE
1350	BLUE OAK	11.0"	POOR	POOR	REMOVE

VESTING TENTATIVE MAP
SUBDIVISION 9358
EXISTING TREE SURVEY EXHIBIT
VINE HILL

CITY OF MARTINEZ CONTRA COSTA COUNTY CALIFORNIA

0' 60' 180' 240'

SCALE: 1" = 60' DATE: DECEMBER 13, 2017

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OF 6 SHEETS

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PLANT PALETTE

SHRUBS & GROUNDCOVERS

SYMBOL	BOTANICAL NAME	COMMON NAME
OPEN SPACE		
	ARCTOSTAPHYLOS SP.	MANZANITA
	CEANOTHUS SP.	WILD LILAC
	HETEROMELES ARBUTIFOLIA	TOYON
	MISCANTHUS SINENSIS	PORCUPINE GRASS
	MUHLENBERGIA CAPILLARIS	DEER GRASS
	ROSA CALIFORNICA	WILD ROSE
RESIDENTIAL LANDSCAPE AREA		
	ARTEMESIA 'POWIS CASTLE'	NCN
	BERBERIS SP.	JAPANESE BARBERRY
	CALAMAGROSTIS A. 'KARL FOERESTER'	FEATHER REED GRASS
	CISTUS SP.	ROCK ROSE
	DIETES SP.	FORTNIGHT LILY
	DODONAEA V. 'PURPURPEA'	PURPLE HOPSEED BUSH
	FESTUCA MAIREI	ATLAS FESCUE
	GAURA LINDHEIMERI	GAURA
	HEMEROCALLIS HYBRIDS	EVERGREEN DAYLILLY
	LOROPETALUM C. 'RAZZLEBERRI'	LOROPETALUM
	MAHONIA A. 'COMPACTA'	DWARF OREGON GRAPE
	NEPETA 'SIX HILLS GIANT'	CAT MINT
	PHORMIUM 'MAORI QUEEN'	NEW ZEALAND FLAX
	PHORMIUM 'MAORI SUNRISE'	NEW ZEALAND FLAX
	ROSA SP.	ROSE
	ROSMARINUS O. 'PROSTRATUS'	TRAILING ROSEMARY
	SALVIA SP.	SAGE
	TEUCRIUM SP.	GERMANDER
BIO-RETENTION BASIN		
	CALAMAGROSTIS KOELEROIDES	REED GRASS
	HORDEUM BRACYANTHERUM	BARLEY
	JUNCUS PATENS	CALIFORNIA GRAY RUSH

GENERAL NOTES:

- TREE LAYOUT IS SCHEMATIC. FINAL TREE LOCATIONS AND SPECIES SUBJECT TO FINAL UTILITY LOCATIONS AND CITY REVIEW.
- ALL LANDSCAPE AREAS THAT ARE INSTALLED BY DEVELOPER SHALL RECEIVE IRRIGATION BY MEANS OF AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM(S). THE SYSTEM(S) WILL BE DESIGNED UTILIZING BACKFLOW PREVENTION DEVICES TO MEET LOCAL AND UBC CODES. IRRIGATION HEADS SHALL BE DESIGNED TO MINIMIZE OVERSPRAY AND RUNOFF.

TREE LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY
STREET TREES				
	ACER BUERGERANUM	TRIDENT MAPLE	15 GAL	63
	PISTACIA CHINENSIS	CHINESE PISTACHE	15 GAL	45
	PRUNUS CERASIFERA	PURPLE LEAF PLUM	15 GAL	5
	PYRUS C. 'NEW BRADFORD'	NEW BRADFORD PEAR	15 GAL	33
	QUERCUS AGRIFOLIA	COAST LIVE OAK	15 GAL	22
	SEQUOIA S. 'SOQUEL'	COAST REDWOOD 'SOQUEL'	15 GAL	12
	ACCENT TREE: ACER PALMATUM	JAPANESE MAPLE	15 GAL	98
	CERCIS OCCIDENTALIS	WESTERN REDBUD	15 GAL	
	LAGERSTROEMIA SPP.	CRAPE MYRTLE	15 GAL	
			TOTAL	278
	EXISTING TREES TO REMAIN			

DeNova Homes
Building a Better Community
1500 WILLOW PASS COURT
CONCORD, CALIFORNIA 94520
(925) 685-0110

VINE HILL

Martinez, California

OVERALL SITE PLAN

CONCEPTUAL LANDSCAPE PLAN
MARCH 2018

vanderToolen Associates
855 Bordeaux Way
Suite 240
Napa, CA 94558

tel: 707.224.2299
www.vandertoolen.com

0' 30' 60' 120'
SCALE: 1" = 60'-0"
NORTH

L-1
Project No. 05913

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Appendix B

CalEEMOD Air Quality Model Output

City of Martinez - Vine Hill (Existing Scenario)

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	18.00	1000sqft	0.41	18,000.00	0
High Turnover (Sit Down Restaurant)	9.46	1000sqft	0.22	9,460.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Square footage provided by the applicant. 9,460 for the restaurant and 18,000 for the parking lot (Existing Scenario).

Construction Phase - No construction emissions

Architectural Coating -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Off-road Equipment - No construction emissions.

Grading -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	1.00	0.00
tblConstructionPhase	PhaseEndDate	1/15/2018	1/12/2018
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	5.00

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					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated 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					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0434	0.0000	2.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.9000e-004	4.9000e-004	0.0000	0.0000	5.2000e-004
Energy	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003	0.0000	166.3560	166.3560	5.3100e-003	2.3200e-003	167.1794
Mobile	0.3032	1.1734	2.6613	7.0000e-003	0.5423	7.2200e-003	0.5495	0.1455	6.7700e-003	0.1523	0.0000	640.1276	640.1276	0.0307	0.0000	640.8951
Waste						0.0000	0.0000		0.0000	0.0000	22.8507	0.0000	22.8507	1.3504	0.0000	56.6116
Water						0.0000	0.0000		0.0000	0.0000	0.9110	4.7066	5.6176	0.0938	2.2500e-003	8.6335
Total	**0.3552**	**1.2512**	**2.7269**	**7.4700e-003**	**0.5423**	**0.0131**	**0.5555**	**0.1455**	**0.0127**	**0.1582**	**23.7617**	**811.1907**	**834.9523**	**1.4802**	**4.5700e-003**	**873.3202**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0434	0.0000	2.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.9000e-004	4.9000e-004	0.0000	0.0000	5.2000e-004
Energy	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003	0.0000	166.3560	166.3560	5.3100e-003	2.3200e-003	167.1794
Mobile	0.3032	1.1734	2.6613	7.0000e-003	0.5423	7.2200e-003	0.5495	0.1455	6.7700e-003	0.1523	0.0000	640.1276	640.1276	0.0307	0.0000	640.8951
Waste						0.0000	0.0000		0.0000	0.0000	22.8507	0.0000	22.8507	1.3504	0.0000	56.6116
Water						0.0000	0.0000		0.0000	0.0000	0.9110	4.7066	5.6176	0.0938	2.2500e-003	8.6335
Total	**0.3552**	**1.2512**	**2.7269**	**7.4700e-003**	**0.5423**	**0.0131**	**0.5555**	**0.1455**	**0.0127**	**0.1582**	**23.7617**	**811.1907**	**834.9523**	**1.4802**	**4.5700e-003**	**873.3202**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/13/2018	1/12/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.41

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	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
Site Preparation	0	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

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

3.2 Site Preparation - 2018

Mitigated Construction On-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3032	1.1734	2.6613	7.0000e-003	0.5423	7.2200e-003	0.5495	0.1455	6.7700e-003	0.1523	0.0000	640.1276	640.1276	0.0307	0.0000	640.8951
Unmitigated	0.3032	1.1734	2.6613	7.0000e-003	0.5423	7.2200e-003	0.5495	0.1455	6.7700e-003	0.1523	0.0000	640.1276	640.1276	0.0307	0.0000	640.8951

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
High Turnover (Sit Down Restaurant)	1,202.84	1,498.18	1247.21	1,451,919	1,451,919
Parking Lot	0.00	0.00	0.00		
Total	1,202.84	1,498.18	1,247.21	1,451,919	1,451,919

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
High Turnover (Sit Down Restaurant)	0.577244	0.040114	0.186710	0.126359	0.018084	0.005120	0.010527	0.023222	0.001588	0.001850	0.005513	0.002759	0.000910
Parking Lot	0.577244	0.040114	0.186710	0.126359	0.018084	0.005120	0.010527	0.023222	0.001588	0.001850	0.005513	0.002759	0.000910

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	81.5864	81.5864	3.6900e-003	7.6000e-004	81.9060
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	81.5864	81.5864	3.6900e-003	7.6000e-004	81.9060
NaturalGas Mitigated	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003	0.0000	84.7697	84.7697	1.6200e-003	1.5500e-003	85.2734
NaturalGas Unmitigated	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003	0.0000	84.7697	84.7697	1.6200e-003	1.5500e-003	85.2734

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
High Turnover (Sit Down Restaurant)	1.58852e+006	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003	0.0000	84.7697	84.7697	1.6200e-003	1.5500e-003	85.2734
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**8.5700e-003**	**0.0779**	**0.0654**	**4.7000e-004**		**5.9200e-003**	**5.9200e-003**		**5.9200e-003**	**5.9200e-003**	**0.0000**	**84.7697**	**84.7697**	**1.6200e-003**	**1.5500e-003**	**85.2734**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
High Turnover (Sit Down Restaurant)	1.58852e+006	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003	0.0000	84.7697	84.7697	1.6200e-003	1.5500e-003	85.2734
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**8.5700e-003**	**0.0779**	**0.0654**	**4.7000e-004**		**5.9200e-003**	**5.9200e-003**		**5.9200e-003**	**5.9200e-003**	**0.0000**	**84.7697**	**84.7697**	**1.6200e-003**	**1.5500e-003**	**85.2734**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
High Turnover (Sit Down Restaurant)	274151	79.7536	3.6100e-003	7.5000e-004	80.0661
Parking Lot	6300	1.8327	8.0000e-005	2.0000e-005	1.8399
Total		**81.5864**	**3.6900e-003**	**7.7000e-004**	**81.9060**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
High Turnover (Sit Down Restaurant)	274151	79.7536	3.6100e-003	7.5000e-004	80.0661
Parking Lot	6300	1.8327	8.0000e-005	2.0000e-005	1.8399
Total		**81.5864**	**3.6900e-003**	**7.7000e-004**	**81.9060**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0434	0.0000	2.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.9000e-004	4.9000e-004	0.0000	0.0000	5.2000e-004
Unmitigated	0.0434	0.0000	2.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.9000e-004	4.9000e-004	0.0000	0.0000	5.2000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0381					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.9000e-004	4.9000e-004	0.0000	0.0000	5.2000e-004
Total	**0.0434**	**0.0000**	**2.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.9000e-004**	**4.9000e-004**	**0.0000**	**0.0000**	**5.2000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0381					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.9000e-004	4.9000e-004	0.0000	0.0000	5.2000e-004
Total	**0.0434**	**0.0000**	**2.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.9000e-004**	**4.9000e-004**	**0.0000**	**0.0000**	**5.2000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.6176	0.0938	2.2500e-003	8.6335
Unmitigated	5.6176	0.0938	2.2500e-003	8.6335

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
High Turnover (Sit Down Restaurant)	2.87143 / 0.183283	5.6176	0.0938	2.2500e-003	8.6335
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**5.6176**	**0.0938**	**2.2500e-003**	**8.6335**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
High Turnover (Sit Down Restaurant)	2.87143 / 0.183283	5.6176	0.0938	2.2500e-003	8.6335
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**5.6176**	**0.0938**	**2.2500e-003**	**8.6335**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	22.8507	1.3504	0.0000	56.6116
Unmitigated	22.8507	1.3504	0.0000	56.6116

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
High Turnover (Sit Down Restaurant)	112.57	22.8507	1.3504	0.0000	56.6116
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**22.8507**	**1.3504**	**0.0000**	**56.6116**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
High Turnover (Sit Down Restaurant)	112.57	22.8507	1.3504	0.0000	56.6116
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**22.8507**	**1.3504**	**0.0000**	**56.6116**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	92.00	Dwelling Unit	29.87	165,600.00	231

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Population size based on an average household size of 2.51 (as provided by project applicant).

Construction Phase - Construction days assumed for each phase are based on project size.

Grading - 4,000 cubic yards of cut (i.e. material exported) during grading phase.

Architectural Coating -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Area Mitigation - Only low Volatile Organic Compound paint (150 g/L) (interior and exterior) shall be used on the project site. Only Natural gas hearths.

Energy Mitigation -

Demolition -

Trips and VMT - 533 hauling trips during the grading phase, based on the estimates of 4,000 cubic yards of cut; the assumption that each haul truck moves an average of 15 cy per truck

Off-road Equipment - 1 excavator ot be used for the demolition phase (as provided by the applicant).

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	150
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	440.00	614.00
tblGrading	MaterialExported	0.00	4,000.00
tblLandUse	Population	263.00	231.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblTripsAndVMT	HaulingTripNumber	500.00	533.00
tblTripsAndVMT	WorkerTripNumber	10.00	15.00

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					
2018	0.4192	4.1447	2.8130	5.0400e-003	0.3286	0.2193	0.5479	0.1416	0.2043	0.3460	0.0000	455.2237	455.2237	0.1097	0.0000	457.9661
2019	0.3305	2.9286	2.4042	4.2100e-003	0.0427	0.1698	0.2125	0.0116	0.1596	0.1712	0.0000	371.9975	371.9975	0.0774	0.0000	373.9327
2020	1.3884	1.9894	1.7605	3.1500e-003	0.0324	0.1099	0.1423	8.7700e-003	0.1035	0.1122	0.0000	274.7506	274.7506	0.0564	0.0000	276.1601
Maximum	**1.3884**	**4.1447**	**2.8130**	**5.0400e-003**	**0.3286**	**0.2193**	**0.5479**	**0.1416**	**0.2043**	**0.3460**	**0.0000**	**455.2237**	**455.2237**	**0.1097**	**0.0000**	**457.9661**

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					
2018	0.4192	4.1447	2.8130	5.0400e-003	0.1689	0.2193	0.3882	0.0694	0.2043	0.2737	0.0000	455.2233	455.2233	0.1097	0.0000	457.9656
2019	0.3305	2.9286	2.4042	4.2100e-003	0.0427	0.1698	0.2125	0.0116	0.1596	0.1712	0.0000	371.9971	371.9971	0.0774	0.0000	373.9324
2020	1.3884	1.9894	1.7605	3.1500e-003	0.0324	0.1099	0.1423	8.7700e-003	0.1035	0.1122	0.0000	274.7504	274.7504	0.0564	0.0000	276.1599
Maximum	**1.3884**	**4.1447**	**2.8130**	**5.0400e-003**	**0.1689**	**0.2193**	**0.3882**	**0.0694**	**0.2043**	**0.2737**	**0.0000**	**455.2233**	**455.2233**	**0.1097**	**0.0000**	**457.9656**

City of Martinez - Vine Hill - Contra Costa County, Annual

	ROG	NOx	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**	**39.56**	**0.00**	**17.69**	**44.59**	**0.00**	**11.47**	**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	**1-1-2018**	**3-31-2018**	1.9770	1.9770
2	**4-1-2018**	**6-30-2018**	0.7557	0.7557
3	**7-1-2018**	**9-30-2018**	0.9100	0.9100
4	**10-1-2018**	**12-31-2018**	0.9115	0.9115
5	**1-1-2019**	**3-31-2019**	0.8035	0.8035
6	**4-1-2019**	**6-30-2019**	0.8111	0.8111
7	**7-1-2019**	**9-30-2019**	0.8200	0.8200
8	**10-1-2019**	**12-31-2019**	0.8213	0.8213
9	**1-1-2020**	**3-31-2020**	0.7379	0.7379
10	**4-1-2020**	**6-30-2020**	0.7368	0.7368
11	**7-1-2020**	**9-30-2020**	0.8433	0.8433
		Highest	1.9770	1.9770

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3264	0.0198	1.4739	1.6600e-003		0.1175	0.1175		0.1175	0.1175	11.6942	3.9872	15.6814	0.0232	6.7000e-004	16.4602
Energy	0.0210	0.1794	0.0764	1.1500e-003		0.0145	0.0145		0.0145	0.0145	0.0000	421.4295	421.4295	0.0136	5.8100e-003	423.5013
Mobile	0.2532	1.1373	2.8822	9.0400e-003	0.7498	8.9700e-003	0.7587	0.2012	8.4200e-003	0.2096	0.0000	827.0241	827.0241	0.0320	0.0000	827.8237
Waste						0.0000	0.0000		0.0000	0.0000	19.6942	0.0000	19.6942	1.1639	0.0000	48.7915
Water						0.0000	0.0000		0.0000	0.0000	1.9017	13.2832	15.1849	0.1959	4.7400e-003	21.4943
Total	**1.6006**	**1.3365**	**4.4324**	**0.0119**	**0.7498**	**0.1410**	**0.8907**	**0.2012**	**0.1404**	**0.3416**	**33.2901**	**1,265.7239**	**1,299.0140**	**1.4286**	**0.0112**	**1,338.0710**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8238	0.0147	0.6883	8.0000e-005		4.3100e-003	4.3100e-003		4.3100e-003	4.3100e-003	0.0000	8.9258	8.9258	1.2400e-003	1.4000e-004	8.9994
Energy	0.0210	0.1794	0.0764	1.1500e-003		0.0145	0.0145		0.0145	0.0145	0.0000	416.9302	416.9302	0.0134	5.7700e-003	418.9844
Mobile	0.2473	1.0926	2.7389	8.4600e-003	0.6980	8.4200e-003	0.7065	0.1873	7.9000e-003	0.1952	0.0000	773.9988	773.9988	0.0305	0.0000	774.7615
Waste						0.0000	0.0000		0.0000	0.0000	19.6942	0.0000	19.6942	1.1639	0.0000	48.7915
Water						0.0000	0.0000		0.0000	0.0000	1.5213	11.1614	12.6828	0.1568	3.7900e-003	17.7324
Total	**1.0921**	**1.2867**	**3.5035**	**9.6900e-003**	**0.6980**	**0.0272**	**0.7253**	**0.1873**	**0.0267**	**0.2141**	**21.2155**	**1,211.0162**	**1,232.2317**	**1.3658**	**9.7000e-003**	**1,269.2692**

	ROG	NOx	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	**31.77**	**3.73**	**20.96**	**18.23**	**6.90**	**80.67**	**18.57**	**6.90**	**80.97**	**37.34**	**36.27**	**4.32**	**5.14**	**4.39**	**13.55**	**5.14**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2018	1/12/2018	5	10	
2	Site Preparation	Site Preparation	1/13/2018	1/26/2018	5	10	
3	Grading	Grading	1/27/2018	3/30/2018	5	45	
4	Paving	Paving	3/31/2018	5/18/2018	5	35	
5	Building Construction	Building Construction	5/19/2018	9/24/2020	5	614	
6	Architectural Coating	Architectural Coating	9/25/2020	11/12/2020	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 335,340; Residential Outdoor: 111,780; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	15.00	0.00	43.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	533.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	33.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.6600e-003	0.0000	4.6600e-003	7.0000e-004	0.0000	7.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0157	0.1607	0.0788	1.4000e-004		8.1900e-003	8.1900e-003		7.6400e-003	7.6400e-003	0.0000	12.8484	12.8484	3.3700e-003	0.0000	12.9327
Total	**0.0157**	**0.1607**	**0.0788**	**1.4000e-004**	**4.6600e-003**	**8.1900e-003**	**0.0129**	**7.0000e-004**	**7.6400e-003**	**8.3400e-003**	**0.0000**	**12.8484**	**12.8484**	**3.3700e-003**	**0.0000**	**12.9327**

3.2 Demolition - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-004	7.0500e-003	1.2500e-003	2.0000e-005	3.6000e-004	3.0000e-005	3.9000e-004	1.0000e-004	3.0000e-005	1.3000e-004	0.0000	1.6629	1.6629	8.0000e-005	0.0000	1.6648
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1000e-004	2.4000e-004	2.3800e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5558	0.5558	2.0000e-005	0.0000	0.5562
Total	**5.1000e-004**	**7.2900e-003**	**3.6300e-003**	**3.0000e-005**	**9.5000e-004**	**3.0000e-005**	**9.9000e-004**	**2.6000e-004**	**3.0000e-005**	**2.9000e-004**	**0.0000**	**2.2186**	**2.2186**	**1.0000e-004**	**0.0000**	**2.2210**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1000e-003	0.0000	2.1000e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0157	0.1607	0.0788	1.4000e-004		8.1900e-003	8.1900e-003		7.6400e-003	7.6400e-003	0.0000	12.8484	12.8484	3.3700e-003	0.0000	12.9327
Total	**0.0157**	**0.1607**	**0.0788**	**1.4000e-004**	**2.1000e-003**	**8.1900e-003**	**0.0103**	**3.2000e-004**	**7.6400e-003**	**7.9600e-003**	**0.0000**	**12.8484**	**12.8484**	**3.3700e-003**	**0.0000**	**12.9327**

3.2 Demolition - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-004	7.0500e-003	1.2500e-003	2.0000e-005	3.6000e-004	3.0000e-005	3.9000e-004	1.0000e-004	3.0000e-005	1.3000e-004	0.0000	1.6629	1.6629	8.0000e-005	0.0000	1.6648
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1000e-004	2.4000e-004	2.3800e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5558	0.5558	2.0000e-005	0.0000	0.5562
Total	**5.1000e-004**	**7.2900e-003**	**3.6300e-003**	**3.0000e-005**	**9.5000e-004**	**3.0000e-005**	**9.9000e-004**	**2.6000e-004**	**3.0000e-005**	**2.9000e-004**	**0.0000**	**2.2186**	**2.2186**	**1.0000e-004**	**0.0000**	**2.2210**

3.3 Site Preparation - 2018

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0228	0.2410	0.1124	1.9000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	17.3800	17.3800	5.4100e-003	0.0000	17.5152
Total	**0.0228**	**0.2410**	**0.1124**	**1.9000e-004**	**0.0903**	**0.0129**	**0.1032**	**0.0497**	**0.0119**	**0.0615**	**0.0000**	**17.3800**	**17.3800**	**5.4100e-003**	**0.0000**	**17.5152**

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.8000e-004	2.8600e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6669	0.6669	2.0000e-005	0.0000	0.6674
Total	**3.7000e-004**	**2.8000e-004**	**2.8600e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6669**	**0.6669**	**2.0000e-005**	**0.0000**	**0.6674**

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					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0228	0.2410	0.1124	1.9000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	17.3799	17.3799	5.4100e-003	0.0000	17.5152
Total	**0.0228**	**0.2410**	**0.1124**	**1.9000e-004**	**0.0407**	**0.0129**	**0.0535**	**0.0223**	**0.0119**	**0.0342**	**0.0000**	**17.3799**	**17.3799**	**5.4100e-003**	**0.0000**	**17.5152**

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.8000e-004	2.8600e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6669	0.6669	2.0000e-005	0.0000	0.6674
Total	**3.7000e-004**	**2.8000e-004**	**2.8600e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6669**	**0.6669**	**2.0000e-005**	**0.0000**	**0.6674**

3.4 Grading - 2018

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					0.1954	0.0000	0.1954	0.0810	0.0000	0.0810	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1145	1.3392	0.7895	1.4000e-003		0.0593	0.0593		0.0545	0.0545	0.0000	127.4591	127.4591	0.0397	0.0000	128.4511
Total	**0.1145**	**1.3392**	**0.7895**	**1.4000e-003**	**0.1954**	**0.0593**	**0.2546**	**0.0810**	**0.0545**	**0.1355**	**0.0000**	**127.4591**	**127.4591**	**0.0397**	**0.0000**	**128.4511**

3.4 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5300e-003	0.0874	0.0155	2.1000e-004	4.5100e-003	3.6000e-004	4.8700e-003	1.2400e-003	3.4000e-004	1.5800e-003	0.0000	20.6121	20.6121	9.6000e-004	0.0000	20.6360
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8400e-003	1.4200e-003	0.0143	4.0000e-005	3.5700e-003	2.0000e-005	3.5900e-003	9.5000e-004	2.0000e-005	9.7000e-004	0.0000	3.3345	3.3345	1.0000e-004	0.0000	3.3370
Total	**4.3700e-003**	**0.0888**	**0.0298**	**2.5000e-004**	**8.0800e-003**	**3.8000e-004**	**8.4600e-003**	**2.1900e-003**	**3.6000e-004**	**2.5500e-003**	**0.0000**	**23.9466**	**23.9466**	**1.0600e-003**	**0.0000**	**23.9731**

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					0.0879	0.0000	0.0879	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1145	1.3392	0.7895	1.4000e-003		0.0593	0.0593		0.0545	0.0545	0.0000	127.4590	127.4590	0.0397	0.0000	128.4510
Total	**0.1145**	**1.3392**	**0.7895**	**1.4000e-003**	**0.0879**	**0.0593**	**0.1472**	**0.0364**	**0.0545**	**0.0910**	**0.0000**	**127.4590**	**127.4590**	**0.0397**	**0.0000**	**128.4510**

3.4 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5300e-003	0.0874	0.0155	2.1000e-004	4.5100e-003	3.6000e-004	4.8700e-003	1.2400e-003	3.4000e-004	1.5800e-003	0.0000	20.6121	20.6121	9.6000e-004	0.0000	20.6360
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8400e-003	1.4200e-003	0.0143	4.0000e-005	3.5700e-003	2.0000e-005	3.5900e-003	9.5000e-004	2.0000e-005	9.7000e-004	0.0000	3.3345	3.3345	1.0000e-004	0.0000	3.3370
Total	**4.3700e-003**	**0.0888**	**0.0298**	**2.5000e-004**	**8.0800e-003**	**3.8000e-004**	**8.4600e-003**	**2.1900e-003**	**3.6000e-004**	**2.5500e-003**	**0.0000**	**23.9466**	**23.9466**	**1.0600e-003**	**0.0000**	**23.9731**

3.5 Paving - 2018

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	0.0288	0.3066	0.2589	4.0000e-004		0.0167	0.0167		0.0154	0.0154	0.0000	36.4203	36.4203	0.0113	0.0000	36.7038
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0288**	**0.3066**	**0.2589**	**4.0000e-004**		**0.0167**	**0.0167**		**0.0154**	**0.0154**	**0.0000**	**36.4203**	**36.4203**	**0.0113**	**0.0000**	**36.7038**

3.5 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0700e-003	8.3000e-004	8.3400e-003	2.0000e-005	2.0800e-003	1.0000e-005	2.1000e-003	5.5000e-004	1.0000e-005	5.7000e-004	0.0000	1.9451	1.9451	6.0000e-005	0.0000	1.9466
Total	**1.0700e-003**	**8.3000e-004**	**8.3400e-003**	**2.0000e-005**	**2.0800e-003**	**1.0000e-005**	**2.1000e-003**	**5.5000e-004**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**1.9451**	**1.9451**	**6.0000e-005**	**0.0000**	**1.9466**

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	0.0288	0.3066	0.2589	4.0000e-004		0.0167	0.0167		0.0154	0.0154	0.0000	36.4203	36.4203	0.0113	0.0000	36.7038
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0288**	**0.3066**	**0.2589**	**4.0000e-004**		**0.0167**	**0.0167**		**0.0154**	**0.0154**	**0.0000**	**36.4203**	**36.4203**	**0.0113**	**0.0000**	**36.7038**

3.5 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0700e-003	8.3000e-004	8.3400e-003	2.0000e-005	2.0800e-003	1.0000e-005	2.1000e-003	5.5000e-004	1.0000e-005	5.7000e-004	0.0000	1.9451	1.9451	6.0000e-005	0.0000	1.9466
Total	**1.0700e-003**	**8.3000e-004**	**8.3400e-003**	**2.0000e-005**	**2.0800e-003**	**1.0000e-005**	**2.1000e-003**	**5.5000e-004**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**1.9451**	**1.9451**	**6.0000e-005**	**0.0000**	**1.9466**

3.6 Building Construction - 2018

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	0.2157	1.8829	1.4152	2.1700e-003		0.1207	0.1207		0.1135	0.1135	0.0000	191.4026	191.4026	0.0469	0.0000	192.5750
Total	**0.2157**	**1.8829**	**1.4152**	**2.1700e-003**		**0.1207**	**0.1207**		**0.1135**	**0.1135**	**0.0000**	**191.4026**	**191.4026**	**0.0469**	**0.0000**	**192.5750**

3.6 Building Construction - 2018

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	4.4500e-003	0.1088	0.0291	2.2000e-004	5.2900e-003	8.9000e-004	6.1900e-003	1.5300e-003	8.5000e-004	2.3900e-003	0.0000	21.2513	21.2513	1.1800e-003	0.0000	21.2808
Worker	0.0109	8.3600e-003	0.0844	2.2000e-004	0.0211	1.5000e-004	0.0212	5.6000e-003	1.4000e-004	5.7400e-003	0.0000	19.6847	19.6847	5.9000e-004	0.0000	19.6995
Total	**0.0153**	**0.1171**	**0.1136**	**4.4000e-004**	**0.0264**	**1.0400e-003**	**0.0274**	**7.1300e-003**	**9.9000e-004**	**8.1300e-003**	**0.0000**	**40.9360**	**40.9360**	**1.7700e-003**	**0.0000**	**40.9803**

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	0.2157	1.8829	1.4152	2.1700e-003		0.1207	0.1207		0.1135	0.1135	0.0000	191.4024	191.4024	0.0469	0.0000	192.5747
Total	**0.2157**	**1.8829**	**1.4152**	**2.1700e-003**		**0.1207**	**0.1207**		**0.1135**	**0.1135**	**0.0000**	**191.4024**	**191.4024**	**0.0469**	**0.0000**	**192.5747**

3.6 Building Construction - 2018

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	4.4500e-003	0.1088	0.0291	2.2000e-004	5.2900e-003	8.9000e-004	6.1900e-003	1.5300e-003	8.5000e-004	2.3900e-003	0.0000	21.2513	21.2513	1.1800e-003	0.0000	21.2808
Worker	0.0109	8.3600e-003	0.0844	2.2000e-004	0.0211	1.5000e-004	0.0212	5.6000e-003	1.4000e-004	5.7400e-003	0.0000	19.6847	19.6847	5.9000e-004	0.0000	19.6995
Total	**0.0153**	**0.1171**	**0.1136**	**4.4000e-004**	**0.0264**	**1.0400e-003**	**0.0274**	**7.1300e-003**	**9.9000e-004**	**8.1300e-003**	**0.0000**	**40.9360**	**40.9360**	**1.7700e-003**	**0.0000**	**40.9803**

3.6 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3081	2.7508	2.2399	3.5100e-003		0.1683	0.1683		0.1583	0.1583	0.0000	306.8110	306.8110	0.0747	0.0000	308.6795
Total	**0.3081**	**2.7508**	**2.2399**	**3.5100e-003**		**0.1683**	**0.1683**		**0.1583**	**0.1583**	**0.0000**	**306.8110**	**306.8110**	**0.0747**	**0.0000**	**308.6795**

3.6 Building Construction - 2019

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	6.4700e-003	0.1660	0.0433	3.6000e-004	8.5800e-003	1.2200e-003	9.8100e-003	2.4800e-003	1.1700e-003	3.6500e-003	0.0000	34.2380	34.2380	1.8200e-003	0.0000	34.2836
Worker	0.0159	0.0119	0.1210	3.4000e-004	0.0342	2.3000e-004	0.0344	9.0800e-003	2.1000e-004	9.3000e-003	0.0000	30.9485	30.9485	8.4000e-004	0.0000	30.9696
Total	**0.0223**	**0.1778**	**0.1643**	**7.0000e-004**	**0.0427**	**1.4500e-003**	**0.0442**	**0.0116**	**1.3800e-003**	**0.0130**	**0.0000**	**65.1865**	**65.1865**	**2.6600e-003**	**0.0000**	**65.2532**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3081	2.7508	2.2399	3.5100e-003		0.1683	0.1683		0.1583	0.1583	0.0000	306.8106	306.8106	0.0747	0.0000	308.6792
Total	**0.3081**	**2.7508**	**2.2399**	**3.5100e-003**		**0.1683**	**0.1683**		**0.1583**	**0.1583**	**0.0000**	**306.8106**	**306.8106**	**0.0747**	**0.0000**	**308.6792**

3.6 Building Construction - 2019

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	6.4700e-003	0.1660	0.0433	3.6000e-004	8.5800e-003	1.2200e-003	9.8100e-003	2.4800e-003	1.1700e-003	3.6500e-003	0.0000	34.2380	34.2380	1.8200e-003	0.0000	34.2836
Worker	0.0159	0.0119	0.1210	3.4000e-004	0.0342	2.3000e-004	0.0344	9.0800e-003	2.1000e-004	9.3000e-003	0.0000	30.9485	30.9485	8.4000e-004	0.0000	30.9696
Total	**0.0223**	**0.1778**	**0.1643**	**7.0000e-004**	**0.0427**	**1.4500e-003**	**0.0442**	**0.0116**	**1.3800e-003**	**0.0130**	**0.0000**	**65.1865**	**65.1865**	**2.6600e-003**	**0.0000**	**65.2532**

3.6 Building Construction - 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					
Off-Road	0.2035	1.8419	1.6175	2.5800e-003		0.1072	0.1072		0.1008	0.1008	0.0000	222.3456	222.3456	0.0542	0.0000	223.7017
Total	**0.2035**	**1.8419**	**1.6175**	**2.5800e-003**		**0.1072**	**0.1072**		**0.1008**	**0.1008**	**0.0000**	**222.3456**	**222.3456**	**0.0542**	**0.0000**	**223.7017**

3.6 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8500e-003	0.1101	0.0283	2.6000e-004	6.3100e-003	5.6000e-004	6.8800e-003	1.8300e-003	5.4000e-004	2.3600e-003	0.0000	25.0418	25.0418	1.2300e-003	0.0000	25.0725
Worker	0.0106	7.6900e-003	0.0796	2.4000e-004	0.0251	1.7000e-004	0.0253	6.6800e-003	1.5000e-004	6.8400e-003	0.0000	22.0427	22.0427	5.4000e-004	0.0000	22.0562
Total	**0.0145**	**0.1178**	**0.1079**	**5.0000e-004**	**0.0314**	**7.3000e-004**	**0.0322**	**8.5100e-003**	**6.9000e-004**	**9.2000e-003**	**0.0000**	**47.0845**	**47.0845**	**1.7700e-003**	**0.0000**	**47.1287**

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	0.2035	1.8419	1.6175	2.5800e-003		0.1072	0.1072		0.1008	0.1008	0.0000	222.3453	222.3453	0.0542	0.0000	223.7014
Total	**0.2035**	**1.8419**	**1.6175**	**2.5800e-003**		**0.1072**	**0.1072**		**0.1008**	**0.1008**	**0.0000**	**222.3453**	**222.3453**	**0.0542**	**0.0000**	**223.7014**

3.6 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8500e-003	0.1101	0.0283	2.6000e-004	6.3100e-003	5.6000e-004	6.8800e-003	1.8300e-003	5.4000e-004	2.3600e-003	0.0000	25.0418	25.0418	1.2300e-003	0.0000	25.0725
Worker	0.0106	7.6900e-003	0.0796	2.4000e-004	0.0251	1.7000e-004	0.0253	6.6800e-003	1.5000e-004	6.8400e-003	0.0000	22.0427	22.0427	5.4000e-004	0.0000	22.0562
Total	**0.0145**	**0.1178**	**0.1079**	**5.0000e-004**	**0.0314**	**7.3000e-004**	**0.0322**	**8.5100e-003**	**6.9000e-004**	**9.2000e-003**	**0.0000**	**47.0845**	**47.0845**	**1.7700e-003**	**0.0000**	**47.1287**

3.7 Architectural Coating - 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					
Archit. Coating	1.1657					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2400e-003	0.0295	0.0321	5.0000e-005		1.9400e-003	1.9400e-003		1.9400e-003	1.9400e-003	0.0000	4.4682	4.4682	3.5000e-004	0.0000	4.4768
Total	**1.1700**	**0.0295**	**0.0321**	**5.0000e-005**		**1.9400e-003**	**1.9400e-003**		**1.9400e-003**	**1.9400e-003**	**0.0000**	**4.4682**	**4.4682**	**3.5000e-004**	**0.0000**	**4.4768**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	3.0000e-004	3.0800e-003	1.0000e-005	9.7000e-004	1.0000e-005	9.8000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.8523	0.8523	2.0000e-005	0.0000	0.8529
Total	**4.1000e-004**	**3.0000e-004**	**3.0800e-003**	**1.0000e-005**	**9.7000e-004**	**1.0000e-005**	**9.8000e-004**	**2.6000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.8523**	**0.8523**	**2.0000e-005**	**0.0000**	**0.8529**

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	1.1657					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2400e-003	0.0295	0.0321	5.0000e-005		1.9400e-003	1.9400e-003		1.9400e-003	1.9400e-003	0.0000	4.4682	4.4682	3.5000e-004	0.0000	4.4768
Total	**1.1700**	**0.0295**	**0.0321**	**5.0000e-005**		**1.9400e-003**	**1.9400e-003**		**1.9400e-003**	**1.9400e-003**	**0.0000**	**4.4682**	**4.4682**	**3.5000e-004**	**0.0000**	**4.4768**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	3.0000e-004	3.0800e-003	1.0000e-005	9.7000e-004	1.0000e-005	9.8000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.8523	0.8523	2.0000e-005	0.0000	0.8529
Total	**4.1000e-004**	**3.0000e-004**	**3.0800e-003**	**1.0000e-005**	**9.7000e-004**	**1.0000e-005**	**9.8000e-004**	**2.6000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.8523**	**0.8523**	**2.0000e-005**	**0.0000**	**0.8529**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2473	1.0926	2.7389	8.4600e-003	0.6980	8.4200e-003	0.7065	0.1873	7.9000e-003	0.1952	0.0000	773.9988	773.9988	0.0305	0.0000	774.7615
Unmitigated	0.2532	1.1373	2.8822	9.0400e-003	0.7498	8.9700e-003	0.7587	0.2012	8.4200e-003	0.2096	0.0000	827.0241	827.0241	0.0320	0.0000	827.8237

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	875.84	911.72	793.04	2,007,365	1,868,857
Total	875.84	911.72	793.04	2,007,365	1,868,857

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.577244	0.040114	0.186710	0.126359	0.018084	0.005120	0.010527	0.023222	0.001588	0.001850	0.005513	0.002759	0.000910

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	209.1429	209.1429	9.4600e-003	1.9600e-003	209.9624
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	213.6422	213.6422	9.6600e-003	2.0000e-003	214.4793
NaturalGas Mitigated	0.0210	0.1794	0.0764	1.1500e-003		0.0145	0.0145		0.0145	0.0145	0.0000	207.7873	207.7873	3.9800e-003	3.8100e-003	209.0220
NaturalGas Unmitigated	0.0210	0.1794	0.0764	1.1500e-003		0.0145	0.0145		0.0145	0.0145	0.0000	207.7873	207.7873	3.9800e-003	3.8100e-003	209.0220

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	3.89379e+006	0.0210	0.1794	0.0764	1.1500e-003		0.0145	0.0145		0.0145	0.0145	0.0000	207.7873	207.7873	3.9800e-003	3.8100e-003	209.0220
Total		**0.0210**	**0.1794**	**0.0764**	**1.1500e-003**		**0.0145**	**0.0145**		**0.0145**	**0.0145**	**0.0000**	**207.7873**	**207.7873**	**3.9800e-003**	**3.8100e-003**	**209.0220**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	3.89379e+006	0.0210	0.1794	0.0764	1.1500e-003		0.0145	0.0145		0.0145	0.0145	0.0000	207.7873	207.7873	3.9800e-003	3.8100e-003	209.0220
Total		**0.0210**	**0.1794**	**0.0764**	**1.1500e-003**		**0.0145**	**0.0145**		**0.0145**	**0.0145**	**0.0000**	**207.7873**	**207.7873**	**3.9800e-003**	**3.8100e-003**	**209.0220**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	734389	213.6422	9.6600e-003	2.0000e-003	214.4793
Total		**213.6422**	**9.6600e-003**	**2.0000e-003**	**214.4793**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	718923	209.1429	9.4600e-003	1.9600e-003	209.9624
Total		**209.1429**	**9.4600e-003**	**1.9600e-003**	**209.9624**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8238	0.0147	0.6883	8.0000e-005		4.3100e-003	4.3100e-003		4.3100e-003	4.3100e-003	0.0000	8.9258	8.9258	1.2400e-003	1.4000e-004	8.9994
Unmitigated	1.3264	0.0198	1.4739	1.6600e-003		0.1175	0.1175		0.1175	0.1175	11.6942	3.9872	15.6814	0.0232	6.7000e-004	16.4602

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1166					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6468					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.5423	0.0119	0.7885	1.6300e-003		0.1137	0.1137		0.1137	0.1137	11.6942	2.8713	14.5655	0.0221	6.7000e-004	15.3171
Landscaping	0.0209	7.9300e-003	0.6854	4.0000e-005		3.7700e-003	3.7700e-003		3.7700e-003	3.7700e-003	0.0000	1.1159	1.1159	1.0900e-003	0.0000	1.1431
Total	**1.3264**	**0.0198**	**1.4739**	**1.6700e-003**		**0.1175**	**0.1175**		**0.1175**	**0.1175**	**11.6942**	**3.9872**	**15.6814**	**0.0232**	**6.7000e-004**	**16.4602**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1554					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6468					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.9000e-004	6.7400e-003	2.8700e-003	4.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	7.8100	7.8100	1.5000e-004	1.4000e-004	7.8564
Landscaping	0.0209	7.9300e-003	0.6854	4.0000e-005		3.7700e-003	3.7700e-003		3.7700e-003	3.7700e-003	0.0000	1.1159	1.1159	1.0900e-003	0.0000	1.1431
Total	**0.8238**	**0.0147**	**0.6883**	**8.0000e-005**		**4.3200e-003**	**4.3200e-003**		**4.3200e-003**	**4.3200e-003**	**0.0000**	**8.9258**	**8.9258**	**1.2400e-003**	**1.4000e-004**	**8.9994**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	12.6828	0.1568	3.7900e-003	17.7324
Unmitigated	15.1849	0.1959	4.7400e-003	21.4943

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	5.99417 / 3.77893	15.1849	0.1959	4.7400e-003	21.4943
Total		**15.1849**	**0.1959**	**4.7400e-003**	**21.4943**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	4.79534 / 3.54842	12.6828	0.1568	3.7900e-003	17.7324
Total		**12.6828**	**0.1568**	**3.7900e-003**	**17.7324**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	19.6942	1.1639	0.0000	48.7915
Unmitigated	19.6942	1.1639	0.0000	48.7915

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	97.02	19.6942	1.1639	0.0000	48.7915
Total		**19.6942**	**1.1639**	**0.0000**	**48.7915**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	97.02	19.6942	1.1639	0.0000	48.7915
Total		**19.6942**	**1.1639**	**0.0000**	**48.7915**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix C

Biological Resources Report

BIOLOGICAL RESOURCES REPORT
PINE MEADOWS GOLF COURSE
MARTINEZ, CONTRA COSTA COUNTY

June 24, 2011

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APPENDICES

Appendix A: List of Rare Plants Occurring within a 9-quad search of the Study Area
Appendix B: Federal and State Listed Animals Occurring within a 9-quad search of the Study Area
Appendix C: List of Plants and Animals Species Observed within the Study Area
Appendix D: Photos of the Study Area

1. INTRODUCTION

This report contains the findings of a reconnaissance-level biological resources evaluation that was conducted for an approximately 26.8-acre golf course located in Martinez, Contra Costa County, California (Figures 1 and 2). The purpose of the biological resources evaluation is to characterize the habitats that are present on site, to provide an inventory of existing biological resources, and make recommendations on the need for further surveys if site disturbance were to occur on site. This report was prepared under contract with DeNova Homes, Inc.

The project site is located at 451 Vine Hill Way, Martinez, CA, east of the intersection of Morello Road and Center Avenue. A nine-hole golf course with club house, tavern, outbuildings and irrigation infrastructure are present on the site. There is a single paved road providing access to the clubhouse and two parking lots, one paved, and one unpaved with gravel. A landscaping yard which contains piles of sand, soil and rock that are associated with golf course maintenance is located south of the clubhouse.

Vegetation within the study area includes mixed planted woodland along the perimeter of the course, patches of non-native annual grassland, and golf course turf on the fairways and tees, interspersed with landscape vegetation. The golf course is irrigated nightly via a system of groundwater wells and City of Martinez water. The water is held in an artificial holding pond, which hosts a perimeter of wetland vegetation. The woodlands and turf, as well as the pond, provide habitat for a number of bird species. Landscape vegetation is present adjacent to the club house, and planted trees and shrubs are scattered throughout the course and fairways.

1.1 Methods

Judy Bendix and Amy Richey of Mosaic Associates performed a reconnaissance level survey of the site on May 31, 2011. The site was surveyed on foot and by golf cart during daylight hours.

Additionally, two surveys of the pond feature were undertaken after sunset on warm, still nights to survey for amphibian life using the methods described in the California red legged frog survey protocol (USFWS 2005). These surveys were conducted on June 14 and June 23, 2011.

Sources of information used in this analysis included a map provided by DeNova Homes, aerial photos from Google Earth, topographic maps from National Geographic, and a personal interview with the landowner and golf course manager (personal communications with Christine Dean). Observations of biological resources were made during the site visits.

1.2 Setting

The project site is located approximately one-half mile south of Highway 4, off Morello Drive. Surrounding land use is single-home residential. An unnamed tributary to Grayson Creek is located off site, approximately 250 feet to the south. Briones Regional Open Space is located approximately two miles southwest of the site.

Pine Meadows Golf Course is situated within surrounding suburban development. Elevations on site range from 310 feet on the hill on the southeast side of the property, to 160 feet in the northwestern edge of the property. Vegetation on site is maintained for a parklike appearance conducive to its current use as a golf course.

This site has been home to a golf course for the last 46 years. Prior to its development as a golf course, this site had been a part of a farm and ranch, where walnuts, almonds, and then grapes were grown.

2. BIOTIC HABITATS

Mature woodland vegetation is present on the borders of the site. Landscape vegetation is present around the buildings and in the golf course greens. A man-made pond feature serves the golf course as a holding area for irrigation water. Plant communities are described in more detail below.

2.1 Mixed Woodland

The site borders are wooded with a mature mixed woodland canopy, consisting of blue and red gum eucalyptus (*Eucalyptus globulus* and *E. camaldulensis*), coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), deodar cedar (*Cedrus deodara*), coast redwood (*Sequoia sempervirens*) and Monterey pine (*Pinus radiata*), among others. Most of the cover in this type is provided by introduced species that were planted at the perimeter of the site. Members of the shrub layer in this area include cotoneaster (*Cotoneaster pannosus*), oleander (*Nerium oleander*), mulberry (*Morus* sp.) and toyon (*Heteromeles arbutifolia*). These borders are not irrigated.

The woodlands provide habitat for a number of bird species, including bushtit (*Psaltriparus minimus*), western scrub jay (*Aphelocoma californica),* black phoebe (*Sayornis nigricans*), and Swainson's thrush (*Catharus ustulatus*), among others. Raccoons (*Procyon lotor*) and domestic cats (*Felis domesticus*) are expected to forage on site.

Woodland on site does not conform to any specific series as classified by Sawyer et al. (2009), but rather is a combination of species which, when one is dominant, would conform to a specific series.

2.2 Non-Native Annual Grassland

Non-native annual grassland consists of a ground layer of annual grasses and herbs, where emergent trees and shrubs may be present. Fall temperatures and precipitation are major factors determining grassland composition, along with microclimatic differences (Sawyer et al. 2009). On the site, these areas are dominated by various non-native grasses, including Italian ryegrass (*Lolium multiflorum*), hare barley (*Hordeum murinum*), and wild oat (*Avena fatua*); and non-native herbaceous species including cut leaf geranium (*Geranium dissectum*), bristly ox-tongue (*Picris echiodes*), bedstraw (*Gallium aparine*) and hedgeparsley (*Torilis arvensis*).

Non-native annual grassland is present in small areas of un-irrigated grasslands where mature woodland does not dominate on site. There is a steep hillside on the western

border of the site that does not receive regular maintenance that also hosts this community. Non-native annual grassland on site would conform to the California annual grassland series as classified by Sawyer et al. (2009).

2.3 Golf Course and Landscape Vegetation

Vegetation on the fairways and greens is golf course-maintained turf grasses. These areas are irrigated nightly via a system of groundwater pumping and municipal water. Landscape trees and shrubs have been planted around the buildings, including Monterey pine, incense cedar (*Calocedrus decurrens*), oleander, and gum trees. Typical landscaping, with Kentucky bluegrass (*Poa pratensis*) and lilies-of-the-Nile (*Agapanthus spp.*), and cultivated roses, surrounds the club house and parking lot. The maintenance yard consists of two buildings and two sheds, all surrounded by trees and shrubs, and a large compacted-soil area where several vehicles are parked. The landscape yard is fringed with several large piles of landscaping materials used for the golf course.

2.4 Golf Course Pond and Swales

There is a man-made pond feature in the center portion of the golf course. This feature is unlined, and filled by groundwater well pumping and city water. Two wells are present on the golf course property. Groundwater pumped from the wells to the pond supplies approximately 40% of the water used to irrigate the golf course, with the balance coming from the Martinez Municipal Water District. The golf course manager reports that it takes approximately 12 hours to fill the pond with pumped water. The purpose of this pond is to hold water for nightly irrigation of the fairways and greens on the golf course, and it would not exist if pumping to this feature were discontinued. The golf course maintenance crew clears wetland vegetation from the perimeter of the pond twice yearly to maintain open water for irrigation. The crew was clearing vegetation during the May 31 site visit.

The pond on site is fringed with cattails (*Typha angustifolia*) and bulrushes (*Schoenoplectus actutus*), and patches of umbrella sedge (*Cyperus eragrostis*) and creeping spikerush (*Eleocharis macrostachya*). A vacant red-winged blackbird (*Agelaius phoeniceus*) nest was observed in the cattails; numerous individuals of this species were present during all site visits. A pair of mallards (*Anas platyrhynchos*) nested in the pond in 2011. Mosquito fish (*Gambusia affinis*) are abundant in the pond, as well as aquatic insects, including giant diving beetle (*Dytiscus* sp.). Bats likely forage over the pond and the golf course during the evening hours. Dozens of Pacific treefrogs (*Hyla regilla*) were observed in this pond during the two nighttime surveys.

Despite the presence of wetland vegetation and the unconfirmed but likely presence of hydric soils due to decades of inundated conditions, this feature would probably not be considered to be a jurisdictional wetland by the US Army Corps of Engineers because its hydrology is entirely dependent on pumped groundwater and municipal sources.

Additionally, there are a series of vegetated swales on site that convey water to the municipal storm drain system. These occur along the northern and eastern boundaries of the site. The swale along the northern boundary likely receives runoff from the pond as well as much of the northern portion of the site during rainy periods. A portion of it is

perched against the fences and yards that abut the site. A short section of eroded ditch near the northeast corner of the site drains golf course runoff to the municipal storm drain system. There is a concrete U-ditch that conveys water from the western hillside to the northwestern corner of the site. The grassy swales could potentially meet the three technical parameters of a wetland, as defined in the *Corps of Engineers Wetlands Delineation Manual* ("Corps Manual") (Environmental Laboratory 1987), but a wetland delineation was not conducted during the present effort.

3.0 SPECIAL-STATUS SPECIES AND NATURAL COMMUNITIES

Several species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. State and federal laws have provided the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to California. A number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFG. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened or endangered (CNPS 2001). Collectively, these plants and animals are referred to as "special-status species."

3.1 Special-status Plants

A total of 65 rare plants are listed as occurring within a nine-quadrangle area surrounding the site. Due to continuous site disturbance, first from agriculture and subsequently from golf course maintenance activities; as well as surrounding site disturbance by suburban development, it is extremely unlikely that any special-status plant would occur within or in the vicinity of the study area. No rare plants were detected during the survey conducted for this assessment, and none are expected to occur on site. For a complete list of special-status plants known from the vicinity of the site, please see Appendix A.

3.2 Special-status Animals

Historical and continuing site disturbance makes the presence of special-status animals on site very extremely unlikely. However, nesting birds may utilize the trees and open areas afforded by golf course landscape vegetation. Thirteen federal- or state-listed special-status animals were considered for their potential to occur in the vicinity of the Pine Meadows site (Appendix B). Habitat affinities and reported distributions were analyzed to determine if there is potential for their occurrence within the study site. Twelve species were disqualified from further consideration because suitable habitat is not present for them at the site.

Suitable habitat for one species, the California red-legged frog (*Rana draytonii*, CRLF) is present, but CRLF is extremely unlikely to occur on site, and was not detected during the two evening surveys of the pond and surrounding habitat. Although raccoons (*Procyon*

lotor), known predators of CRLF were not observed during the evening site visits, they are likely to be abundant on site and in the surrounding neighborhood. Continuous maintenance of the site as a golf course, the nightly draining and refilling of the pond as a source of irrigation water, the developed nature of the surrounding suburban landscape, and isolation of the site from source populations in the region, preclude presence of this species. The nearest CRLF occurrence is located 3.45 miles from the site in Briones Regional Park, and the unnamed tributary of Grayson Creek south of the site does not provide suitable habitat for this species. Mosaic biologists surveyed the man-made pond on June 14, and June 23, 2011. We observed many Pacific treefrogs, but no California red-legged frogs of any life stage were observed on site, nor were any other special-status animals were observed on site.

The study site does provide suitable nesting and foraging habitat for a variety of birds, both special-status and non-special-status, but protected under the Migratory Bird Treaty Act (MBTA). The trees on site might provide nesting habitat for special-status birds, including Cooper's hawk (*Accipiter cooperii*) and white-tailed kite (*Elanus leucurus*). Shrubs and small trees on site also provide nesting habitat for a variety of birds protected under the MBTA, including western bluebird (*Sialia Mexicana*), American goldfinch (*Carduelis tristis*), oak titmouse (*Baeolophus inornatus*) and others.

3.3 Special-Status Natural Communities

Special-status natural communities are those that are considered rare in the region, support special-status plant or wildlife species, or receive regulatory protection (*i.e.,* §404 and 401 of the Clean Water Act, the CDFG §1600 *et seq.* of the California Fish and Game Code, and/or the Porter-Cologne Act). In addition, the California Natural Diversity Data Base (CNDDB) has designated a number of communities as rare; these communities are given the highest inventory priority (Holland 1986, CDFG 2003e). The site does not support any rare natural communities.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Due to the history of agricultural and golf course management on site, the Pine Meadows site is fully disturbed and native habitats have been largely eliminated. Accordingly, biological constraints to development are limited. Suitable nesting habitat for a number of raptors and migratory birds are present on site. Impacts to these birds and their nests can be avoided by conducting site disturbance activities outside the nesting season (February 1 – August 31) or through preconstruction surveys and the observance of no-disturbance buffers surrounding occupied nests if construction activities occur during the nesting season.

The extent to which the man-made pond and the earthen swales would be considered jurisdictional wetlands was not determined during the present effort. If the site is purchased and proposed for development, we recommend that pumping into the irrigation pond be discontinued. This would allow the pond to dry and would allow for an evaluation of its hydrology absent an artificial source. We also recommend that pumping records for this feature be obtained from the present landowner in order to document its

maintained status. A cessation of pumping will also reduce runoff into the swale along the northern boundary of the site.

A wetland delineation and jurisdictional determination by the Army Corps of Engineers of the status of the pond and swales on site will eventually be needed for the environmental analysis conducted pursuant to the California Environmental Quality Act (CEQA). Time permitting, this would be done at least a year after pumping into the pond is halted, but if such a delay is not possible, a thorough documentation of the maintained status of the pond will be needed. If any of these features are determined to be jurisdictional wetlands or "other waters" of the U.S. and if they would be filled during construction, authorization under Sections 404 and 401 of the federal Clean Water Act from the Army Corps of Engineers (Section 404) and the San Francisco Bay Regional Water Quality Control Board (Section 401) would be required.

Finally, no special-status species were observed on site. The potential for rare plants to occur on site is extremely unlikely due to the long period of agricultural and then golf course development. Similarly, habitat is lacking for special-status reptiles and mammals, and while the pond is nominally suitable for CRLF, the isolation of the site from source populations, nightly fluctuations in water level, and managed nature of the site preclude presence of this species from the Pine Meadows project site.

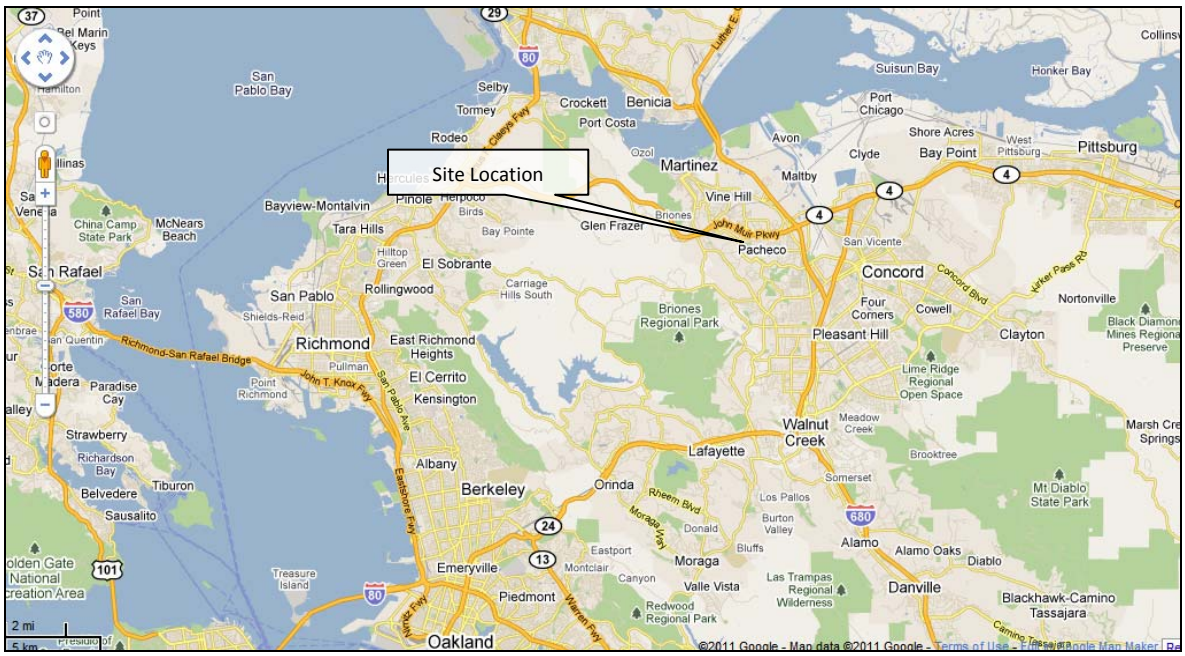

Figure 1. Regional Location Map

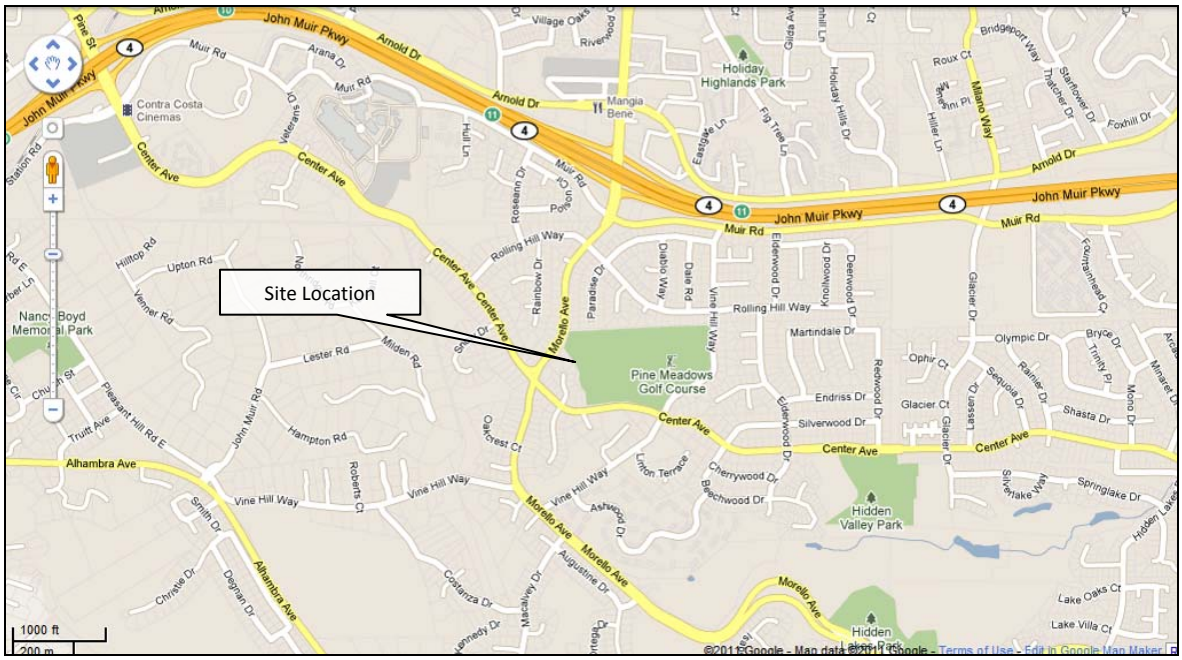

Figure 2. Site Location

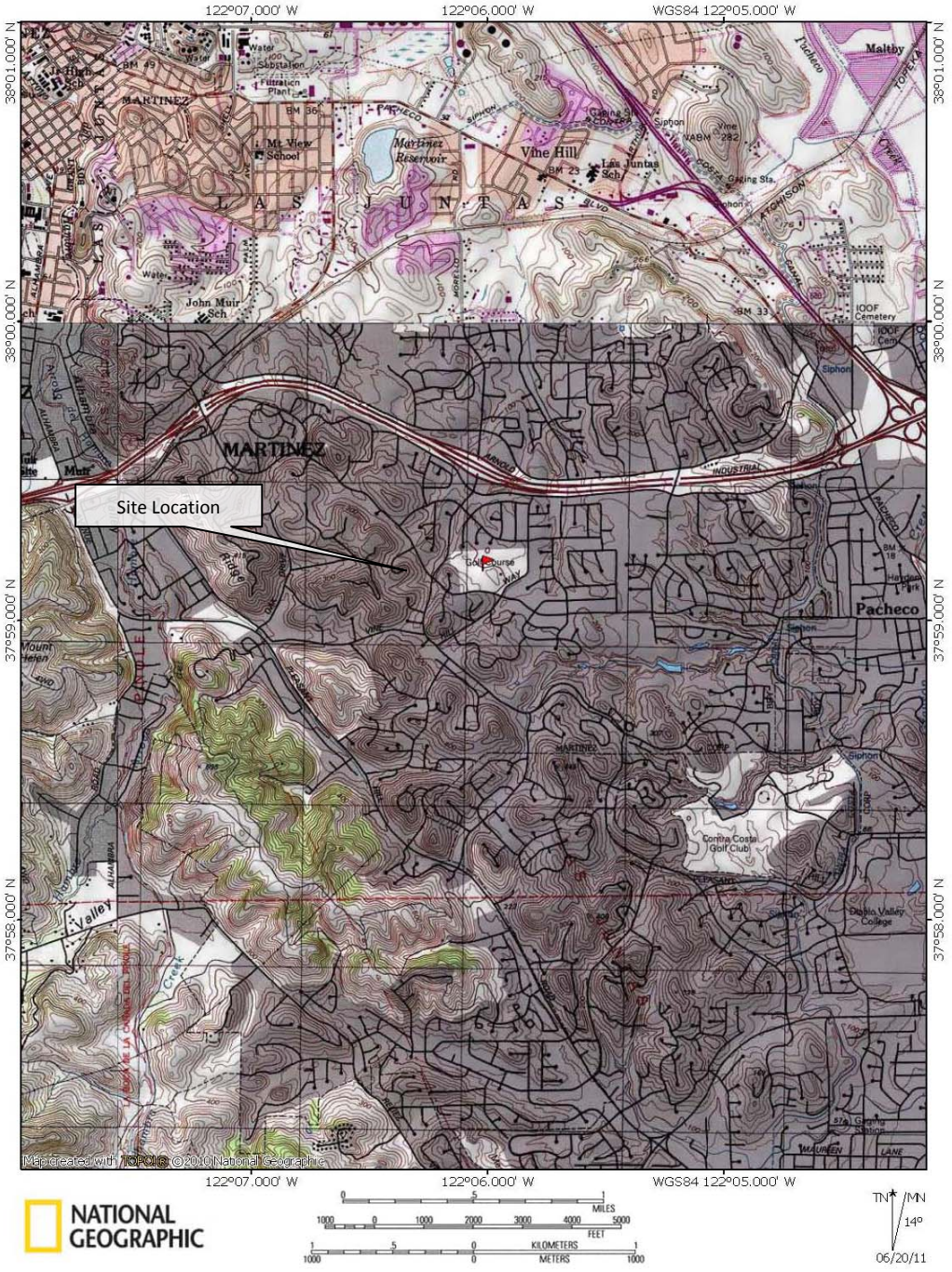

Figure 3. Topographic Map of Site Location

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Appendix A. List of Rare Plants Occurring within a 9-quad search of the Study Area. (Quads: Walnut Creek (center), Benicia, Vine Hill, Hondker Bay, Briones Valley, Clayton, Oakland East, Las Trampas Ridge, Diablo) Source: California Native Plant Society (CNPS). 2011. Inventory of Rare and Endangered Plants (online edition, v8-01a). California Native Plant Society. Sacramento, CA. Accessed on Wednesday, June 22, 2011.

Scientific Name	Common Name	Family	Lifeform	FESA, CESA, CNPS Rare Plant Rank	Elevation Range	Potential to Occur on Site
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	None, None, 2.3	215 - 1400	Extremely unlikely
Cicuta maculata var. bolanderi	Bolander's water-hemlock	Apiaceae	perennial herb	None, None, 2.1	0 - 200	Extremely unlikely
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	None, CR, 1B.1	0 - 10	Extremely unlikely
Sanicula maritima	adobe sanicle	Apiaceae	perennial herb	None, CR, 1B.1	30 - 240	Extremely unlikely
Sanicula saxatilis	rock sanicle	Apiaceae	perennial herb	None, CR, 1B.2	620 - 1175	Extremely unlikely
Balsamorhiza macrolepis var. macrolepis	big-scale balsamroot	Asteraceae	perennial herb	None, None, 1B.2	90 - 1555	Extremely unlikely
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	None, None, 1B.1	30 - 505	Extremely unlikely
Centromadia parryi ssp. congdonii	Congdon's tarplant	Asteraceae	annual herb	None, None, 1B.2	0 - 230	Extremely unlikely
Cirsium andrewsii	Franciscan thistle	Asteraceae	perennial herb	None, None, 1B.2	0 - 150	Extremely unlikely
Helianthella castanea	Diablo helianthella	Asteraceae	perennial herb	None, None, 1B.2	60 - 1300	Extremely unlikely
Holocarpha macradenia	Santa Cruz tarplant	Asteraceae	annual herb	FT, CE, 1B.1	10 - 220	Extremely unlikely
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	annual herb	FE, None, 1B.1	0 - 470	Extremely unlikely
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	None, None, 3.2	45 - 825	Extremely unlikely

Scientific Name	Common Name	Family	Lifeform	FESA, CESA, CNPS Rare Plant Rank	Elevation Range	Potential to Occur on Site
Monolopia gracilens	woodland woolythreads	Asteraceae	annual herb	None, None, 1B.2	100 - 1200	Extremely unlikely
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	None, None, 2.2	15 - 800	Extremely unlikely
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	None, None, 1B.2	0 - 3	Extremely unlikely
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	None, None, 1B.2	3 - 500	Extremely unlikely
Plagiobothrys diffusus	San Francisco popcorn-flower	Boraginaceae	annual herb	None, CE, 1B.1	60 - 360	Extremely unlikely
Arabis blepharophylla	coast rock cress	Brassicaceae	perennial herb	None, None, 4.3	3 - 1100	Extremely unlikely
Streptanthus albidus ssp. peramoenus	most beautiful jewel-flower	Brassicaceae	annual herb	None, None, 1B.2	94 - 1000	Extremely unlikely
Streptanthus hispidus	Mt. Diablo jewel-flower	Brassicaceae	annual herb	None, None, 1B.3	365 - 1200	Extremely unlikely
Tropidocarpum capparideum	caper-fruited tropidocarpum	Brassicaceae	annual herb	None, None, 1B.1	1 - 455	Extremely unlikely
Anomobryum julaceum	slender silver moss	Bryaceae	moss	None, None, 2.2	100 - 1000	Extremely unlikely
Campanula exigua	chaparral harebell	Campanulaceae	annual herb	None, None, 1B.2	275 - 1250	Extremely unlikely
Atriplex cordulata	heartscale	Chenopodiaceae	annual herb	None, None, 1B.2	0 - 560	Extremely unlikely
Atriplex joaquiniana	San Joaquin spearscale	Chenopodiaceae	annual herb	None, None, 1B.2	1 - 835	Extremely unlikely
Arctostaphylos auriculata	Mt. Diablo manzanita	Ericaceae	perennial evergreen shrub	None, None, 1B.3	135 - 650	Extremely unlikely
Arctostaphylos manzanita ssp. laevigata	Contra Costa manzanita	Ericaceae	perennial evergreen shrub	None, None, 1B.2	500 - 1100	Extremely unlikely
Arctostaphylos pallida	pallid manzanita	Ericaceae	perennial	FT, CE, 1B.1	185 - 465	Extremely

Scientific Name	Common Name	Family	Lifeform	FESA, CESA, CNPS Rare Plant Rank	Elevation Range	Potential to Occur on Site
			evergreen shrub			unlikely
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	None, None, 1B.2	1 - 60	Extremely unlikely
Hoita strobilina	Loma Prieta hoita	Fabaceae	perennial herb	None, None, 1B.1	30 - 860	Extremely unlikely
Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	None, None, 1B.2	0 - 4	Extremely unlikely
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	None, None, 1B.2	0 - 300	Extremely unlikely
California macrophylla	round-leaved filaree	Geraniaceae	annual herb	None, None, 1B.1	15 - 1200	Extremely unlikely
Phacelia phacelioides	Mt. Diablo phacelia	Hydrophyllaceae	annual herb	None, None, 1B.2	500 - 1370	Extremely unlikely
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	None, None, 4.2	0 - 600	Extremely unlikely
Juglans hindsii	Northern California black walnut	Juglandaceae	perennial deciduous tree	None, None, 1B.1	0 - 440	Extremely unlikely
Monardella antonina ssp. antonina	San Antonio Hills monardella	Lamiaceae	perennial rhizomatous herb	None, None, 3	500 - 1000	Extremely unlikely
Monardella villosa ssp. globosa	robust monardella	Lamiaceae	perennial rhizomatous herb	None, None, 1B.2	100 - 915	Extremely unlikely
Calochortus pulchellus	Mt. Diablo fairy-lantern	Liliaceae	perennial bulbiferous herb	None, None, 1B.2	30 - 840	Extremely unlikely
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	None, None, 4.2	100 - 700	Extremely unlikely
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	None, None, 1B.2	3 - 410	Extremely unlikely
Hesperolinon breweri	Brewer's western flax	Linaceae	annual herb	None, None, 1B.2	30 - 900	Extremely unlikely
Malacothamnus hallii	Hall's bush-mallow	Malvaceae	perennial evergreen shrub	None, None, 1B.2	10 - 760	Extremely unlikely

Scientific Name	Common Name	Family	Lifeform	FESA, CESA, CNPS Rare Plant Rank	Elevation Range	Potential to Occur on Site
Clarkia concinna ssp. automixa	Santa Clara red ribbons	Onagraceae	annual herb	None, None, 4.3	90 - 1500	Extremely unlikely
Clarkia franciscana	Presidio clarkia	Onagraceae	annual herb	FE, CE, 1B.1	25 - 335	Extremely unlikely
Oenothera deltoides ssp. howellii	Antioch Dunes evening-primrose	Onagraceae	perennial herb	FE, CE, 1B.1	0 - 30	Extremely unlikely
Castilleja rubicundula ssp. rubicundula	pink creamsacs	Orobanchaceae	annual herb	None, None, 1B.2	20 - 910	Extremely unlikely
Chloropyron molle ssp. molle	soft bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	FE, CR, 1B.2	0 - 3	Extremely unlikely
Cordylanthus nidularius	Mt. Diablo bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	None, CR, 1B.1	600 - 800	Extremely unlikely
Meconella oregana	Oregon meconella	Papaveraceae	annual herb	None, None, 1B.1	250 - 620	Extremely unlikely
Eriastrum brandegeeae	Brandegee's eriastrum	Polemoniaceae	annual herb	None, None, 1B.2	305 - 1030	Extremely unlikely
Navarretia gowenii	Lime Ridge navarretia	Polemoniaceae	annual herb	None, None, 1B.1	180 - 305	Extremely unlikely
Chorizanthe robusta var. robusta	robust spineflower	Polygonaceae	annual herb	FE, None, 1B.1	3 - 300	Extremely unlikely
Eriogonum luteolum var. caninum	Tiburon buckwheat	Polygonaceae	annual herb	None, None, 1B.2	0 - 700	Extremely unlikely
Eriogonum truncatum	Mt. Diablo buckwheat	Polygonaceae	annual herb	None, None, 1B.1	3 - 350	Extremely unlikely
Calandrinia breweri	Brewer's calandrinia	Portulacaceae	annual herb	None, None, 4.2	10 - 1220	Extremely unlikely
Stuckenia filiformis	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb	None, None, 2.2	300 - 2150	Extremely unlikely
Didymodon norrisii	Norris' beard moss	Pottiaceae	moss	None, None, 2.2	600 - 1973	Extremely unlikely
Triquetrella californica	coastal triquetrella	Pottiaceae	moss	None, None, 1B.2	10 - 100	Extremely

Scientific Name	Common Name	Family	Lifeform	FESA, CESA, CNPS Rare Plant Rank	Elevation Range	Potential to Occur on Site
						unlikely
Androsace elongata ssp. acuta	California androsace	Primulaceae	annual herb	None, None, 4.2	150 - 1200	Extremely unlikely
Delphinium californicum ssp. interius	Hospital Canyon larkspur	Ranunculaceae	perennial herb	None, None, 1B.2	230 - 1095	Extremely unlikely
Horkelia cuneata ssp. sericea	Kellogg's horkelia	Rosaceae	perennial herb	None, None, 1B.1	10 - 200	Extremely unlikely
Limosella subulata	Delta mudwort	Scrophulariaceae	perennial stoloniferous herb	None, None, 2.1	0 - 3	Extremely unlikely
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	None, None, 1B.2	50 - 395	Extremely unlikely

Appendix B. Federal and State Listed Animals Occurring within a 9-quad search of the Study Area. (Quads: Walnut Creek (center), Benicia, Vine Hill, Hondker Bay, Briones Valley, Clayton, Oakland East, Las Trampas Ridge, Diablo) Source: CNDDB 2011.

Scientific Name	**Common Name**	**FESA, CESA, CDFG Rank**	**General Habitat Requirements and Notes**	**Specific Habitat Requirements**	**Potential to Occur on Site**
Ambystoma californiense	California tiger salamander	Threatened, Threatened, Special Concern	Central valley DPS federally listed as threatened. Santa Barbara & Sonoma counties DPS federally listed as endangered.	Need underground refuges, especially ground squirrel burrows & vernal pools or other seasonal water sources for breeding	None. Pond is maintained through pumped groundwater and municipal water. Suitable aestivation habitat is lacking. Historic record from 1920 is 1.15 miles from site, but CNDDB considers CTS population to be extirpated. Absence of suitable habitat, continuous site maintenance and surrounding suburban development; remoteness from source populations preclude presence.
Callophrys mossii bayensis	San Bruno elfin butterfly	Endangered, None, None	Coastal, mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno mountain, San Mateo County.	Colonies are located on steep, north-facing slopes within the fog belt. Larval host plant is *Sedum spathulifolium*.	None. Habitat does not occur on site.
Eucyclogobius newberryi	tidewater goby	Endangered, None, Special Concern	Brackish water habitats along the California coast from Agua Hedionda lagoon, San Diego Co. to the mouth of the Smith River.	Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels.	None. Habitat does not occur on site.
Euphydryas editha bayensis	Bay checkerspot butterfly	Threatened, None, None	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay.	*Plantago erecta* is the primary host plant; *Orthocarpus densiflorus* & *O. purpurscens* are the secondary host plants.	None. Habitat does not occur on site.
Haliaeetus	bald eagle	Delisted,	Ocean shore, lake margins, & rivers	Nests in large, old-growth, or	None. Habitat does not occur on

Scientific Name	Common Name	FESA, CESA, CDFG Rank	General Habitat Requirements and Notes	Specific Habitat Requirements	Potential to Occur on Site
leucocephalus		Endangered, None	for both nesting & wintering. Most nests within 1 mi of water.	dominant live tree w/open branches, especially Ponderosa pine. Roosts communally in winter.	site.
Laterallus jamaicensis coturniculus	California black rail	None, Treatened, None	Inhabits freshwater marshes, wet meadows & shallow margins of saltwater marshes bordering larger bays.	Needs water depths of about 1 inch that does not fluctuate during the year & dense vegetation for nesting habitat.	None. Habitat does not occur on site.
Lepidurus packardi	vernal pool tadpole shrimp	Endangered, None, None	Inhabits vernal pools and swales in the Sacramento valley containing clear to highly turbid water.	Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed & highly turbid.	None. Habitat does not occur on site.
Masticophis lateralis euryxanthus	Alameda whipsnake	Threatened, Threatened, None	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna and woodland habitats.	Mostly south-facing slopes & ravines, with rock outcrops, deep crevices or abundant rodent burrows.	None. Continuous site disturbance and surrounding suburban development; isolation of site from movement corridors and absence of primary constituent elements such as rock outcrops, chaparral habitat preclude presence.
Rallus longirostris obsoletus	California clapper rail	Endangered, Endangered, None	Salt-water & brackish marshes traversed by tidal sloughs in the vicinity of san francisco bay.	Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	None. Habitat does not occur on site.
Rana draytonii	California red-legged frog	Threatened, None, Special Concern	Lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Extremely unlikely. Continuous site disturbance and surrounding suburban development; remoteness from source populations preclude presence.

Scientific Name	Common Name	FESA, CESA, CDFG Rank	General Habitat Requirements and Notes	Specific Habitat Requirements	Potential to Occur on Site
Reithrodontomys raviventris	salt-marsh harvest mouse	Endangered, Endangered, None	Only in the saline emergent wetlands of San Francisco Bay and its tributaries.	Pickleweed is primary habitat. Do not burrow, build loosely organized nests. Require higher areas for flood escape.	None. Habitat does not occur on site.
Sternula antillarum browni	California least tern	Endangered, Endangered, None	Nests along the coast from San Francisco Bay south to northern Baja California.	Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, land fills, or paved areas.	None. Habitat does not occur on site.
Vulpes macrotis mutica	San Joaquin kit fox	Endangered, Threatened, None	Annual grasslands or grassy open stages with scattered shrubby vegetation.	Need loose-textured sandy soils for burrowing, and suitable prey base.	None. Habitat does not occur on site.

Appendix C. Plants and Animals Observed at the Pine Meadows Golf Course

The following were observed during site visits on May 26, June 14, and June 23.

Plants Observed

Scientific Name	Common Name	Family
Grassland area plants		
Torilis arvensis	hedgeparsley	Apiaceae
Carduus pycnocephalus	Italian thistle	Asteraceae
Hypochaeris glabra	smooth cat's ear	Asteraceae
Picris echioides	bristly ox-tongue	Asteraceae
Sonchus asper	prickly sowthistle	Asteraceae
Tarxicum officianale	dandelion	Asteraceae
Brassica nigra	black mustard	Brassicaceae
Capsella bursa-pastoris	Shepherd's purse	Brassicaceae
Hirschfeldia incana	field mustard	Brassicaceae
Raphanus sativus	common raddish	Brassicaceae
Convolvulus arvensis	field bindweed	Convolvulaceae
Euphorbia peplus	petty spurge	Euphorbiaceae
Medicago polymorpha	burr clover	Fabaceae
Erodium moschatum	red-stem filaree	Geraniaceae
Geranium dissectum	cutleaf geranium	Geraniaceae
Malva neglecta	common mallow	Malvaceae
Plantago lanceolatum	common plantain	Plantaginaceae
Avena fatua	wild oat	Poaceae
Bromus carinatus	California brome	Poaceae
Bromus hordeaceus	soft chess	Poaceae
Hordeum murinum	hare barley	Poaceae
Lolium multiflorum	Italian ryegrass	Poaceae
Vulpia myuros	rat-tail fescue	Poaceae
Polygonum arenastrum	common knotweed	Polygonaceae
Anagalis arvensis	scarlet pimpernel	Primulaceae
Gallium aparine	bedstraw	Rubiaceae
Swales/pond/wet areas		
Sisymbrium officianale	hedge mustard	Brassicaceae
Cyperus eragrostis	umbrella sedge	Cyperaceae
Eleocharis macrostachya	creeping spikerush	Cyperaceae
Schoenoplectus californicus	southern bulrush	Cyperaceae
Juncus bufonius	toad rush	Juncaceae
Rumex crispus	curly dock	Polygonaceae
Rumex pulcher	fiddle dock	Polygonaceae
Typha angustifolia	narrow leaf cattail	Typhaceae

Woodland/Perimeter and Golf Course Trees		
Acer macrophyllum	bigleaf maple	Aceraceae
Schinus molle	Peruvian peppertree	Anacardiaceae
Nerium oleander	Oleander	Apocynaceae
Hedera helix	English ivy	Araliaceae
Encelia californica	bush sunflower	Asteraceae
Calocedrus decurrens	incense cedar	Cupressaceae
Cedrus deodara	deodar cedar	Cupressaceae
Quercus agrifolia	coast live oak	Fagaceae
Quercus kelloggii	black oak	Fagaceae
Quercus lobata	valley oak	Fagaceae
Juglans hindsii	black walnut	Juglandaceae
Eucalyptus camaldulensis	red gum	Myrtaceae
Eucalyptus globulus	blue gum	Myrtaceae
Fraxinus spp	ash	Oleaceae
Pinus radiata	Monterey pine	Pinaceae
Cotoneaster sp.	cotoneaster	Rosaceae
Heteromeles arbutifolia	toyon	Rosaceae
Prunus dulcis	sweet almond	Rosaceae
Sequoia sempervirens	coast redwood	Taxodiaceae
Albizzia julibrissin	Silk tassle	Fabaceae
Morus sp.	mulberry	Moraceae

Animals observed:

Birds

Red-winged blackbird (*Agelaius phoeniceus*)
American robin (*Turdus migratorius*)
Western bluebird (*Sialia mexicana*)
Oak titmouse (*Baeolophus inornatus*)
Lesser goldfinch (*Carduelis psaltria*)
Mallard (*Anas platyrhynchos*)
Northern mockingbird (*Mimus polyglottos*)
Mourning dove (*Zenaida macroura*)
Bushtit (*Psaltriparus minimus*)
House sparrow (*Passer domesticus*)
Anna's hummingbird (*Calypte anna*)
California towhee (*Pipilo crissalis*)
Black phoebe (*Sayornis nigricans*)

Amphibians

Pacific treefrog (*Hyla regilla*)

Fish

Mosquitofish (*Gambusia affinis*)

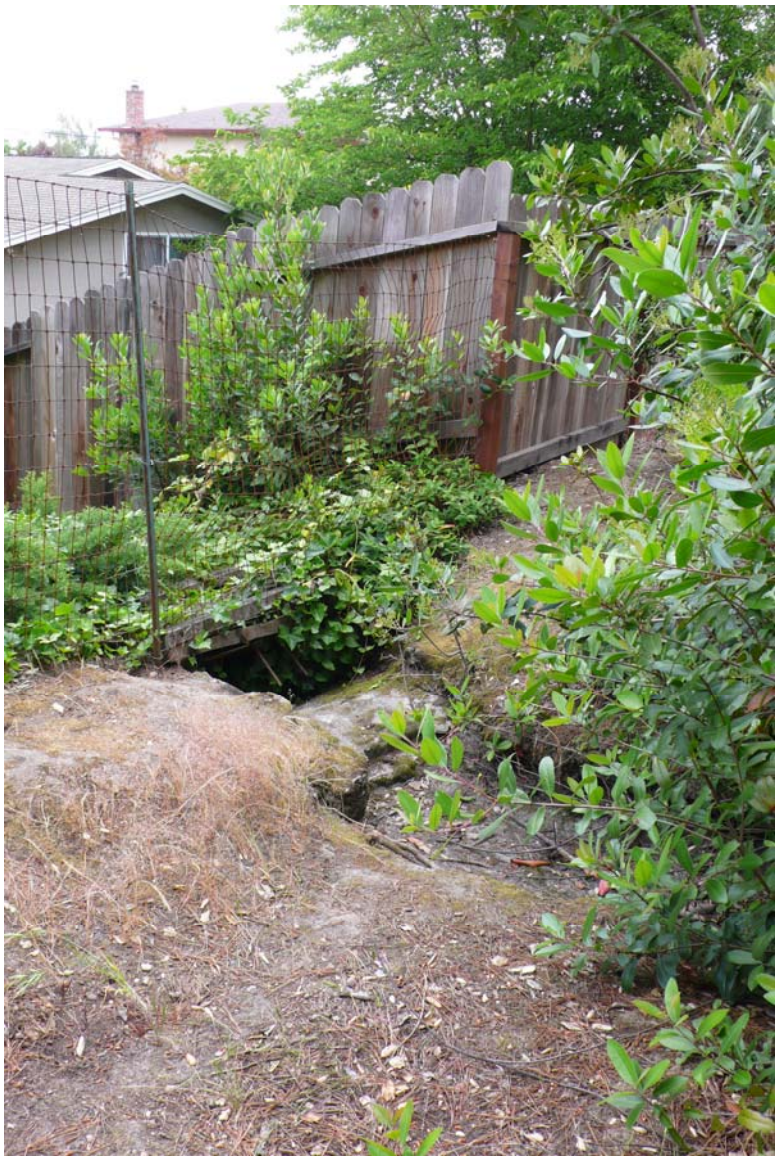
Appendix D. Pine Meadows Site Photos

Upper photo: Pacific treefrog in the man-made pond, July 14, 2011. Lower photo: maintenance yard near entry to the site.

Upper photo: a portion of the maintenance yard. Lower photo: row of eucalyptus trees lining the southeast border of the site.

Culvert near northeast corner of site is visible behind the fence. A short swale, visible in the center of the photo conveys runoff from the golf course into the municipal storm drain system.

Clubhouse is at the top of the slope, with manicured fairways below, and ornamental trees across the site.



An incised swale at the northern boundary drains to an inlet and culvert on the neighboring property. This swale conveys runoff from the northern portion of the golf course and also from the pond if it overtops.

View of man-made irrigation pond near the center of the site. Golf course maintenance workers were clearing cattails from the perimeter during the May 31st site visit in order to maintain capacity for storing irrigation water.

The concrete ditch near the western border of the sites terminates in a drainage inlet to the municipal storm drain system.

Looking north from higher ground. The golf course pond is visible to the left of the center of the photo.

Appendix D

Arborist Reports

BAEFSKY & ASSOCIATES

TREES, BUGS, DIRT LANDSCAPE CONSULTING & CONTRACTING

March 16, 2016

DeNova Homes
1500 Willow Pass Ct.
Concord CA 94520

Subject: Pine Meadows Subdivision Arborist Memo

Summary

Fifty trees were re-evaluated (2011, Baefsky) for health, structure & elevated risk; one was removed, two are smaller than protected size, and eleven are dead. One of the dead trees poses moderate to high risk. Of the remaining thirty-six protected trees, three are in very poor health and are unlikely to survive construction, nine are in poor health and require some care if they are to thrive. The other twenty-four protected trees are in either fair or good health. Removal, clearing soil from root crown regions, pruning and mulching are recommended actions for improving tree health.

Assignment

I was hired by DeNova Homes to re-inspect protected trees at Pine Meadows Subdivision, 9358 Vine Hill Way, Martinez, and update the size, health and structure ratings and tree tags.

Limits of Project

- Trees are located approximately, precise trunk locations have not been verified
- Trees were last evaluated in 2011, tagged and reported on in 2014
- Site plans were not analyzed

Methods

On February 5, 2016, I evaluated all protected trees on site, and conducted a Level 2 - Basic Assessment that included a detailed visual inspection of each tree and the surrounding site. Tree trunks were measured at 4.5 feet above grade, unless otherwise indicated, and if their previously affixed metal tags were missing, new tags were installed with different numbers. The Existing Tree Survey Exhibit (November 5, 2014, CBG) was used to locate the trees.

Background

Fifty (50) trees were evaluated previously (Baefsky, 2011). Tags were added and evaluations of construction impacts were studied (Baefsky, 2014).

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Setting

The golf course is a gently sloping historically irrigated site, bordered by Vine Hill Way, Center Avenue and single family dwellings. Remnants of the indigenous forest exist, as well as planted ornamental and orchard remnants. Irrigation was drastically curtailed or eliminated on this site, which has resulted in the death of many of the trees on site.

Location

Trees are concentrated on the property perimeter, and scattered throughout the site.

Observed

- Trunk diameters range from 8.3" to 55.1", averaging 18.3", totaling 859" inches
- Species include blue oak (*Quercus douglasii- 6 trees*), CA black walnut (*Juglans californica – 1 tree*), coast live oak (*Q. agrifolia – 13 trees*), coast redwood (*Sequoia sempervirens – 13 trees*), and valley oak (*Q. lobata – 13 trees*)
- Soil build-up around trunk (root crown region) potentially harming trunks; thirteen trees
- Crown unbalanced due to trunk lean, power line pruning, and/or suppression by adjoining trees and/or shrubs; seven trees
- Trees with weak structure caused by included bark and other factors; five trees

#	Circumference (inches)	Diameter (inches)	*Species*	Name	Health	Structure	*Notes*
1301	37	11.8	*Quercus agrifolia*	coast live oak	dead	very poor	*Dead*
1302	46	14.6	*Q. agrifolia*	coast live oak	fair	fair	*Leaning*
1303	42	13.4	*Q. agrifolia*	coast live oak	fair	fair	*Leaning, root crown buried*
1304	59	18.8	*Q. agrifolia*	coast live oak	fair	poor	*Large trunk wound, bark sloughing Severe lean, into power lines, root crown buried*
1305	37	11.8	*Q. agrifolia*	coast live oak	fair	fair	*Root crown buried, trunk lean,*
1307	21.5,18,10,10,10,17,10.5	30.9	*Juglans californica*	CA black walnut	very poor	very poor	
1309	56	17.8	*Q. agrifolia*	coast live oak	very poor	fair	*Dying; bark beetles, drought, sudden oak death, herbicides*
1310	29,19,20	21.7	*Q. douglasii*	blue oak	poor	poor	*Suppressed, Root crown buried, codominant trunks, fence embedded, suppressed*
1311	27.5	8.8	*Q. douglasii*	blue oak	poor	poor	*Suppressed, Root crown buried*
1312	28	8.9	*Q. lobata*	valley oak	fair	poor	*Root crown buried*
1314	32.5	10.4	*Sequoia sempervirens*	coast redwood	dead	fair	*Dead*
1315	26.5	8.4	*S. sempervirens*	coast redwood	very poor	fair	*Drought damage, top dieback*
1316	71.5	22.8	*S. sempervirens*	coast redwood	dead	fair	*Dead*
1317	74	23.6	*S. sempervirens*	coast redwood	fair	fair	

#	Circumference (inches)	Diameter (inches)	*Species*	Name	Health	Structure	*Notes*
1318	43	13.7	*S. sempervirens*	coast redwood	dead	fair	*Dead*
1319	58	18.5	*S. sempervirens*	coast redwood	dead	good	*Dead*
1320	66.5	21.2	*S. sempervirens*	coast redwood	fair	fair	*Drought damage*
~~1321~~ 657	92	29.3	*S. sempervirens*	coast redwood	fair	fair	*Missing tag, drought damage, new tag #657*
1322	22.5,36.5,21.5	25.6	*Q. agrifolia*	coast live oak	fair	poor	*Goats eating lower foliage, Entangled with fallen Aleppo pine, Root crown buried & codominant*
1323	36,55	29.0	*Q. lobata*	valley oak	fair	fair	
1324	97	30.9	*S. sempervirens*	coast redwood	fair	good	*Salt burn, drought damage*
1325	37	11.8	*S. sempervirens*	coast redwood	dead	fair	*Dead*
~~1326~~ 656	39	12.4	*S. sempervirens*	coast redwood	dead	good	*Dead, missing tag #, new tag added*
1327	39	12.4	*S. sempervirens*	coast redwood	dead	fair	*Dead*
1328	19,24,12.5	17.7	*S. sempervirens*	coast redwood	fair	poor	*Codominant included bark trunks, suppressed*
1329	40	12.7	*Q. lobata*	valley oak	fair	fair	*Root crown buried*
1330	36.4	11.6	*Q. lobata*	valley oak	fair	fair	*Suppressed, Root crown buried, one sided. 2011 measurement.*

#	Circumference (inches)	Diameter (inches)	*Species*	Name	Health	Structure	*Notes*
1331	49	15.6	*Q. lobata*	valley oak	fair	fair	*Root crown buried, leaning uphill, codominant included bark scaffolds*
1332	37	11.8	*Q. lobata*	valley oak	poor	poor	*Suppressed, Root crown buried*
1333	45	14.3	*Q. lobata*	valley oak	fair	good	*Root crown buried*
1334	56,45,72	55.1	*Q. lobata*	valley oak	poor	poor	*Normal for age species locale, Root crown buried,*
1335	58	18.5	*Q. lobata*	valley oak	poor	poor	*Suppressed, Root crown buried,*
1336	42.5	13.5	*S. sempervirens*	coast redwood	dead	fair	*Dead*
1337	40.5	12.9	*S. sempervirens*	coast redwood	dead	good	*Dead*
1338	48,25	23.2	*Q. agrifolia*	coast live oak	fair	fair	*Lower trunk sapsucker damaged, unbalanced*
~~**1339**~~ **655**	120	38.2	*Q. lobata*	valley oak	fair	fair	*Upper Root crown buried , missing tag, new tag #655*
1340	26	8.3	*S. sempervirens*	coast redwood	dead	fair	*Dead*
1341	45	14.3	*Q. lobata*	valley oak	fair	fair	*Codominant included bark scaffolds*
1342	42	13.4	*Q. agrifolia*	coast live oak	good	fair	*Codominant included bark scaffolds, root crown buried*
1343	31,35@3.5'	21.0	*Q. agrifolia*	coast live oak	good	fair	*Codominant included bark trunks*

#	Circumference (inches)	Diameter (inches)	*Species*	Name	Health	Structure	*Notes*
1344	40	12.7	*Q. agrifolia*	coast live oak	poor	fair	*Suppressed, root crown buried*
1345	36.5,39	24.0	*Q. douglasii*	blue oak	fair	poor	*Codominant included bark trunks*
1346	37.5	11.9	*S. sempervirens*	coast redwood	fair	good	
1347	26,42.5,31	31.7	*Q. lobata*	valley oak	fair	fair	*Codominant included bark trunks, bare soil*
1348	28,18	14.6	*Q. lobata*	valley oak	poor	poor	*Root crown buried, suppressed, unbalanced*
1349	18,27,25.5	22.5	*Q. douglasii*	blue oak	poor	poor	*Trunk cavity, codominant trunks, bare soil*
1350	34.5	11.0	*Q. douglasii*	blue oak	poor	poor	*Codominant, no taper, stunted, bare soil*

Certification of Performance

I, Michael Baefsky certify:

- That I have personally inspected the trees referred to in this report, and have stated my findings accurately. The extent of the evaluation is stated in the attached report;
- That I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved;
- That the analysis, opinions, and conclusions stated herein are my own;
- That my analysis, opinions, and conclusions were developed and this report has been prepared according to commonly accepted professional practices;
- That no one provided significant professional assistance to the consultant, except as indicated within the report;
- That my compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party.

I further certify that I am Consulting Arborist #456, Certified Arborist #WE0222A, Certified Tree Risk Assessor #11874, and have been involved in the practice of Arboriculture, Integrated Pest Management, Plant Health Care and Ecological Soils Management, and the study of soils and horticulture for over twenty-five years.

Michael Baefsky

Signed: Michael Baefsky

BAEFSKY & ASSOCIATES
ENVIRONMENTAL LANDSCAPE CONSULTING

October 27, 2011

Derek Pampe
DeNova Homes
1500 Willow Pass Ct.
Concord CA 94520

Subject: Vine Hill Golf Course, Martinez CA – **Preliminary Arborist Evaluation**

SUMMARY
Forty-seven trees that are protected in the City of Martinez were identified to species, measured, mapped, tagged and evaluated for their conditions at Vine Hill Golf Course, Martinez CA. Fifty trees were originally considered protected, but their sizes precluded this designation. Species included *Quercus agrifolia, Q. douglasii, Q. lobata, Sequoia sempervirens, and Juglans hindsii.*

SCOPE
DeNova Homes hired me to evaluate trees on the Vine Hill Golf Course and identify those that are protected in Martinez CA.

METHODS
Trees were identified to species and measured four and one-half feet above grade in the field. They were tagged in the field using blue metal tags and located on a map provided by DeNova homes.

FINDINGS
Indigenous tree species identified were *Q. agrifolia* (cost live oak), *Q. douglasii* (blue oak) and *Q. lobata* (valley oak). These trees were probably planted by birds, and their irregular distribution on the course reflects the lack of discernible planting plan and localized soil conditions. Other CA native species that are not indigenous to the site but are protected include *S. sempervirens* (coast redwood), and *J. hindsii* (CA black walnut). The redwoods were planted as landscape amenities and the walnuts are remnant stump sprouts from a historic orchard planting.

The largest tree measured one hundred and seventy eight inches in circumference, the smallest nineteen point five inches, and the average tree circumference measured fifty-one point four inches.

Tree condition ranged from very poor to good-excellent, averaging fair.

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DATA

#	SPECIES	COMMON NAME	DIAMETER (inches)	CIRCUMFERENCE (inches)	CONDITION
1301	*Quercus agrifolia*	coast live oak	11.1	34.9	POOR
1302	*Q. agrifolia*	coast live oak	13.7	43.0	FAIR-POOR
1303	*Q. agrifolia*	coast live oak	11.6	36.4	GOOD-FAIR
1304	*Q. agrifolia*	coast live oak	17.2	54.0	FAIR
1305	*Q. agrifolia*	coast live oak	9.9	31.1	FAIR
1306	*Juglans hindsii*	CA black walnut	5.25,4.25,2.25,2.75,5	61.2	POOR-VERY POOR
~~*1307~~	~~*Juglans hindsii*~~	~~CA black walnut~~	~~4.5,3.75,3.75~~	~~37.7~~	~~VERY POOR~~
1308	~~*Quercus agrifolia*~~	~~coast live oak~~	~~4,4~~	~~25.1~~	~~VERY POOR~~
1309	*Q. agrifolia*	coast live oak	6.1,7.9,5,6,12	116.2	EXCELLENT-GOOD
1310	*Q. douglasii*	blue oak	7.8,5,5.3	56.8	GOOD-FAIR
1311	*Q. douglasii*	blue oak	7.2	22.6	FAIR
1312	*Q. lobata*	valley oak	6.2	19.5	FAIR
1313	~~*Q. douglasii*~~	~~blue oak~~	~~3.1,3.5~~	~~20.7~~	~~FAIR~~
1314	*Sequoia sempervirens*	coast redwood	7.6	23.9	POOR-FAIR
1315	*S. sempervirens*	coast redwood	7.4	23.2	FAIR
1316	*S. sempervirens*	coast redwood	11.6	36.4	FAIR-GOOD
1317	*S. sempervirens*	coast redwood	20.8	65.3	GOOD
1318	*S. sempervirens*	coast redwood	12.5	39.3	FAIR-GOOD
1319	*S. sempervirens*	coast redwood	17.7	55.6	GOOD
1320	*S. sempervirens*	coast redwood	19.3	60.6	GOOD
1321	*S. sempervirens*	coast redwood	22.4	70.3	GOOD
1322	*Q. agrifolia*	coast live oak	14,11,9	106.8	GOOD-FAIR
1323	*Q. lobata*	valley oak	11,15.7	83.8	GOOD
1324	*S. sempervirens*	coast redwood	26.7	83.8	GOOD

* Tree numbers & data with lines through them were originally identified as protected, but their small diameters disqualified them for this status, and so are not listed as protected trees on this site.

#	SPECIES	COMMON NAME	DIAMETER (inches)	CIRCUMFERENCE (inches)	CONDITION
1325	*S. sempervirens*	coast redwood	9.4	29.5	GOOD
1326	*S. sempervirens*	coast redwood	11.2	35.2	FAIR
1327	*S. sempervirens*	coast redwood	12	37.7	FAIR-POOR
1328	*Q. agrifolia*	coast live oak	6.4,4.5,2.8	43.0	GOOD-FAIR
1329	*Q. lobata*	valley oak	11.6	36.4	GOOD-EXCELLENT
1330	*Q. lobata*	valley oak	9.7,5.6	48.0	GOOD-FAIR
1331	*Q. lobata*	valley oak	14.7	46.2	GOOD
1332	*Q. lobata*	valley oak	11.8	37.1	FAIR
1333	*Q. lobata*	valley oak	13.1	41.1	FAIR
1334	*Q. lobata*	valley oak	16.2,10,17,13.5	178.0	GOOD
1335	*Q. lobata*	valley oak	18.4,7.2	80.4	FAIR
1336	*S. sempervirens*	coast redwood	12.5	39.3	FAIR-GOOD
1337	*S. sempervirens*	coast redwood	11.2	35.2	GOOD
1338	*Q. lobata*	valley oak	37.2	116.8	GOOD
1339	*Q. agrifolia*	coast live oak	13,7	62.8	EXCELLENT-FAIR
1340	*S. sempervirens*	coast redwood	6.4	20.1	POOR
1341	*Q. lobata*	valley oak	12.5	39.3	GOOD-FAIR
1342	*Q. agrifolia*	coast live oak	10.2	32.0	GOOD-FAIR
1343	*Q. agrifolia*	coast live oak	8,3.5,5.8	54.3	FAIR
1344	*Q. agrifolia*	coast live oak	9.3	29.2	FAIR-POOR
1345	*Q. douglasii*	blue oak	10.6,10.5	66.3	FAIR-POOR
1346	*S. sempervirens*	coast redwood	9.5	29.8	GOOD
1347	*Q. lobata*	valley oak	7.6,12.8,8.5	90.7	FAIR
1348	*Q. lobata*	valley oak	8,5	40.8	FAIR
1349	*Q. douglasii*	blue oak	7.1,7.7,5.2	62.8	GOOD
1350	*Q. douglasii*	blue oak	9.7	30.5	GOOD-FAIR

CERTIFICATION OF PERFORMANCE

I, Michael Baefsky certify:

- That I have personally inspected the trees and the property referred to in this report, and have stated my findings accurately. The extent of the evaluation is stated in the attached report;
- That I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved;
- That the analysis, opinions, and conclusions stated herein are my own;
- That my analysis, opinions, and conclusions were developed and this report has been prepared according to commonly accepted arboricultural practices;
- That no one provided significant professional assistance to the consultant, except as indicated within the report;
- That my compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party.

I further certify that I am a member of the American Society of Consulting Arborists, and acknowledge, accept, and adhere to the ASCA Standards of Professional Practice. I am International Society of Arboriculture Certified Arborist #WE0222A, and have been involved in the practice of arboriculture and the study of trees for over twenty-five years.

Signed: _____ *Date:* _____

Appendix E

Cultural Resources Report

DETERMINATION OF ELIGIBILITY AND EFFECT FOR THE PROPOSED SUBDIVISION OF THE VINE HILL PROPERTY, MARTINEZ, CONTRA COSTA COUNTY, CALIFORNIA

Prepared for

De Novo Planning Group
4630 Brand Way
Sacramento, CA 95819

Prepared by

Peak & Associates, Inc
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El Dorado Hills, CA 95762

December 2013
(Job #13-065)

INTRODUCTION

The proposed subdivision of about 27 acres comprises the area currently in use as the Pine Meadows Golf Course. It is the only major open space in a neighborhood otherwise occupied by single family homes. The proposed development would subdivide this into 95 lots for single family homes plus a landscaping set-back on three sides of the property, bordering the major streets in the area: Morello Avenue, Center Avenue and Vine Hill Way.

The project area lies in T2N, R2W, Sections 29 and 30 (extrapolated -- Rancho Las Juntas) and is mapped on the Walnut Creek 7.5' USGS topographic map (Map 1). The project is bordered on the north by an existing subdivision and on the other three sides by the streets noted above.

Melinda A. Peak served as the Principal Investigator for the study, with Robert Gerry, Senior Archeologist, conducting the field survey (resumes, Appendix 1).

FRAMEWORK FOR EVALUATION

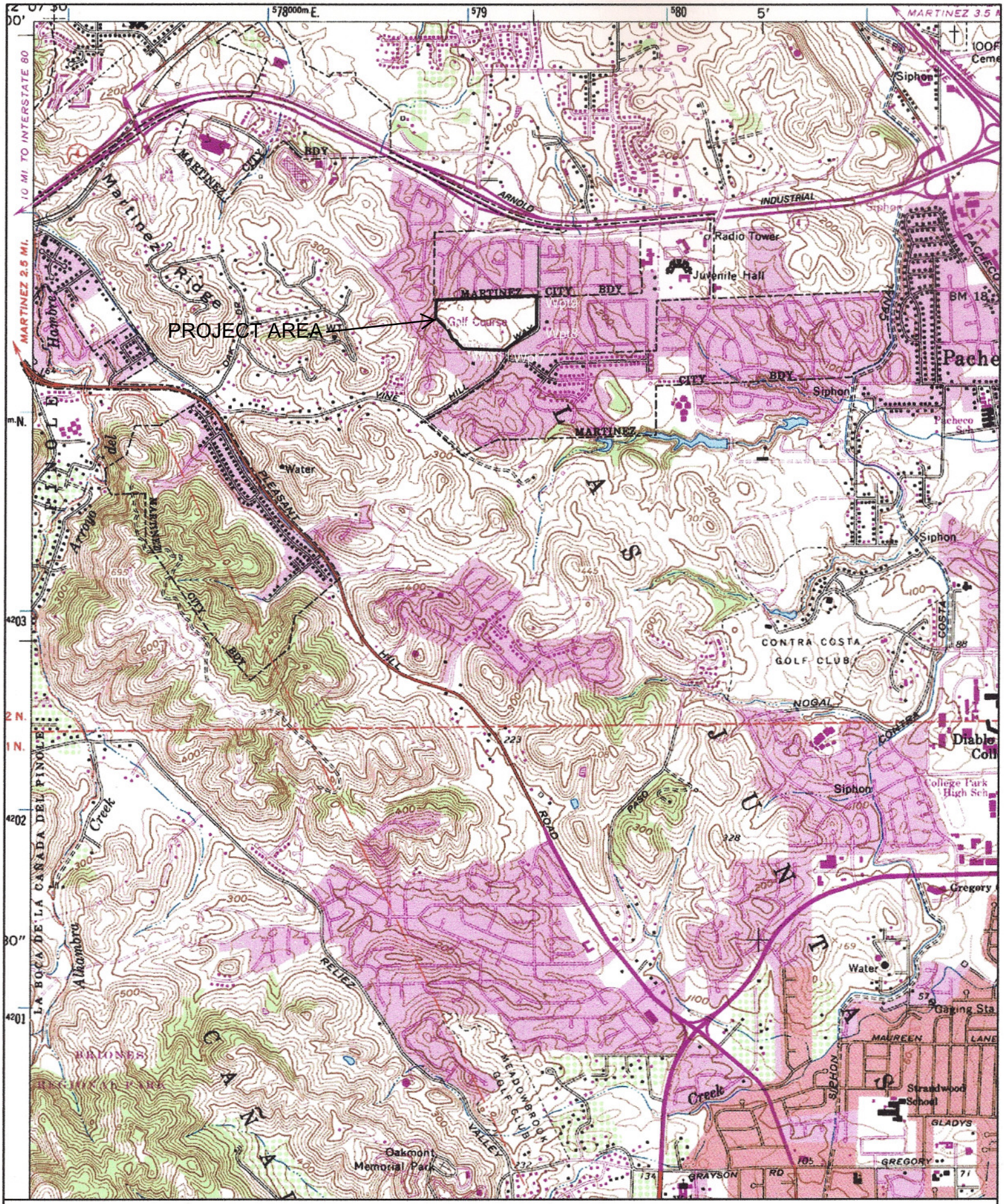
The Section 106 review process is implemented using a five step procedure: 1) identification and evaluation of historic properties; 2) assessment of the effects of the undertaking on properties that are eligible for the National Register; 3) consultation with the State Historic Preservation Office (SHPO) and other agencies for the development of a memorandum of agreement (MOA) that addresses the treatment of historic properties; 4) receipt of Advisory Council on Historic Preservation comments on the MOA or results of consultation; and 5) the project implementation according to the conditions of the MOA.

The Section 106 compliance process may not consist of all the steps above, depending on the situation. For example, if identification and evaluation result in the documented conclusion that no properties included in or eligible for inclusion are present, the process ends with the identification and evaluation step.

Federal Regulations

Decisions regarding management of cultural resources hinge on determinations of their significance (36 CFR 60.2). As part of this decision-making process the National Park Service has identified components which must be considered in the evaluation process, including:

- criteria for significance;
- historic context; and
- integrity.



Name: WALNUT CREEK
Date: 12/16/2013
Scale: 1 inch equals 2000 feet

Location: 10 579213 E 4203073 N
Caption: Vine Hill Property
De Novo Planning Group

MAP 1

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Criteria for Significance

Significance of cultural resources is measured against the National Register of Historic Places (NRHP) criteria for evaluation:

> The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and,
>
> (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (b) that are associated with the lives of persons significant in our past; or
>
> © that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (d) that have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

Historic Context

The historic context is a narrative statement "that groups information about a series of historic properties based on a shared theme, specific time period, and geographical area." To evaluate resources in accordance with federal guidelines, these sites must be examined to determine whether they are examples of a defined "property type." The property type is a "grouping of individual properties based on shared physical or associative characteristics." Through this evaluation, each site is viewed as a representative of a class of similar properties rather than as a unique phenomenon.

A well developed historical context helps determine the association between property types and broad patterns of American history. Once this linkage is established, each resource's potential to address specific research issues can be explicated.

Integrity

For a property to be eligible for listing in the National Register it must meet one of the criteria for significance (36 CFR 60.4 [a, b, c, or d]) and retain integrity. Integrity is defined as "the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric period."

The following discussion is derived from National Register Bulletin 15 ("How to Apply the National Register Criteria for Evaluation").

Within the concept of integrity, there are seven aspects or qualities that define integrity in various combinations. The seven aspects are: location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity, a property will possess several or usually most of these aspects. The retention of specific aspects is necessary for a property to convey this significance. Determining which of the seven aspects are important involves knowing why, where and when the property is significant.

The prescribed steps in assessing integrity are as follows:

- define the essential physical features that must be present for a property to represent its significance;

- determine whether the essential physical features are visible enough to convey their significance;

- determine whether the property needs to be compared with similar properties; and,

- determine, based on the significance and essential physical features, which aspects of integrity are particularly vital to the property being nominated and if they are present.

Ultimately, the question of integrity is answered by whether or not the property retains the identity for which it is significant.

All properties change over time. It is not necessary for a property to retain all its historic physical features or characteristics. However, the property must retain the essential physical features that enable it to convey its historic identity. The essential physical features are those features that define why a property is significant.

A property's historic significance depends on certain aspects of integrity. Determining which of the aspects is most important to a particular property requires an understanding of the property's significance and its essential physical features. For example, a property's historic significance can be related to its association with an important event, historical pattern or person. A property that is significant for its historic association is eligible for listing if it retains the essential physical features that made up its character or appearance during the period of its association with the important event, historical pattern, or person.

A property important for association with an event, historical pattern, or person ideally might retain some features of all seven aspects of integrity. Integrity of design and workmanship, however, might not be as important to the significance, and would not be relevant if the property were an archeological site. A basic integrity test for a property associated with an important event or person is whether a historical contemporary would recognize the property as it exists today. For archeological sites that are eligible under Criteria A and B, the seven aspects of integrity can be applied in much the same way as they are to buildings, structures, or objects.

In sum, the assessment of a resource's National Register eligibility hinges on meeting two conditions:

- the site must possess the potential to be eligible for listing in the National Register under one of the evaluation criteria either individually or as a contributing element of a district based on the historic context that is established; and

- the site must possess sufficient integrity, i.e. it must retain the qualities that make it eligible for the National Register.

For the National Register, "a district possesses a significant concentration, linkage, or continuity of ... objects united historically or aesthetically by plan or physical development." The identity of a district derives from the relationship of its resources, which can be an arrangement of functionally related properties.

CULTURAL HISTORY

Prehistory

Dissatisfaction with the Central California Taxonomic System, with its emphasis on widespread and presumed more-or-less coeval cultural developments, led to the now familiar system employing the terms pattern, phase, aspect, facies and other designations for related cultural expressions. The main thrust has been to recognize that certain widespread cultural developments exist, but these do not have to occur at the same time in all geographic areas or be expressed in the same way. The North Coast and northern Bay Areas were among the first to use this system (c.f. Fredrickson 1973) and accumulated archeological knowledge in this area has been reflected in development of the integrative system (c.f. Fredrickson 1984, Milliken *et al.* 2007).

At the same time detailed studies of shell bead types by Bennyhoff resulted in adjustments to previously accepted chronologies. Again, much of the change in chronological systems has involved local inception of a more widely seen pattern or aspect. This chronology based on bead typology has also seen refinements and revisions (Bennyhoff and Hughes 1984, Elsasser 1978, Groza 2002).

In the 1990s the extensive studies and numerous reports resulting from the Los Vaqueros Reservoir Project provided a much better understanding of archeological succession in the Contra Costa region than is available in most areas of California. A recent summary by Milliken et al. (2007) is paraphrased here.

It is presumed that the early period of prehistory reflected a material culture and way of life similar to the Borax Lake Pattern, although no good examples of this cultural expression are known in the region. If this assumption is correct, then the way of life of the earliest occupants would have been a forager strategy based on considerable population movement, probably in an annual cycle. Other interpretations are possible, however, since no sites in the area are securely dated to the period before 8,000 BC.

In the Early Holocene (or Lower Archaic) dated to 3,500 to 8,000 BC, appears to involve a generalized forager settlement pattern. This involves a great deal of mobility within a circumscribed range and exploitation of whatever foods are available. Few components of this age known in the region, so there is relatively little detail available.

The Early Period (Middle Archaic) is dated to 500 to 3,500 BC. This marks the introduction of cut bead technology, which will be increasingly important in the economy through the rest of regional prehistory. This marks a more sedentary settlement pattern also marked by a burial pattern with ornaments as grave goods, increased trade volume and the development of large shells mounds along the bay margins.

The Lower Middle Period (Initial Upper Archaic), 500 BC to AD 430, is marked by a rather sudden shift in favored bead types. Rectangular *Olivella* beads, common over a wide area in the Early Period, disappeared altogether.

The Upper Middle Period (Late Upper Archaic), AD 430 to 1,050, another sudden and widespread change in bead typology occurred. This probably represents a collapse of the trade network established in the previous period. Many of the sites occupied in the previous period are abandoned and a new burial pattern, the Meganos complex, spreads through the East Bay region.

The Initial Late Period (Lower Emergent) is essentially an intensification of the previous period. From AD 1,050 to 1,550 the degree of complexity and artistry shown in wealth items increases, There appear to be separate burial modes for wealthy individuals in some areas and, in general, status ascription is more obvious in the archeological record

The Terminal Late Period sees a collapse in the characteristics of the cultural climax achieved in the Initial Late Period. The reasons for this are not clear. Population growth pressure, mass population movement, diseases spreading north from the Spanish contacts farther south, have all been blamed. In any event, prehistoric society in the region was beginning to develop in new ways when the Spanish arrived.

Ethnography

The Native Americans who occupied much of the San Francisco Bay area were known to early ethnographers as Costanoan. The designation "Costanoan" derives from the Spanish term for coastal people and was not used by the Indian people. Today, most of them prefer to be called Ohlone, after an important village in the San Francisco area.

Ancestors of the Ohlone people moved into the San Francisco and Monterey Bay areas from the Delta of the San Joaquin and Sacramento rivers about A.D. 500. The Ohlone territory extended from the Carquinez Strait in the northeast to just south of Chalome Creek in the southeast and from San Francisco to the Sur River along the Coast. This vast territory was broken into eight different language based zones. These eight branches of the Ohlone language family were separate languages, not dialects.

The group that inhabited the project vicinity were the *Karkin* a small group that was not directly bordered by any other Ohlone tribelet at the time of contact with the Spanish. This was probably not a situation with much time depth, since there was only a narrow Miwok corridor between the *Karkin* and their nearest Ohlone neighbors, the *Chochenyo* (Levy 1978: 485.)

The Ohlone preferred to situate their permanent villages on high ground above seasonal marshes that were inundated by highwater for a few months of the year. Access to fresh drinking water was a criterium for selecting a village location. The tribelet was the basic unit of Ohlone political organization. Territorial boundaries of tribelets were defined by physiographic features. Tribelet chiefs might be either men or women. The office was inherited patrilineally, usually passing from father to son. When there were no male heirs, the position went to the man's sister or daughter. Accession to the office of chief required approval of the community. the chief was responsible for feeding visitors, providing for the impoverished, directing ceremonial activities, caring for captive grizzly bears and coyote, and directing hunting, fishing, gathering, and warfare expeditions. In all these matters the chief acted as the leader of a council of elders. The chief and council served mainly as advisors to the community (Levy 1978:487).

Ohlone had mixed relations with various peoples. Wars were waged both among the various Ohlone tribelets and with Esselen, Salinan, and Northern Valley Yokuts. At the same time, however, they traded with the Plains Miwok, Sierra Miwok, and Yokuts. They augmented the wealth of locally-available resources by trading with the Miwok and Yokuts. The Ohlone supplied mussels, abalone shells, salt, and dried abalone to the Yokuts, bows to the Plains Miwok, and olivella shells to the Sierra Miwok. In return, they received piñon nuts from the Yokuts and probably clam shell disk beads from the Miwok (Levy 1978:488-489, 493).

The Ohlones followed a seasonal round of subsistence activities, gathering plant and animal foods and materials for baskets and other manufactures. They insured a sustained yield of plant and animal foods by careful management of the land. Large mammals consumed by the Ohlones included black-tailed deer, Roosevelt elk, antelope, grizzly bear, mountain lion, sea lion, and whale. Other mammals eaten included dog, wildcat, skunk, raccoon, brush rabbit, cottontail, jackrabbit, tree squirrel, ground squirrel, woodrat, mouse, and mole. Some of the types of fowl they ate include the Canadian goose, snow goose, pintail mallard, and the mourning dove. In addition to animals, the Ohlones also ate seeds including acorns and buckeye, and berries including blackberries, strawberries, and wild grapes among others (Levy 1978:491).

Religion and ceremony played important roles in life and death. Ohlones observed rituals at important life events such as birth, puberty, and death. Treatment of the dead varied, with northern Ohlone groups, including the *Karkin*, reportedly cremating their dead except when there were no kinsman to gather wood for a funeral pyre, in which case the corpse was buried (Kroeber 1925:469; Levy 1978:490).

Shamans controlled the weather and could cause rain to start or stop. They cured disease by cutting the skin of the patient, sucking out the disease objects and exhibiting them to onlookers. Shamans also used herbs in curing disease and conducted performances to insure good crops of acorns, an abundance of fish, or the stranding of whales (Levy 1978:490).

Spanish explorers of coastal California between 1767 and 1776 described the Ohlones living a traditional existence. Between 1770 and 1797, the Franciscans established seven missions in Ohlone territory and effectively changed the Indian way of life. Unwilling recruits to the missions resisted control by Franciscans. In 1793, a runaway neophyte named Charquin began a

three-year struggle during which tribes in the northeast Bay Area engaged in sporadic warfare with the Spanish. The Ohlones also mounted resistance against Mission San Jose in 1800 (Castillo 1978:103). Levy (1978:486) reports that "mission baptismal records demonstrate that the last Ohlone tribelets living an aboriginal existence had disappeared by 1810," and that by 1832 the Ohlone population had decreased to one-fifth or less than its pre-contact size. After the Mexican government secularized the missions (between 1834 and 1836), some Ohlones returned to traditional religious and subsistence practices while others worked on Mexican ranchos. Former mission residents formed multi-tribal Indian communities in Pleasanton and other locations within Ohlone territory. Although the Ohlone languages were probably extinct by 1935, it has been estimated that more than 200 persons of Ohlone descent were living in 1973 (Levy 1978:487). In addition, there is an on-going program among modern Ohlone to revive their languages to the extent possible.

History

The first intrusion of Hispanic peoples into the area of modern Contra Costa County was accomplished by Pedro Fages, who toured the country with twelve soldiers an Indian guide and Father Juan Crespí in the spring of 1772 (Bancroft 1882). This expedition was followed in 1776 by a party led by Captain Juan Bautista de Anza that generally followed along the same route from San Francisco Bay to the Carquinez Straits, continued toward the interior and passed somewhere east of Mt. Diablo (Beck and Haase 1974:17). At the start of this era, California's native population, according to the most careful and informed estimate, was approximately 310,000 (Cook 1976::43). By the end of this era, California's native population had been reduced to a figure now estimated at between 200,000 and 250,000 (Cook 1976:199),

A borderland province, California, remained on the frontier periphery of the European-based system of mercantile capitalism during this era. The Franciscan order of missionary priests served as the principal agency of Spain's imperial expansion into Alta California. The Franciscan missions became centers for the introduction of Hispano-European agriculture, bringing to Alta California a wide assortment of exotic food plants, weeds, and domestic animals that quickly became established and began an ecological transformation of the countryside. In districts claimed by the missions, this ecological transformation was speeded by the reallocation of water resources and the introduction of primitive irrigation techniques (Gentilcore 1961:54-55). In areas colonized by the missionaries, the drastic impact of ecological change severely undercut the traditional domestic economy of native societies, especially with the depletion or destruction of native food resources by cattle, horses, sheep, and feral swine. Through the displacement of native groups and the penetration of introduced plants and animals into more distant areas, this impact spread outward from the mission sites in a widening circle of effect (Weber 1982).

After the 1821 Mexican Revolution, the Franciscan order faced an increasingly strong challenge to its hegemony over the converted Indians and the landed resources of Hispanic California. Amid substantial political and religious controversy, the mission system remained intact through the first decade of independence, but after 1834, the missions were secularized and Franciscan control phased out. The largest part of the mission landholdings came into the hands of opportunistic Spanish colonists, including many retired soldiers and sons of soldiers, who became leaders in developing a hacienda system built around a frontier ranching economy that came to characterize Mexican California during the late 1830s and the 1840s (Weber 1982).

In the project vicinity the hacienda was Rancho Las Juntas, a grant of over 13,000 acre grant awarded in 1845 to William Welch. Welch, an Irish sailor, jumped ship in northern California and wandered throughout California before becoming a naturalized citizen and marrying a lady from a respected family in San Jose. .Initially the rancho was looked after by an overseer, but after his house was burned by Indians, Welch's eldest son was sent to establish a permanent residence. An adobe house was built in 1846, but the elder Welch died before he could move in. His widow did move in with her son and the family occupied the land for generations, although much of the property was sold over the years.

In the meantime Martinez was developing into a transportation hub. A ferry was established between Benicia and Martinez in 1847 by Dr. Robert Semple. With the coming of the Gold Rush, this became a vital crossing as the only way to cross the Carquinez Straits and reach the easiest route to the gold fields. This transportation corridor, the development of local industries along the south bank of the river and the development of Martinez as a river port led to rapid growth. It was named the seat of government for Contra Costa County in 1851. .

The project area is on the far southern edge of the City of Martinez, an area that was remote from the earlier development of the city. It was part of another economic staple of the region, agricultural production. The area proved an excellent location for several orchard crops. Until it was developed for a golf course the project area and hundreds of acres around it were covered in walnut and almond orchards.

RESEARCH

A review of literature maintained by the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University was conducted by center staff (Appendix 2). This indicated that the area had not been surveyed in the past and no resources were known in the immediate project vicinity.

CONSULTATION

The Native American Heritage Commission (NAHC) was contacted by Peak & Associates for a Sacred Lands review. Correspondence requesting information and/or comment and a topographic map showing the Project were sent to the Indian Canyon Mutsun Band of Costanoan (Ann Marie Sayers, Chairperson), the Ione Band of Miwok Indians (Yvonne Miller, Chairperson), the Trina Marine Ruano Family (Ramona Garibay, Representative) and The Ohlone Indian Tribe (Andrew A. Galvan). This communication may be found in Appendix 3.

To date, no replies have been received.

FIELD INSPECTION

A field reconnaissance of the Area of Potential Effect (APE), defined by the property boundaries, was conducted on December 29, 2013 by Peak & Associates' Senior Archeologist Robert Gerry. . No evidence of prehistoric occupation or use of this area was observed. Although the land is generally heavily disturbed due to development of the golf course, the periphery of the property is in relatively pristine condition and offered excellent ground visibility. The course itself was not in a verdant state at the time of the inspection, so surface visibility was still good..

The process of taking out the previously existing orchard on the property would have been tremendously destructive to any prehistoric properties in the APE. Additionally, the absence of a reliable surface water supply in the immediate area makes this an unlikely location for prehistoric settlement.

The only structures in the area are the clubhouse and associated sheds. All of these are modern and the clubhouse is a small one story frame structure of no architectural distinction.

RECOMMENDATIONS

As a result of the identification and evaluation efforts, an agency official may find that there are no historic properties present or there are historic properties present but the undertaking will have no effect upon them as defined in Section 800.16 (i).

If the agency official finds there are historic properties that may be affected by the undertaking, the agency official shall apply the criteria of adverse effect. "An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association" (Section 800.5 (a)).

There are three possible findings:

> **Finding of no historic properties affected:** There is no effect of any kind on the historic properties.
>
> **Finding of no adverse effect:** There could be an effect, but the effect would not be harmful to the characteristics that qualify the property for inclusion in the National Register; or
>
> **Adverse effect:** There could be an effect, and that effect could diminish the integrity of such characteristics.

As no historic properties have been identified within the APE, a finding of "no historic properties affected" appears warranted in this case.

As with any surface inspection, there is some possibility that a buried site may exist in the area and be obscured by vegetation, fill, or other historic activities, leaving no surface evidence. Should artifacts or unusual amounts of stone, bone, or shell be uncovered during construction activities, an archeologist should be consulted for on-the-spot evaluation. If the bone appears to be human, the Contra Costa County Coroner must be contacted. If the coroner determines that the bone is most likely Native American in origin, he will contact the Native American Heritage Commission to identify most likely descendants for consultation regarding further treatment of the remains.

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APPENDIX 1

Resumes

PEAK & ASSOCIATES, INC.
RESUME

MELINDA A. PEAK **January, 2013**

Senior Historian/Archeologist
3941 Park Drive, Suite 20 #329
El Dorado Hills, CA 95762
(916) 939-2405

PROFESSIONAL EXPERIENCE

Ms. Peak has served as the principal investigator on a wide range of prehistoric and historic excavations throughout California. She has directed laboratory analyses of archeological materials, including the historic period. She has also conducted a wide variety of cultural resource assessments in California, including documentary research, field survey, Native American consultation and report preparation. Ms. Peak has completed over 2,500 projects in her career, spread throughout California from Shasta County on the north to Imperial County in the south.

In addition, Ms. Peak has developed a second field of expertise in applied history, specializing in site-specific research for historic period resources. She is a registered professional historian and has completed a number of historical research projects for a wide variety of site types.

Through her education and experience, Ms. Peak meets the Secretary of Interior Standards for historian, architectural historian, prehistoric archeologist and historic archeologist.

EDUCATION

M.A. - History - California State University, Sacramento, 1989
Thesis: *The Bellevue Mine: A Historical Resources Management Site Study in Plumas and Sierra Counties, California*
B.A. - Anthropology - University of California, Berkeley

RECENT PROJECTS

Ms. Peak has had extensive experience working on coastal, lacustrine and riverine environments over the years. Some of the projects have involved identification of resources through field surveys as well as testing sites, and determining significance of resources in proposed impact areas.

Ms. Peak participated in the Pine Creek Boat Ramp Repair Project, completing historical research for the site and assisting in report preparation. A few other representative projects Ms. Peak has completed include: a field recordation and evaluation of a farm complex on Sherman Island for DWR; a survey of Lake Britton in Shasta County for Pacific Gas and Electric Company; a record search and historical map review for the Bureau of Land Management for the entire Sacramento River and a number of other existing reservoirs; the Folsom Lake Reoperation

study that involved archival research to identify locations of historic and prehistoric sites inundated when the reservoir filled; and a study of river landing sites within the City of Napa for the Corps of Engineers.

Ms. Peak completed the cultural resource research and contributed to the text prepared for the DeSabla-Centerville PAD for the initial stage of the FERC relicensing. She also served cultural resource project manager for the FERC relicensing of the Beardsley-Donnells Project for the South Feather Power Project and the Woodleaf-Palermo and Sly Creek Transmission Lines, with her team completing the technical work for the project.

Ms. Peak has completed a number of determinations of eligibility and effect documents in coordination with the Corps of Engineers for projects requiring federal permits, assessing the eligibility of a number of sites for the National Register of Historic Places. She has also completed historical research projects on a wide variety of topics for a number of projects including the Red Bluff Diversion Dam, farm complexes dating to the 1860s-1900s, bridges, an early roadhouse, Folsom Dam, Rocklin City Hall and a section of an electric railway line.

In recent years, Ms. Peak has prepared a number of cultural resource overviews and predictive models for blocks of land proposed for future development for general and specific plans. She has been able to direct a number of surveys of these areas, allowing the model to be tested.

She served as principal investigator for the multi-phase Twelve Bridges Golf Club project in Placer County. She served as liaison with the various agencies, helped prepare the historic properties treatment plan, managed the various phases of test and data recovery excavations, and completed the final report on the analysis of the test phase excavations of a number of prehistoric sites. She is currently involved as the principal investigator for the Clover Valley Lakes project adjacent to Twelve Bridges in the City of Rocklin, coordinating contacts with Native Americans, the Corps of Engineers and the Office of Historic Preservation.

Ms. Peak has served as project manager for a number of major survey and excavation projects in recent years, including the many surveys and site definition excavations for the 172-mile-long Pacific Pipeline proposed for construction in Santa Barbara, Ventura and Los Angeles counties. She also completed an archival study in the City of Los Angeles for the project. She also served as principal investigator for a major coaxial cable removal project for AT&T.

Additionally, she completed a number of small surveys, served as a construction monitor at several urban sites, and conducted emergency recovery excavations for sites found during monitoring. She has directed the excavations of several historic complexes in Sacramento, Placer and El Dorado Counties.

Ms. Peak is the author of a chapter and two sections of a published history (1999) of Sacramento County, *Sacramento: Gold Rush Legacy, Metropolitan Destiny*. She served as the consultant for a children's book on California, published by Capstone Press in 2003 in the land of Liberty series.

Ms. Peak conducted archival research for the Fourteen Mile House, an inn on Auburn Boulevard in Citrus Heights dating to the early 1850s. She then completed the nomination of the site as a Point of Historical Interest, with approval by the State Historical Resources Commission in May 2012.

PEAK & ASSOCIATES, INC.
RESUME

ROBERT A. GERRY **January 2013**
Senior Archeologist
3941 Park Drive, Suite 20, #329
El Dorado Hills, CA 95762

PROFESSIONAL EXPERIENCE

Mr. Gerry has over thirty years of extensive experience in both the public and private sectors. He has directed all types of cultural resource-related projects, including field survey, test excavations, data recovery programs, intensive archival research and cultural resource management. He has completed archeological work in most cultural areas of California and in the western Great Basin.

EDUCATION

Graduate studies - Anthropology - California State University, Sacramento, 1972-1977
B.A. - Anthropology - University of Illinois, Chicago Circle, 1972

RECENT PROJECTS

Mr. Gerry was field director for a cultural resources survey of the Diamond Valley Project in Alpine County, California. The project involved an overview and survey of an extensive plan area, recording and evaluation of resources and presenting the results to local Native Americans and helping to conduct a field tour with them. He also directed field survey of the Van Vleck Ranch, a large property in Sacramento County being put into a conservation easement. He has conducted surveys throughout California related to low income housing development.

Mr. Gerry was field director for a cultural resources survey of about 18,640 acres within the Naval Petroleum Reserve No. 1, Kern County, California. The project employed a stratified random sampling strategy and resulted in the recording of 112 cultural resources, and preparation of a management plan. He also directed a subsequent excavation program for evaluation of significance. Additionally, he served as field director for archeological surveys on the Plumas, Stanislaus, El Dorado and Six Rivers National Forests.

He was field director and primary report writer on several linear surveys of considerable length -- including the San Joaquin Valley Pipeline (157 miles) for Shell Oil, the Point Arena-Dunnigan fiber optic cable (137 miles) and the Medford, Oregon, to Redding, California fiber optic cable (151 miles), the Oregon and Idaho portions of the Spokane to Boise fiber optic cable, and the San Bernardino to San Diego fiber optic cable, for American Telephone & Telegraph Company.

He also assisted on the 170 mile Pacific Pipeline survey on the southern coast of California and conducted several surveys of water pipelines in southern California: La Sierra pipeline (Riverside), Perris Valley. Pico Rivera, Temecula and San Jacinto.

Mr. Gerry supervised the cultural resources assessments and participated in all field surveys for the studies of water supply facilities for seven wildlife refuges in the Sacramento and San Joaquin Valleys. He also took a lead role in field work and report preparation for major residential developments in the Sacramento area, such as the Sunrise Douglas project and Florin Vineyard.

Mr. Gerry has developed a specialty in bridge replacement evaluations, completing five such studies in Tuolumne County, two in Santa Barbara County, two in Amador County and ten others in various areas of California.

Mr. Gerry has had extensive experience in recording mining sites in northern California and Nevada for proposed mining undertakings as well as in the course of survey for proposed subdivisions, reservoirs, and other development projects. He directed the survey of two parcels totaling 2,240 acres in the Battle Mountain Mining District in Lander County, recording a number of mining sites and features. Within the Cook Ranch Project area in El Dorado County, he completed the recordation of several gold mines and a cinnabar mine. He has completed three studies involving the American Hill Mine in Nevada City, the location where hydraulic mining began.

Mr. Gerry has directed test excavations for evaluation of significance at a number of sites, both historic and prehistoric. Examples include CA-NAP-261, twelve sites on Naval Petroleum Reserve No. 1, three sites on Russell Ranch in Sacramento County, a midden site near Guinda and a village known through ethnographic literature in Murphys.

His work has included an important role in working with Native American peoples. He has surveyed eight allotments and rancherias in the Pit River area, the Point Arena/Manchester Rancheria in Mendocino County, the Susanville Rancheria in Lassen County, the Rumsey Rancheria in Yolo County, and three rancherias in northwestern California. In each of these projects, he has been closely involved with Native American organizations and individuals, including a number of native people he has directed as surveyor trainees.

In the field of historical resources, Mr. Gerry has prepared site records and significance evaluations for numerous historical buildings throughout California. The bulk of these have been single family residences, but industrial, commercial and multi-family residences were also included. He has also directed excavations for evaluation of historical archeological potential and monitored construction work in areas of known historical sensitivity.

APPENDIX 2

Record Search

APPENDIX 3

Native American Consultation

PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY
30 Years: 1975-2005

December 16, 2013

Ms. Debbie Pilas-Treadway
Native American Heritage Commission
915 Capitol Mall, Room 288
Sacramento, CA 95814

Dear Ms. Treadway:

Peak & Associates, Inc. has contracted with De Novo Planning Group to perform a cultural resources assessment for the proposed Vine Hill subdivision in Contra Costa County. The project involves a land parcel of about 27.5 acres bordered by Morello Avenue, Center Avenue and Vine Hill Way in Martinez. The project area lies in T2N, R2W, Sections 29 and 30 (extrapolated: Las Juntas grant) and is mapped on the Walnut Creek 7.5' USGS quadrangle, which is the base for the attached map.

Because of wetlands issues the project may become a federal undertaking. In accordance with the Secretary of the Interior's Guidelines for implementing Section 106, we are requesting a list of appropriate Native American contacts for the project area. We also request a check of the Sacred Lands Inventory for any potential conflicts.

Thank you for your assistance.

Sincerely,

Robert A. Gerry, Consulting Archeologist
Peak & Associates, Inc.
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762
(916)283-5238
FAX: (916)283-5239
peakinc@surewest.net

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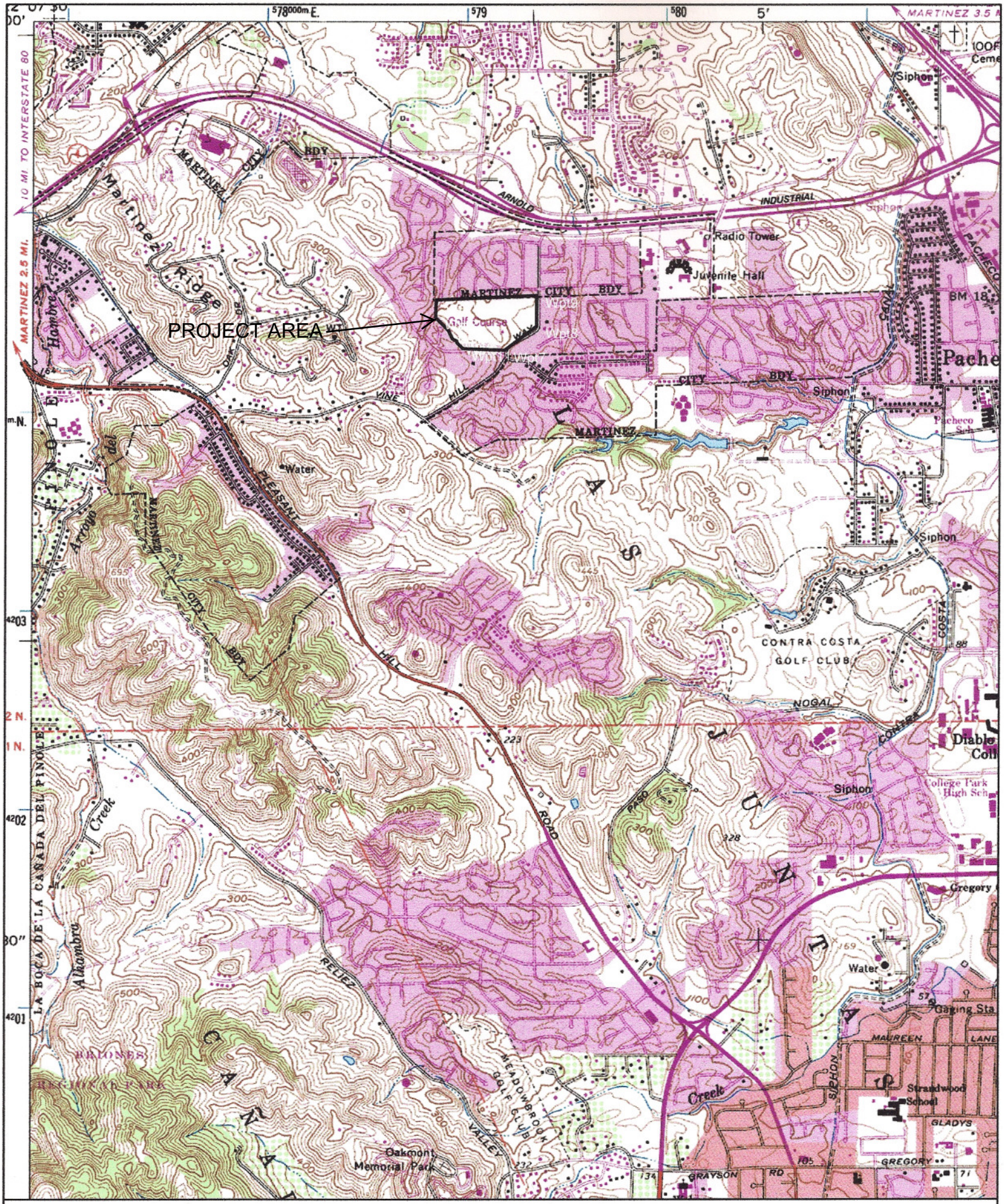
Encl.



Name: WALNUT CREEK
Date: 12/16/2013
Scale: 1 inch equals 2000 feet

Location: 10 579213 E 4203073 N
Caption: Vine Hill Property
De Novo Planning Group

MAP 1

Copyright (C) 1997, Maptech, Inc.

PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY

December 20, 2013

Dear :

Peak & Associates, Inc. has contracted with De Novo Planning Group to perform a cultural resources assessment for the proposed Vine Hill subdivision in Contra Costa County. The project involves a land parcel of about 27.5 acres bordered by Morello Avenue, Center Avenue and Vine Hill Way in Martinez. The project area lies in T2N, R2W, Sections 29 and 30 (extrapolated: Las Juntas grant) and is mapped on the Walnut Creek 7.5' USGS quadrangle, which is the base for the attached map

We are contacting individuals identified by the Native American Heritage Commission as persons who might have information to contribute regarding potential Native American concerns in the project area. Any information or concerns that you may have regarding village sites, traditional properties or modern Native American uses in any portion of the project vicinity will be welcomed. If you know other individuals who are familiar with the vicinity, we would welcome this information as well.

We recognize that much of the information about protected and sacred sites may be confidential within your community and cannot be shared with those outside of your community. We will work with you to minimize impact on your cultural resources. Please contact me to discuss how we can accomplish protection of your cultural resources within your limits of confidentiality and the needs of the project.

Thank you for your assistance.

Sincerely,

COPY

Robert A. Gerry
Consulting Archeologist

RG//
Encl.

■ 3941 Park Drive, Suite 20-329, El Dorado Hills, CA 95762/Phone: (916)939-2405/Fax: (916)283-5239/email: peakinc@sbcglobal.net
□ 3161 Godman Avenue, Suite A, Chico, CA 95973/Phone: (530)342-2800/Fax: 342-0273/email: peakinc@yahoo.com

Appendix F

Geotechnical Feasibility Investigation

Stevens Ferrone & Bailey
Engineering Company, Inc

Geotechnical Engineering
Engineering Geology
Storm Water Management
Construction Observation & Testing Services

October 12, 2011

Mr. Derek Pampe
DeNova Homes
1500 Willow Pass Court
Concord, CA 94520-1010

Re: Geotechnical Feasibility Investigation
26-Acre at 451 Vine Hill Way, Martinez, CA
SFB Project No.: 155-53

Mr. Pampe

As requested, Stevens, Ferrone & Bailey Engineering Company, Inc. (SFB) has performed a geotechnical feasibility investigation for the proposed residential development on a 26-acre land at 451 Vine Hill Way in Martinez. The accompanying report presents the results of our preliminary engineering analyses. The purpose of the report is to provide information for the planning and cost estimating phases of the project.

Should you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

Stevens, Ferrone & Bailey
Engineering Company, Inc.

Ken Ferrone
Vice President

TC/KCF:ka\encl.
Copies: Addressee (1 by e-mail)

Stevens Ferrone & Bailey
Engineering Company, Inc

Geotechnical Engineering
Engineering Geology
Storm Water Management
Construction Observation & Testing Services

October 12, 2011

GEOTECHNICAL FEASIBILITY INVESTIGATION
26-ACRES AT 451 VINE HILL WAY
MARTINEZ, CALIFORNIA
SFB PROJECT NO. 155-53

Prepared For:

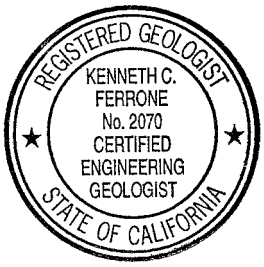
DeNova Homes
1500 Willow Pass Court
Concord, CA 94520-1010

Prepared By:

Stevens, Ferrone & Bailey Engineering Company, Inc.

Taiming Chen, P.E., G.E.
Civil/Geotechnical Engineer

Kenneth C. Ferrone, P.E., G.E., C.E.G.
Civil/Geotechnical Engineer
Certified Engineering Geologist



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1.0 INTRODUCTION

This report presents the results of our geotechnical feasibility investigation for a proposed new residential subdivision on 26-acres of land (APN 162-020-019) located at 451 Vine Hill Way in Martinez, California, as shown on the Site Plan, Figure 1. The purpose of our feasibility study was to evaluate the subsurface conditions and provide preliminary conclusions and recommendations regarding the geological and geotechnical engineering aspects of the project.

Based on the information indicated on the Site Plan, as well as information provided by Mr. Derek Pampe of DeNova Homes, it is our understanding that the project will consist of developing about 26 acres for a residential subdivision. The existing Pine Meadow Golf Course will be removed. Associated paved roadways and underground utilities are also proposed. Cut and fill grading is anticipated.

The conclusions and recommendations provided in this report are based upon the information presented above; Stevens, Ferrone & Bailey Engineering Company, Inc. (SFB) should be consulted if any changes to the project occur to assess if the changes affect the validity of this report.

2.0 SCOPE OF WORK

This preliminary investigation included the following scope of work:

- Reviewing published and unpublished geotechnical and geological literature relevant to the site;
- Performing a reconnaissance of the site and surrounding area;
- Performing a subsurface exploration program, including drilling four exploratory borings to a maximum depth of about 11 feet;
- Performing laboratory testing of samples retrieved from the borings;
- Performing engineering analysis of the field and laboratory data; and
- Preparing this report.

The data obtained and the analyses performed were for the purpose of providing feasibility level geotechnical information for planning and cost estimating purposes. More detailed geotechnical studies will be necessary in the future in order to provide site specific, detailed geotechnical design and construction criteria and to confirm the preliminary recommendations provided in this report. Assessing, evaluating, and testing of onsite materials or ground water for corrosion or toxicity potential were beyond our scope of work.

3.0 SITE INVESTIGATION

A reconnaissance of the site and surrounding area was performed on October 4, 2011. Subsurface exploration was performed using a truck-mounted drill rig equipped with 4-inch diameter, continuous flight, solid stem augers. Four exploratory borings were drilled on October 4, 2011 to a maximum depth of about 11 feet. The approximate locations of the borings are shown on the Site Plan, Figure 1. Logs of our borings and details regarding our field investigation are included in Appendix A. The results of our laboratory tests are discussed in Appendix B. It should be noted that changes in the surface and subsurface conditions can occur over time as a result of either natural processes or human activity and may affect the validity of the conclusions and recommendations in this report.

3.1 Surface

At the time of our investigation and as shown on Figure 1, the site was bounded by Vine Hill Way on the east, Center Avenue on the south, Morello Avenue on the northwest, and existing residential developments on the west and the north. The site was occupied by the existing Pine Meadow Golf Course and associated facilities. The site was irregular in shape and had a plan area of about 26 acres with maximum dimensions of about 1600 by 900 feet. The general site grades sloped gently from the southwest toward the northeast with surface elevations ranging from about 250 feet to 170 feet (datum unknown). The existing site surface slope inclinations vary from 4:1 (horizontal to vertical) to more than 15:1. A rounded, small hill with a peak elevation of about 230 feet was located near the southeast corner of the site. A club house and associated facilities were located on top of the hill. A man-made water storage pond was located to the northwest of the hill. Large and small diameter trees were observed throughout the site with the majority locating at the site perimeter. Two water wells are reportedly located at the northeastern and southeastern corners of the site; we did not confirm their existence.

3.2 Subsurface

The near-surface materials encountered in SFB's Boring SFB-1 (located at a higher elevation) generally consisted of loose sandy fills that extended to a depth of about 1 foot. Below the surficial fills, moderately weathered sandstone of low strength and friable was encountered that extended to the maximum depth explored in the boring of about 10 feet.

Borings SFB-2, SFB-3 & SFB-4 (located at relatively low-lying areas) generally encountered 2 to 4-1/2 feet thick of surficial fills and colluvial soils below the existing ground surface. Below

the surficial soils, completely to moderately weathered sandstone of low strength and friable was encountered that extended to the maximum depth explored in these borings of about 11 feet.

These onsite surficial fills and colluvial soils encountered by SFB's borings were generally weak and potentially compressible. According to the results of laboratory testing, the near-surface more clayey materials have a high to very high plasticity and high to critical expansion potential. The onsite sandy materials generally showed no plasticity and little to no expansion potential.

Detailed descriptions of the materials encountered in the exploratory borings are presented on the boring logs in Appendix A. Our attached boring logs and related information depict location specific subsurface conditions encountered during our field investigation. The approximate locations of our borings were determined using a tape measure or landmark references and should be considered accurate only to the degree implied by the method used.

3.3 Ground Water

No groundwater was encountered in SFB's borings to the maximum depth explored of about 11 feet. All borings were backfilled with lean cement grout in accordance with Contra Costa County Environmental Heath requirements prior to leaving the site. It should be noted that our borings might not have been left open for a sufficient period of time to establish equilibrium ground water conditions. In addition, fluctuations in the ground water level could occur due to change in seasons, variations in rainfall, and other factors.

3.4 Geology and Seismicity

According to Graymer, et al. (1994), the site, below surficial soils, is underlain by Miocene Briones Sandstone (Tbr) in the northeastern half of the site and Miocene Sobrante Sandstone (Ts) in the southwestern half of the site. The Briones Sandstone consists of sandstone, siltstone, conglomerate, and shell breccia; the Sobrante Sandstone consists of gray to brown, fine- to medium-grained sandstone and minor conglomerate[1]. Nilsen (1975) mapped the low-lying area at the northwestern corner of the site as being underlain by colluvium[2].

According to U.S. Geological Survey Open-File Report 97-745 (landslide folio of the San Francisco Bay Area), the site is not mapped as having previously identified landslides or

[1]Graymer, Jones, and Brabb, 1994, *Preliminary Geologic Map Emphasizing Bedrock Formations in Contra Costa County*, USGS Open File Report 94-622.
[2]Nilsen, 1975, *Preliminary Photointerpretation Map of Landslide & Surficial Deposits of the Walnut Creek 7.5' Quadrangle, Contra Costa County, California*, USGS Open File Report 75-277-55.

earthflows nor is it located within an area having debris flow source potential. Based on the results of our reconnaissance and review of documents, we did not observe evidence of adverse slope stability, erosion, or drainage conditions at the site. We did not observe evidence of active, deep seated slope movement onsite or in the vicinity of the site. It is not uncommon, however, for relatively shallow slope movements to occur within the soils blanketing the site and the vicinity. These movements may include downslope creep, erosion, and slumping.

According to the Alquist-Priolo Earthquake Fault Zones Map of the Walnut Creek Quadrangle, the site is not located in an earthquake fault zone as designated by the State of California[3]. Earthquake intensities will vary throughout the San Francisco Bay Area, depending upon numerous factors including the magnitude of earthquake, the distance of the site from the causative fault, and the type of materials underlying the site. The U.S. Geological Survey (2008) indicated that there is a 63 percent chance of at least one magnitude 6.7 or greater earthquake striking the San Francisco Bay region between 2008 and 2037[4]. Therefore, the site will probably be subjected to at least one moderate to severe earthquake that will cause strong ground shaking.

According to the Probabilistic Seismic Hazard Analysis (NSHMP PSHA) interactive deaggregation model developed by U.S. Geological Survey (2008), the site has a 10% probability of exceeding a peak ground acceleration of about 0.5g in 50 years (design basis ground motion based on soft rock site condition; mean return interval of 475 years). The actual ground surface acceleration might vary depending upon the local seismic characteristics of the underlying bedrock and the overlying unconsolidated soils.

3.5 Liquefaction

Soil liquefaction is a phenomenon primarily associated with saturated, cohesionless, soil layers located close to the ground surface. These soils lose strength during cyclic loading, such as imposed by earthquakes. During the loss of strength, the soil acquires mobility sufficient to permit both horizontal and vertical movements. Soils that are most susceptible to liquefaction are clean, loose, uniformly graded, saturated, fine-grained sands that lie close to the ground surface. According to ABAG and the U.S. Geological Survey, site is located in an area mapped as having a very low likelihood of liquefaction in an earthquake and has been characterized as

[3]Hart and Bryant, *Fault-Rupture Hazard Zones in California*, CDMG Special Publication 42, Interim Revision 2007.

[4]Field, Edward H., Milner, Kevin R., and the 2007 Working Group on California Earthquake Probabilities, 2008, *Forecasting California's earthquakes; what can we expect in the next 30 years?*: U.S. Geological Survey, Fact Sheet 2008-3027, 4 p.

having very low liquefaction susceptibility[5,6]. As of the date of this report, the liquefaction potential of the site and surrounding area has not been evaluated by the State of California[7]

Based on the results of the exploratory borings, it is our opinion that the potential for ground surface damage at the site resulting from liquefaction is low due to the presence of bedrock at relatively shallow depths and the lack of saturated granular soils.

[5]Association of Bay Area Governments, 1980, *Liquefaction Susceptibility, San Francisco Bay Region.*
[6]Knudsen, Sowers, Witter, Wentworth, and Helly, 2000, "*Preliminary Maps of Quaternary Deposits and Liquefaction Susceptibility, Nine-County San Francisco Bay Region, California*", USGS Open File Report 00-444.
[7]Seismic Hazards Mapping Act, 1990.

4.0 PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS

It is our opinion that development of the site is feasible for the proposed project from a geological and geotechnical engineering standpoint. The following discussion provides geologic and geotechnical considerations for development of the site.

EXISTING WEAK FILLS AND SOILS: Weak and potentially compressible fills or colluvial soils were encountered onsite that extended to depths of about 1 foot in Ts and Tbr (sandstone) areas to up to about 4-1/2 feet in low-lying Qc (colluvium) areas as shown on Figure 1. In addition, fills of various thicknesses also exist throughout the site due to existing golf course grading. Deeper weak soils should also be anticipated at the bottom of existing water storage pond. In order to reduce the potential for damaging differential settlement of overlying improvements, we recommend that these weak fills and soils, if not being removed by the proposed grading, be completely over-excavated and re-compacted.

DIFFERENTIAL EXPANSION POTENTIAL: The expansion potential of the near surface materials varies from low (sandstone and sandy soils) to very high (colluviums and more clayey soils). In order to reduce the potential for post-construction distress to the proposed foundations, we recommend that building pads be underlain by a 3 foot thick layer of engineered sandy fills mined from onsite sandstone at higher elevations. We also recommend that streets and driveways be underlain by a layer of 1 foot thick engineered sandy fills. The excavated highly expansive clayey materials can be mixed with onsite sandy materials and moisture conditioned and used as engineered fill below depths of 3 feet from finish pad grades and below depths of 1 foot from street grades, or in deeper fills and excavations.

FUTURE INVESTIGATION: A design-level geotechnical investigation including additional borings, laboratory testing, and engineering analyses will need to be performed in order to provide detailed earthwork, drainage, pavement, and foundation recommendations for use in the actual design and construction of the project. The preliminary recommendations provided below are based upon the collected data and may require modification after additional borings, laboratory testing, and analyses are performed.

4.1 Earthwork

The site should be cleared of all obstructions including existing above grade and below grade structures and their associated foundations, designated trees and their associated root systems, and the water storage pond. We estimate, at the time of our field exploration, that a stripping

depth of approximately 2 inches would be required. Holes resulting from the removal of underground obstructions extending below the finished grade should be cleared and backfilled. Water wells should be abandoned in accordance with Contra Costa County Environmental Health standards.

Weak and potentially compressible surface fills and soils exist at the site that extended to depths of about 1 to 4-1/2 feet. These fills and soils should be completely over-excavated and re-compacted if not being removed by the proposed grading. We recommend the building pads be underlain by a 3 foot thick layer of engineered sandy fills mined from onsite sandstone at higher elevations. We also recommend that streets and driveways be underlain by a 1 foot thick layer of engineered sandy fills. On-site soils and rock having an organic content of less than 3 percent by volume can be used as new fills provided the materials do not contain rocks or lumps larger than 6 inches in greatest dimension with not more than 15 percent larger than 2.5 inches. If required, imported fill used in building pads or streets should have a plasticity index of about 12 or less and have a significant amount of cohesive fines.

In addition to the mechanical properties specifications, all imported fill material should have a resistivity (100% saturated) no less than the resistivity for the onsite soils, a pH of between about 6.0 and 8.5, a total water soluble chloride concentration less than 300 ppm, and a total water soluble sulfate concentration less than 500 ppm.

We recommend all cut and fill slopes if no more than 5 feet high not exceed an inclination of 2:1 (horizontal to vertical) and be constructed with surface drainage. All cut and fill slopes if greater than 5 feet high should not exceed an inclination of 3:1, except for slopes consist of onsite sandstone or engineered sandy fill which can be 2:1. Structural fill should be compacted to about 90 percent relative compaction per ASTM D1557. The upper 6 inches of subgrade soils beneath pavements should be compacted to at least 95 percent relative compaction. Fill material should be spread and compacted in lifts not exceeding approximately 8 to 12 inches in uncompacted thickness.

Ponding of surface water should not be allowed at the top or bottoms of slopes, adjacent to retaining walls, foundations, or on pavement. Roof downspouts from buildings should be connected to solid pipes that transmit storm water onto paved roadways, into drainage inlets, into storm drains, or into proper storm water facilities.

4.2 Foundation Support

It is our preliminary opinion that the proposed buildings can be supported on conventional continuous and isolated spread footings bearing within the 3 foot thick layer of non-expansive engineered sandy fill layer. We anticipate that the footings can be founded at depths of about 18 inches below lowest adjacent grade depending on design bearing capacities. In conjunction with the footings, interior slabs-on-grade would be about 5 inches in thickness and supported by underlying compacted subgrade.

If post-tensioned slabs will be considered to support the buildings rather than footings, we anticipate the slabs would be approximately 10 inches in thickness.

In either case, we would recommend a vapor retarder be constructed below the slabs to reduce the potential for vapor transmission through the slabs-on-grade. Concrete should be poured directly onto the membrane.

4.3 Pavements

In areas where pavements will abut planted areas, the pavement baserock layer, pavement section subgrade soils, and trench backfill should be protected against saturation. Planned concrete slabs, sidewalks, driveways, and curb and gutters should be supported directly on properly prepared compacted sandy fills or onsite sandstone. Concrete curbs should be extended deep enough to create a water barrier between the pavement section and adjacent soil or fill.

If pavement subgrade consists of the 1 foot thick layer of engineered sandy fills mined from onsite sandstone at higher elevations, we anticipate that pavements would consist of approximately 3 inches of asphalt concrete over about 6 to 8 inches of Class 2 aggregate base.

5.0 CONDITIONS AND LIMITATIONS

Stevens, Ferrone & Bailey Engineering Company, Inc. (SFB) cannot be held responsible for the validity or accuracy of information, analyses, test results, or designs provided to SFB by others. The analysis, designs, opinions, and recommendations submitted in this report are based in part upon the data obtained from our field work and upon information provided by others. Site exploration and testing characterizes subsurface conditions only at the locations where the explorations or tests are performed; actual subsurface conditions between explorations or tests may be different than those described in this report. Variations of subsurface conditions from those analyzed or characterized in this report are not uncommon and may become evident during construction. In addition, changes in the condition of the site can occur over time as a result of either natural processes (such as earthquakes, flooding, or changes in ground water levels) or human activity (such as construction adjacent to the site, dumping of fill, or excavating). If changes to the site's surface or subsurface conditions occur since the performance of the field work described in this report, or if changes to the project are made, SFB should be contacted immediately to evaluate the differing conditions to assess if the preliminary opinions, conclusions, and recommendations provided in this report are still applicable or should be amended.

This report is a preliminary document that has been prepared in accordance with generally accepted geological and geotechnical engineering practices for the exclusive use of DeNova Homes and their consultants for specific application to the preliminary planning and cost estimating for the proposed residential development project at the 26-acres of land located at 451 Vine Hill Way in Martinez, California. This report is not intended to provide detailed design and construction criteria for the project. The preliminary conclusions and recommendations contained in this report are solely professional opinions.

It should be understood that advancements in the practice of geotechnical engineering and engineering geology, or discovery of differing surface or subsurface conditions, may affect the validity of this report and are not uncommon. We strive to perform our services in a proper and professional manner with reasonable care and competence but it is not infallible. Geological engineering and geotechnical engineering are disciplines that are far less exact than other engineering disciplines; we should be consulted if it is not completely understood what the limitations to using this report are.

This report does not necessarily represent all of the information that has been communicated by us to DeNova Homes and their consultants during the course of this engagement and our rendering of professional services. Reliance on this report by parties other than those described above must be at their own risk unless we are first consulted as to the parties' intended use of this report and only after we obtain the written consent of DeNova Homes to divulge information that may have been communicated to DeNova Homes. We cannot accept consequences for un-consulted use of segregated portions of this report.

FIGURES

KEY

SFB-4 — APPROXIMATE LOCATION OF SFB EXPLORATORY BORING (10/4/11)

APPROXIMATE PROJECT LIMITS

APPROXIMATE AREA OF EXISTING FILL (ADDITIONAL AREAS LIKELY TO EXIST)

GEOLOGY (Based on Graymer, et. al., USGS OFR 94-622, 1994.)

Qc — COLLUVIUM

Tbr — BRIONES SANDSTONE (WITHIN APPROXIMATE 3')

Ts — SOBRANTE SANDSTONE (WITHIN APPROXIMATE 3')

– – –? APPROXIMATE GEOLOGIC CONTACT

44 — APPROXIMATE STRIKE & DIP OF BEDDING

NOTE: Base map was created by overlying USGS Aerial Photograph (dated 2/27/04) on Contra Costa County Assessor's Map Book 162 Page 020 (dated 1962). Locations of ground features are approximate.

APPROXIMATE SCALE: 1" = 150'

0 150' 300'

DATE: October 2011

PROJECT NO.: 155-53

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SITE PLAN & ENGINEERING GEOLOGY MAP

VINE HILL DEVELOPMENT
Martinez, California

FIGURE 1

APPENDIX A

Field Investigation

APPENDIX A
Field Investigation

The preliminary field investigation for the proposed residential development project at the 26-acres of land located at 451 Vine Hill Way in Martinez, California consisted of a surface reconnaissance and a subsurface exploration program using a truck-mounted drill rig equipped with 4-inch diameter, continuous flight, solid stem augers. Four exploratory borings were drilled on October 4, 2011 to a maximum depth of about 11 feet. The locations of the exploratory borings are shown on the Site Plan, Figure 1. Our representative continuously logged the soils and rock encountered in the borings in the field. The soils are described in general accordance with the Unified Soil Classification System (ASTM D2487). The logs of the borings as well as a key for the classification of the soil (Figure A-1) and rock characterization (Figure A-2) are included as part of this appendix.

Representative samples were obtained from our exploratory borings at selected depths appropriate to the investigation. Relatively undisturbed samples were obtained using a 3-inch O.D. split barrel sampler with liners, and disturbed samples were obtained using the 2-inch O.D. split spoon sampler. All samples were transmitted to our offices for evaluation and appropriate testing. Both sampler types are indicated in the "Sampler" column of the boring logs as designated in Figure A-1.

Resistance blow counts were obtained in our borings with the samplers by dropping a 140-pound safety hammer through a 30-inch free fall. The sampler was driven 18 inches and the number of blows were recorded for each 6 inches of penetration. The blows per foot recorded on the boring logs represent the accumulated number of converted blows that were required to drive the last 12 inches, or the number of inches indicated where hard resistance was encountered. The blow counts recorded on the boring logs have been converted to equivalent SPT field blowcounts, but have not been corrected for overburden, silt content, or other factors.

The attached boring logs and related information show our interpretation of the subsurface conditions at the dates and locations indicated, and it is not warranted that they are representative of subsurface conditions at other locations and times.

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions		grf	ltr	Description
Coarse Grained Soils	Gravel Gravelly Soils		GW	Well-graded gravels or gravel sand mixtures, little or no fines
			GP	Poorly-graded gravels or gravel sand mixture, little or no fines
			GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	Sand And Sandy Soils		SW	Well-graded sands or gravelly sands, little or no fines
			SP	Poorly-graded sands or gravelly sands, little or no fines
			SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, and-clay mixtures

Major Divisions		grf	ltr	Description
Soils	Silts And Clays LL < 50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic silts and organic silt-clays of low plasticity
	Silts And Clays LL > 50		MH	Inorganic silts, micaceous or diatomaceous fine or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity
	Highly Organic Soils		PT	Peat and other highly organic soils

GRAIN SIZES

	U.S. STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENINGS			
	200	40	10	4	3/4"	3"	12"	
Silts and Clays	Sand				Gravel		Cobbles	Boulders
	Fine	Medium	Coarse		Fine	Coarse		

RELATIVE DENSITY

Sands and Gravels	Blows/Foot*
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Over 50

CONSISTENCY

Silts and Clays	Blows/Foot*	Strength (tsf)**
Very Soft	0 - 2	0 - 1/4
Soft	2 - 4	1/4 - 1/2
Firm	4 - 8	1/2 - 1
Stiff	8 - 16	1 - 2
Very Stiff	16 - 32	2 - 4
Hard	Over 32	Over 4

*Number of Blows for a 140-pound hammer falling 30 inches, driving a 2-inch O.D. (1-3/8" I.D.) split spoon sampler.
**Unconfined compressive strength.

SYMBOLS & NOTES

- Standard Penetration sampler (2" OD Split Barrel)
- Modified California sampler (3" OD Split Barrel)
- California Sampler (2.5" OD Split Barrel)
- Shelby Tube
- Pitcher Barrel
- HQ Core
- Ground Water level initially encountered
- Ground Water level at end of drilling

PI = Plasticity Index
LL = Liquid Limit
R = R-Value

Increasing Visual Moisture Content

Saturated
Wet
Moist
Damp
Dry

Constituent Percentage

trace	<5%
some	5-15%
with	16-30%
-y	31-49%

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KEY TO EXPLORATORY BORING LOGS

VINE HILL DEVELOPMENT
Martinez, CA

PROJECT NO.	DATE	FIGURE NO.
155-53	October 2011	A-1

KEY 155-53.GPJ STEVENS FERRONE BAILEY.GDT 10/12/11

ROCK MASS CHARACTERISTICS

WEATHERING

FRESH - Rock fresh, crystals bright, few joints may show slight staining. Rock rings under hammer blows if crystalline.

VERY SLIGHT - Rock generally fresh, joints stained, some joints may show thin clay coatings, crystals in broken face show bright. Rings under hammer blows if crystalline.

SLIGHT - Rock generally fresh, joints stained, and discoloration extends into rock up to 1 inch. Joints may contain clay. In granitiod rocks, some occasional feldspar crystals are dull and discolored. Crystalline rock rings under hammer blows.

MODERATE - Significant portions of rock show discoloration and weathering effects. In granitiod rocks, most feldspars are dull and discolored; some show clayey. Rock has dull sound under hammer and shows significant loss of strength as compared with fresh rock.

MODERATELY SEVERE - All rock except quartz discolored or stained. In granitiod rocks, all feldspars dull and discolored and majority show kaolinization. Rock shows severe loss of strength and can be excavated with geologist's pick. Rock goes "clunk" when struck.

SEVERE - All rock except quartz discolored or stained. Rock "fabric" clear and evident, but reduced in strength to strong soil. In some granitiod rocks, all feldspars kaolinized to some extent. Some fragments of strong rock usually remain.

VERY SEVERE - All rock except quartz discolored or stained. Rock "fabric" discernible, but rock mass effectively reduced to "soil" with only fragments of strong rock remaining.

COMPLETE - Rock reduced to "soil." Rock "fabric" not discernible or discernible only in small scattered locations. Quartz may be present as dikes or stringers.

STRENGTH

VERY STRONG - Resists breakage from hammer blows; but will yield dust and small chips.

STRONG - Withstands a few hammer blows; but will yield large fragments.

MODERATELY STRONG - Withstands a few firm hammer blows.

WEAK - Crumbles with light hammer blows.

FRIABLE - Can be broken down with hand and finger pressure.

LOW - Soil-like strength

DISCONTINUITY SPACING

JOINTS	BEDDING, CLEAVAGE, FOLIATION		
CRUSHED	Very Laminated	Less than 1/2 inch	Less than 1.3 cm
INTENSELY	Laminated	1/2 to 1 inch	1.3 cm to 2.5 cm
VERY CLOSE	Very Thin	1 to 2 inches	2.5 cm to 5 cm
CLOSE	Thin	2 inches to 1 foot	5 cm to 30 cm
MODERATELY CLOSE	Medium	1 foot to 3 feet	30 cm to 1 m
WIDE	Thick	3 feet to 10 feet	1 m to 3 m
VERY WIDE	Very Thick	Greater than 10 feet	Greater than 3 m

HARDNESS

VERY HARD - Cannot be scratched with a knife; metal powder left on sample.

HARD - Scratched with knife with difficulty; trace of metal powder left on samples; scratch faintly visible.

MODERATELY HARD - Readily scratched with knife, scratch leaves heavy trace of dust and is readily visible.

LOW HARDNESS - Gouged or grooved to 1/16 inch by firm pressure on knife; scratches with penny.

SOFT - Gouged or grooved readily with a knife; small thin pieces can be grooved by finger pressure.

VERY SOFT - Carves with knife; scratched by fingernail.

ROUGHNESS OF DISCONTINUITY SURFACES

SMOOTH - Appears smooth and is essentially smooth to the touch. May be slickensided.

SLIGHTLY ROUGH - Asperities on the fracture are clearly visible.

MEDIUM ROUGH - Asperities are clearly visible and fracture surface feels abrasive.

ROUGH - Large angular asperities can be seen. Some ridge and high side angle steps are evident.

VERY ROUGH - Near vertical steps and ridges occur on the fracture surface.

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KEY TO ROCK CHARACTERISTICS

VINE HILL DEVELOPMENT
Martinez, CA

PROJECT NO.	DATE	FIGURE NO.
155-53	***October 2011***	***A-2***

ROCK CLASSIFICATION 155-53.GPJ STEVENS FERRONE BAILEY.GDT 10/12/11

DRILL RIG Mobile B-24 CFA	SURFACE ELEVATION ---	LOGGED BY TC
DEPTH TO GROUND WATER Not Encountered	BORING DIAMETER 4-inch	DATE DRILLED 10/04/11

DESCRIPTION AND CLASSIFICATION			DEPTH (FEET)	SAMPLER	SPT N-VALUE	WATER CONTENT (%)	DRY DENSITY (PCF)	UNC. COMP. (KSF)	OTHER TESTS
DESCRIPTION AND REMARKS	CONSIST	SOIL TYPE							
FILL: SAND (SM), grayish brown, fine- to medium-grained, with to silty, damp.	loose		0						
SANDSTONE, light grayish brown, moderately weathered, fine- to medium-grained, trace silt, dry. Vertical highly plastic clay seams at 1' to 2.5'.	low strength				30/2" 50/5"				
Slow drilling.	friable		5		50/2"				
Bottom of Boring = 10.2 feet Notes: Stratification is approximate, variations must be expected. Blowcounts converted to SPT N-values. See Report for additional details.			10		50/2"				
			15						
			20						
			25						
			30						

EXPLORATORY BORING LOG 155-53.GPJ STEVENS FERRONE BAILEY.GDT 10/12/11

Stevens, Ferrone & Bailey Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
Telephone: 925-688-1001
Fax: 925-688-1005

EXPLORATORY BORING LOG

VINE HILL DEVELOPMENT
Martinez, CA

PROJECT NO.	DATE	BORING NO.
155-53	October 2011	SFB-1

DRILL RIG Mobile B-24 CFA	SURFACE ELEVATION ---	LOGGED BY TC
DEPTH TO GROUND WATER Not Encountered	BORING DIAMETER 4-inch	DATE DRILLED 10/04/11

DESCRIPTION AND REMARKS	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	SPT N-VALUE	WATER CONTENT (%)	DRY DENSITY (PCF)	UNC. COMP. (KSF)	OTHER TESTS
FILL: SAND (SM), grayish brown, fine- to medium-grained, with to silty, damp.	loose		0						
FILL: CLAY (CL), mottled yellow brown, silty, with sand clasts(fine- to coarse-grained), some rock fragments, damp.	stiff				30/2" 50/2"				
SANDSTONE, light grayish brown, completely to moderately weathered, fine- to coarse-grained, trace silt, dry.	low strength friable		5		50/1"				
With ironing staining at 10'.			10		50/1"				
Bottom of Boring = 10.1 feet									
Notes: Stratification is approximate, variations must be expected. Blowcounts converted to SPT N-values. See Report for additional details.			15						
			20						
			25						
			30						

EXPLORATORY BORING LOG 155-53.GPJ STEVENS FERRONE BAILEY.GDT 10/12/11

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EXPLORATORY BORING LOG

VINE HILL DEVELOPMENT
Martinez, CA

PROJECT NO.	DATE	BORING NO.
155-53	October 2011	SFB-2

DRILL RIG Mobile B-24 CFA	SURFACE ELEVATION ---	LOGGED BY TC
DEPTH TO GROUND WATER Not Encountered	BORING DIAMETER 4-inch	DATE DRILLED 10/04/11

DESCRIPTION AND CLASSIFICATION			DEPTH (FEET)	SAMPLER	SPT N-VALUE	WATER CONTENT (%)	DRY DENSITY (PCF)	UNC. COMP. (KSF)	OTHER TESTS
DESCRIPTION AND REMARKS	CONSIST	SOIL TYPE							
COLLUVIUM: CLAY (CL/CH), dark grayish brown, silty, with sand(fine- to medium-grained), some roots, dry.	stiff		0						
Change color to mottled yellow dark gray.	hard				37				
COLLUVIUM: CLAY (CL), mottled grayish brown, silty, with sand(fine- to medium-grained), trace gravel(fine, subangular), dry to damp.	very stiff				24				
SILTSTONE, light olive brown, completely weathered, sandy(fine-grained), dry.	low strength		5		51				
SANDSTONE, yellowish brown, completely weathered, fine- to medium-grained, with to silty, dry.	low strength								
SILTSTONE, light grayish brown, moderately weathered, with sand(fine-grained), dry.	low strength		10		50/4"				
Bottom of Boring = 10.8 feet Notes: Stratification is approximate, variations must be expected. Blowcounts converted to SPT N-values. See Report for additional details.			15 20 25 30						

EXPLORATORY BORING LOG 155-53.GPJ STEVENS FERRONE BAILEY.GDT 10/12/11

Stevens, Ferrone & Bailey Engineering Company, Inc.

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EXPLORATORY BORING LOG

VINE HILL DEVELOPMENT
Martinez, CA

PROJECT NO.	DATE	BORING NO.
155-53	October 2011	SFB-3

DRILL RIG Mobile B-24 CFA	SURFACE ELEVATION ---	LOGGED BY TC
DEPTH TO GROUND WATER Not Encountered	BORING DIAMETER 4-inch	DATE DRILLED 10/04/11

DESCRIPTION AND REMARKS	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	SPT N-VALUE	WATER CONTENT (%)	DRY DENSITY (PCF)	UNC. COMP. (KSF)	OTHER TESTS
FILL: CLAY (CL), grayish brown, silty, sandy(fine- to medium-grained), dry. Roots at 1.5".	stiff		0						
COLLUVIUM: CLAY (CH), dark gray to black, silty, with sand(fine- to medium-grained), trace gravel(fine, subangular), with rootlet, dry.	very stiff				19 19	14			Liquid Limit = 52 Plasticity Index = 38
SANDSTONE, olive yellowish brown, completely to moderately weathered, fine- to medium-grained, trace silt, dry. Harder drilling below 7'.	low strength		5		92/9"				
Bottom of Boring = 10.3 feet Notes: Stratification is approximate, variations must be expected. Blowcounts converted to SPT N-values. See Report for additional details.			10		50/3.5"				
			15						
			20						
			25						
			30						

EXPLORATORY BORING LOG 155-53.GPJ STEVENS FERRONE BAILEY.GDT 10/12/11

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EXPLORATORY BORING LOG

VINE HILL DEVELOPMENT
Martinez, CA

PROJECT NO.	DATE	BORING NO.
155-53	October 2011	SFB-4

APPENDIX B

Laboratory Investigation

APPENDIX B
Laboratory Investigation

Our laboratory testing program for the proposed residential development project at the 26-acres of land located at 451 Vine Hill Way in Martinez, California was directed toward a quantitative and qualitative evaluation of the physical and mechanical properties of the soils underlying the site.

Atterberg Limit determinations were performed on one sample of the subsurface soils to determine the range of water content over which these materials exhibit plasticity. These values are used to classify the soil in accordance with the Unified Soil Classification System and to indicate the soil's compressibility and expansion potentials. The results of the test are presented on the boring log at the appropriate sample depth.

The natural water content was determined on one sample of the subsurface soils recovered from the borings. The water content is recorded on the boring log at the appropriate sample depth.

APPENDIX C

ASFE Guidelines

Important Information about Your

Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you —* should apply the report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

Rely on Your ASFE-Member Geotechnical Engineer for Additional Assistance

Membership in ASFE/The Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.

ASFE THE GEOPROFESSIONAL BUSINESS ASSOCIATION

8811 Colesville Road/Suite G106, Silver Spring, MD 20910
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IIGER01115.0MRP

Appendix G

Supplemental Grading Recommendations

Stevens Ferrone & Bailey
Engineering Company, Inc

Geotechnical Engineering
Engineering Geology
Storm Water Management
Construction Observation & Testing Services

September 25, 2013

Mr. Derek Pampe
DeNova Homes
1500 Willow Pass Court
Concord, CA 94520

Re: Supplemental Grading Recommendations
Vine Hill Residential Development, Martinez, CA
SFB Project No.: 155-53

Mr. Pampe:

In accordance with Carlson, Barbee & Gibson's (CBG) request, Stevens, Ferrone & Bailey Engineering Company, Inc. (SFB) has reviewed the geotechnical aspects of the recent grading plan associated with the Tentative Map for the proposed Vine Hill residential development in Martinez, California. Previously, SFB performed a preliminary geotechnical investigation for the project and the results were presented in our October 12, 2011 report.

We previously recommended all cut and fill slopes over 5 feet in height be no steeper than 3:1 (horizontal to vertical) due to the high expansion potential of the onsite clayey soils. Based on our review of the recent grading plan, however, we now understand that substantial cuts will occur in the onsite sandstone materials resulting in fill materials with low expansion potential. Therefore, we now recommend that fill and cut slopes composed of materials of low expansion potential have slopes no steeper than 2:1. We anticipate that most, if not all, of the proposed cut and fill slopes will be composed of materials of low expansion potential. Slopes oriented at 2:1 and composed of soils with high expansion potential can still be used at the site provided the slopes are no higher than about 2:1. We recommend SFB be onsite during the grading operations to assess the resulting cut and fill materials types and provide supplemental recommendations as needed.

The opinions, conclusions, and recommendations provided in this letter are meant to supplement our previous report; all previous conditions and limitation apply.

If you have any questions or need additional information, please call our office.

Sincerely,

Stevens, Ferrone & Bailey
Engineering Company, Inc.

Kenneth C. Ferrone, P.E., G.E., C.E.G.
Civil/Geotechnical Engineer
Certified Engineering Geologist

Copies: Addressee (1 by email)
Mr. Will Carlson (CBG, 1 by email)

Appendix H

Phase I Environmental Site Assessment

October 14, 2011

PHASE I
ENVIRONMENTAL SITE ASSESSMENT

Property Identification:
451 Vine Hill Way
Martinez, California 94553

AEI Project No. 301027
Client Reference No. 1490

Prepared for:
DeNova Homes Inc.
1500 Willow Pass Court
Concord, California 94520

Prepared by:
AEI Consultants
2500 Camino Diablo
Walnut Creek, California 94597
(925) 746-6000

San Francisco HQ
Atlanta
Chicago
Dallas
Denver
Irvine
Los Angeles
Miami
New York
Phoenix
Portland
San Jose

PROJECT SUMMARY

451 Vine Hill Way, Martinez, Contra Costa County, California

Report Section		No Further Action	REC	HREC	BER	Recommended Action
2.1	Current use of subject property		**X**			**Phase II Subsurface Investigation**
2.2	Adjoining property information	**X**				
3.1	Historical Summary		**X**			**See comment above**
4.0	Regulatory Agency Records Review	**X**				
5.0	Regulatory Database Records Review	**X**				
6.3	Previous Reports	**N/A**				
7.0	Site Inspection and Reconnaissance	**X**				
7.2.1	Asbestos-Containing Materials	**X**			**X**	
7.2.2	Lead-Based Paint	**X**			**X**	
7.2.3	Radon	**X**				
7.2.4	Lead in Drinking Water	**X**				
7.2.5	Mold	**x**				

AEI Consultants

EXECUTIVE SUMMARY

AEI Consultants (AEI) was retained by DeNova Homes Inc to conduct a Phase I Environmental Site Assessment (ESA), in general conformance with the scope and limitations of ASTM Standard Practice E1527-05 and the Environmental Protection Agency Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) for the property located at 451 Vine Hill Way in the City of Martinez, Contra County, California. Any exceptions to, or deletions from, this practice are described in Section 1.3 of this report.

PROPERTY DESCRIPTION

The subject property, which consists of a golf course, pro shop and restaurant, is located on the southwest corner of the intersection between Vine Hill Way and Rolling Hill Way in a residential area of Martinez, California. The property totals approximately 25.9 acres and is improved with a single-story building totaling approximately 2,634 square feet. The subject property is currently occupied by Pine Meadow's Golf Course. On-site operations include golfing, golf course maintenance, retail, and food service activities. In addition to the subject property building, the property is improved with several storage units and maintenance sheds, a pond, asphalt-paved parking areas and associated landscaping.

During the site reconnaissance, hazardous materials consisting of diesel fuel, gasoline, and used oil were observed in connection with Pine Meadows Golf Course. Although not directly observed, pesticides and fertilizers are known to be present at the subject property. No environmental concerns associated with the storage and/or use of these materials were noted during the site reconnaissance or during the review of regulatory records; however, the long-term use of pesticides and fertilizers in connection with the use of the subject property as a golf course as well as the former use of the property for agricultural purposes represents an environmental concern. Please refer to Section 7.1 for additional information.

The subject property was developed for use as a golf course in 1970. According to historical sources, the current subject property building was constructed in 1972 for use as a pro shop. Prior to 1970, the property was developed for agricultural purposes and orchards since at least 1939.

The subject property was not identified in the regulatory database.

The immediately surrounding properties consist of the following:

Direction from Site	Address-Tenant/Use
North	Residences
South	Residences and Center Avenue followed by residences
East	Vine Hill Way followed by residences
West	Morello Avenue followed by residences

Based upon groundwater monitoring data from a nearby site 1250 Morello Avenue (0.22 miles north), the direction of groundwater flow beneath the subject property is inferred to be to the east-northeast and present at an estimated depth of 5-12 feet below ground surface (bgs).

FINDINGS

Recognized Environmental Conditions (RECs) are defined by the ASTM Standard Practice E1527-05 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. AEI's assessment has revealed the following RECs associated with the subject property or nearby properties:

- The subject property has been used as a golf course since 1970 and agricultural land/orchard since at least 1939. The nature of use at the subject property involves the application, storage, and mixing of pesticides and herbicides at the subject property. A weed and feed storage shed was located adjacent to the maintenance building. The weed and feed storage shed was locked during AEI's site reconnaissance. The chemicals are reportedly utilized to service the golf greens/fairways located on the subject property. Based on the duration of use as a golf course and the tendency of these constituents to remain in near surface soils, the application and storage of pesticides and herbicides at the subject property may have impacted the subject property. Soil sampling would be recommended prior to any redevelopment of the subject property to determine whether the application of pesticides and herbicides has adversely impacted the subject property.

Historical Recognized Environmental Conditions (HRECs) are defined by the ASTM Standard Practice E1527-05 as an environmental condition which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently. AEI's assessment has revealed the following HRECs associated with the subject property or nearby properties:

- No on-site HRECs were identified during the course of this assessment.

De Minimis Environmental Conditions include environmental concerns identified by AEI that warrant discussion but do not qualify as RECs, as defined by the ASTM Standard Practice E1528-05. AEI's assessment has revealed the following de minimis environmental conditions associated with the subject property or nearby properties:

- No on-site de minimis environmental conditions were identified during the course of this assessment.

Business Environmental Risks (BERs) include risks which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of the subject property, not necessarily limited to those environmental issues required to be investigated in the standard ASTM scope. BERs may affect the liabilities and financial obligations of the client, the health & safety of site occupants, and the value and marketability of the subject property. AEI's assessment has revealed the following BERs associated with the subject property or nearby properties:

- Due to the age of the subject property building, there is a potential that asbestos-containing materials (ACMs) are present. All suspect ACMs were observed in good condition and are not expected to pose a health and safety concern to the occupants of the subject property at this time. In the event that building renovation or demolition activities are planned, an asbestos survey adhering to the Asbestos Hazard Emergency Response Act (AHERA) sampling protocol should be performed prior to demolition or renovation activities that may disturb suspect ACMs.

- Due to the age of the subject property building, there is a potential that lead-based paint (LBP) is present. All observed painted surfaces were in good condition and are not

expected to pose a health and safety concern to the occupants of the subject property at this time. Local regulations may apply to LBP in association with building demolition/renovations and worker/occupant protection. Actual material samples would need to be collected or an XRF survey performed in order to determine if LBP is present. It should be noted that construction activities that disturb materials or paints containing *any amount* of lead may be subject to certain requirements of the Occupational Safety and Health Administration (OSHA) lead standard contained in 29 CFR 1910.1025 and 1926.62.

CONCLUSIONS, OPINIONS AND RECOMMENDATIONS

We have performed a Phase I Environmental Site Assessment for the property located at 451 Vine Hill Way in the City of Martinez, Contra County, California in general conformance with the scope and limitations of ASTM Standard Practice E1527-05 and the Environmental Protection Agency Standards and Practices for All Appropriate Inquiries (40 CFR Part 312). Any exceptions to, or deletions from, this practice are described in Section 1.3 of this report. This assessment has revealed no evidence of RECs in connection with the property except for those previously identified in the *Findings* section. AEI recommends a Phase II subsurface investigation to determine whether the application of pesticides and herbicides has adversely impacted the subject property.

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AEI Consultants

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1.0 INTRODUCTION

This report documents the methods and findings of the Phase I Environmental Site Assessment (ESA) performed in general conformance with the scope and limitations of ASTM Standard Practice E1527-05 and the Environmental Protection Agency Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) for the property located at 451 Vine Hill Way in the City of Martinez, Contra County, California (Figure 1: Site Location Map, Figure 2: Site Map, and Appendix A: Property Photographs).

1.1 SCOPE OF WORK

The purpose of the Phase I Environmental Site Assessment is to assist the client in identifying potential environmental liabilities associated with the presence of any hazardous substances or petroleum products, their use, storage, and disposal at and in the vicinity of the subject property, as well as regulatory non-compliance that may have occurred at the subject property. Property assessment activities focused on: 1) a review of federal, state, tribal and local databases that identify and describe underground fuel tank sites, leaking underground fuel tank sites, hazardous waste generation sites, and hazardous waste storage and disposal facility sites within the ASTM approximate minimum search distance; 2) a property and surrounding site reconnaissance, and interviews with the past and present owners and current occupants and operators to identify potential environmental contamination; and 3) a review of historical sources to help ascertain previous land use at the site and in the surrounding area.

The goal of AEI Consultants in conducting the Phase I Environmental Site Assessment was to identify the presence or likely presence of any hazardous substances or petroleum products on the property that may indicate an existing release, a past release, or a material threat of a release of any hazardous substance or petroleum product into the soil, groundwater, or surface water of the property.

1.2 SIGNIFICANT ASSUMPTIONS

The following assumptions are made by AEI Consultants in this report. AEI Consultants relied on information derived from secondary sources including governmental agencies, the client, designated representatives of the client, property contact, property owner, property owner representatives, computer databases, and personal interviews. AEI Consultants has reviewed and evaluated the thoroughness and reliability of the information derived from secondary sources including government agencies, the client, designated representatives of the client, property contact, property owner, property owner representatives, computer databases, or personal interviews. It appears that all information obtained from outside sources and reviewed for this assessment is thorough and reliable. However, AEI cannot guarantee the thoroughness or reliability of this information.

Groundwater flow and depth to groundwater, unless otherwise specified by on-site well data, or well data from adjacent sites are assumed based on contours depicted on the United States Geological Survey topographic maps. AEI Consultants assumes the property has been correctly and accurately identified by the client, designated representative of the client, property contact, property owner, and property owner's representatives.

1.3 LIMITATIONS

Property conditions, as well as local, state, tribal and federal regulations can change significantly over time. Therefore, the recommendations and conclusions presented as a result of this study apply strictly to the environmental regulations and property conditions existing at the time the study was performed. Available information has been analyzed using currently accepted assessment techniques and it is believed that the inferences made are reasonably representative of the property. AEI Consultants makes no warranty, expressed or implied, except that the services have been performed in accordance with generally accepted environmental property assessment practices applicable at the time and location of the study.

Considerations identified by ASTM as beyond the scope of a Phase I ESA that may affect business environmental risk at a given property include the following: asbestos-containing materials, radon, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, mold, vapor intrusion, and high voltage lines. These environmental issues or conditions may warrant assessment based on the type of the property transaction; however, they are considered non-scope issues under ASTM Standard Practice E1527-05.

If requested by the client, these non-scope issues are discussed in Section 7.2. Otherwise, the purpose of this assessment is solely to satisfy one of the requirements for qualification of the innocent landowner defense, contiguous property owner or bona fide prospective purchaser under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). ASTM Standard Practice E1527-05 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) constitute the "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined in:

1) 42 U.S.C § 9601(35)(B), referenced in the ASTM Standard Practice E1527-05.

2) Sections 101(35)(B) (ii) and (iii) of CERCLA and referenced in the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312).

3) 42 U.S.C. 9601(40) and 42 U.S.C. 9607(q).

The Phase I Environmental Site Assessment is not, and should not be construed as, a warranty or guarantee about the presence or absence of environmental contaminants that may affect the property. Neither is the assessment intended to assure clear title to the property in question. The sole purpose of assessment into property title records is to ascertain a historical basis of prior land use. All findings, conclusions, and recommendations stated in this report are based upon facts, circumstances, and industry-accepted procedures for such services as they existed at the time this report was prepared (i.e., federal, state, and local laws, rules, regulations, market conditions, economic conditions, political climate, and other applicable matters). All findings, conclusions, and recommendations stated in this report are based on the data and information provided, and observations and conditions that existed on the date and time of the property visit.

Responses received from local, state, or federal agencies or other secondary sources of information after the issuance of this report may change certain facts, findings, conclusions, or circumstances to the report. A change in any fact, circumstance, or industry-accepted

procedure upon which this report was based may adversely affect the findings, conclusions, and recommendations expressed in this report.

1.4 LIMITING CONDITIONS

The performance of this Phase I Environmental Site Assessment was limited by the following condition:

- Due to the size of the subject property, AEI performed a site inspection of the property utilizing a field technique of traversing the site in an attempt to provide an overlapping field of view. Due to the size of the property and the vegetation present onsite, isolated areas of the site may have not been accessible for direct observation during AEI's inspection. AEI was also unable to observe the interior of the storage units, including the pesticide/fertilizer storage unit.

1.5 DATA GAPS AND DATA FAILURE

According to ASTM E1527-05, data gaps occur when the Environmental Professional is unable to obtain information required, despite good faith efforts to gather such information.

Data failure is one type of data gap. According to ASTM E1527-05 "data failure occurs when all of the standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the objectives have not been met". Pursuant to ASTM Standards, historical sources are required to document property use back to the property's first developed use or back to 1940, whichever is earlier.

The following data gap was identified during the course of this assessment:

Data Gap:	The earliest historical resource obtained during this investigation was an aerial photograph from 1939 which indicated development of the subject property for agricultural purposes. The lack of historical sources for the subject property dating back to first developed use represents historical data source failure.				
Does this data gap affect the EP's ability to identify RECs?		Yes		No	X
Rationale	It is assumed that prior to 1939 the subject property would have been used for agricultural purposes, if not undeveloped. Based on this notion, this data gap is not expected to significantly alter the findings of this investigation.				
Sources consulted	Aerial photographs, city directories, building records				

1.6 RELIANCE

All reports, both verbal and written, are for the benefit of DeNova Homes Inc. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of AEI. Either verbally or in writing, third parties may come into possession of this report or all or part of the information generated as a result of this work. In the absence of a written agreement with AEI granting such rights, no third parties shall have rights of recourse or recovery whatsoever under any course of action against AEI, its officers, employees, vendors, successors or assigns. Reliance is provided in accordance with AEI's Proposal and Standard Terms & Conditions executed by DeNova Homes Inc on September 26, 2011. The

limitation of liability defined in the Terms and Conditions is the aggregate limit of AEI's liability to the client and all relying parties.

2.0 SITE AND VICINITY DESCRIPTION

2.1 SITE LOCATION AND DESCRIPTION

The subject property, which consists of a golf course, pro shop and restaurant, is located on the southwest corner of the intersection between Vine Hill Way and Rolling Hill Way in a residential area of Martinez, California. The property totals approximately 25.9 acres and is improved with a single-story building totaling approximately 2,634 square feet. The subject property is currently occupied by Pine Meadow's Golf Course. On-site operations include golfing, golf course maintenance, retail, and food service activities. In addition to the subject property building, the property is improved with several storage units and maintenance sheds, a pond, asphalt-paved parking areas and associated landscaping.

The subject property was not identified in the regulatory database.

The Assessor's Parcel Number (APN) for the subject property is 162-020-0019. According to Mr. Derek Pampe, heating and cooling systems on the subject property are fueled by natural gas and electricity provided by Pacific Gas and Electric (PG&E), and potable water and sewage disposal are provided by municipal services.

Refer to Figure 1: Site Location Map, Figure 2: Site Map, and Appendix A: Property Photographs for site location.

2.2 SITE AND VICINITY CHARACTERISTICS

The immediately surrounding properties consist of the following:

Direction from Site	Address-Tenant/Use
North	Residences
South	Residences and Center Avenue followed by residences
East	Vine Hill Way followed by residences
West	Morello Avenue followed by residences

2.3 PHYSICAL SETTING

Geology: Based on a review of the United States Geological Survey (USGS) San Francisco Bay Quadrangle Geologic Map, the area surrounding the subject property is underlain by Holocene and Late Pleistocene era sandstone- and shale-clast loamy colluvium which is commonly characterized by yellowish-brown, light-brown, or brownish-grey sandy to silty colluvium with angular, pebble-, cobble-, and bolder-size clasts of sandstone and shale. Based on a review of the United States Department of Agriculture (USDA) Soil Survey for the area of the subject property, the soils in the vicinity of the subject property are classified as Los Osos clay loam, 15 to 30 percent slopes. Soils from this series are typically found in hills, consist of residuum weathered from sandstone and shale, are 24 to 40 inches to paralithic bedrock, more than 80 inches to the water table, and have low (about 5.1 inches) available water capacity.

USGS Topographic Map:	Walnut Creek Quadrangle 1995
Nearest surface water to subject property:	Pond/Center of subject property
Gradient Direction/Source:	East-northeast/Groundwater monitoring data from a nearby site 1250 Morello Avenue
Estimated Depth to Groundwater/Source:	5-12 ft bgs/Groundwater monitoring data from a nearby site 1250 Morello Avenue

3.0 HISTORICAL REVIEW OF SITE AND VICINITY

3.1 HISTORICAL SUMMARY

Reasonably ascertainable standard historical sources as outlined in ASTM Standard E1527-05 were used to determine previous uses and occupancies of the subject property that are likely to have led to RECs in connection with the subject property. A chronological summary of historical data found, including but not limited to aerial photographs, historic city directories, Sanborn fire insurance maps and agency records is as follows:

Date Range	Subject Property Description/Use	Source(s)
1939-1959	Agricultural land and an orchard	Aerial photographs
1965	Agricultural land and a road/entrance	Aerial photograph
1970-present	Golf course, pro shop and restaurant	Aerial photographs, building & fire records, city directories, interviews

The subject property was developed for use as a golf course in 1970. According to historical sources, the current subject property building was constructed in 1972 for use as a pro shop. Prior to 1970, the property was developed for agricultural purposes and orchards since at least 1939.

The subject property has been used as a golf course since 1970 and agricultural land/orchard since at least 1939. The nature of use at the subject property involves the application, storage, and mixing of pesticides and herbicides at the subject property. A weed and feed storage shed was located adjacent to the maintenance building. The weed and feed storage shed was locked during AEI's site reconnaissance. The chemicals are reportedly utilized to service the golf greens/fairways located on the subject property. Based on the duration of use as a golf course and the tendency of these constituents to remain in near surface soils, the application and storage of pesticides and herbicides at the subject property may have impacted the subject property. Soil sampling would be recommended prior to any redevelopment of the subject property to determine whether the application of pesticides and herbicides has adversely impacted the subject property.

If available, copies of historical sources are provided in the report appendices.

3.2 AERIAL PHOTOGRAPH REVIEW

AEI Consultants reviewed aerial photographs of the subject property and surrounding area. Aerial photographs were reviewed for the following years: 1939, 1946, 1959, 1965, 1975, 1985, 1993, and 2006.

Date(s)	Scale	Subject Property Description	Surrounding Area Descriptions
1939, 1946, 1959	1:555 1:655 1:555	Agricultural land and orchards	**North:** Agricultural land **South:** Agricultural land and a residence **East:** Agricultural land and a residence **West:** Agricultural land

1965	1:333	Agricultural land. The subject property's current road entrance is not visible.	**North:** Residences and graded lots **South:** Agricultural land and a residence **East:** Agricultural land and a residence **West:** Agricultural land
1975	1:550	Golf course and pro shop building	**North:** Residences **South:** Agricultural land and a residence **East:** Residences **West:** Residences
1982, 1993, 2006	1:604	Golf course and pro shop building	**North:** Residences **South:** Residence **East:** Residences **West:** Residences

3.3 SANBORN FIRE INSURANCE MAPS

Sanborn Fire Insurance maps were developed in the late 1800s and early 1900s for use as an assessment tool for fire insurance rates in urbanized areas. A search was made of the Environmental Data Resource (EDR) online collection of Sanborn Fire Insurance maps.

Sanborn map coverage was not available for the subject property.

3.4 CITY DIRECTORIES

A search of historic city directories was conducted for the subject property utilizing AEI's collection of Haines and Company Directories. Directories were available and reviewed for the years 1975, 1980, 1985, 1990, 1995, 2000, and 2006. The following table summarizes the results of the city directory search.

City Directory Search Results

Date(s)	Occupant Listed
1975	Pine Meadows Public Golf, Lois Arnold, The Meadows
1980	Pine Meadows Public Golf, Lois Arnold
1985	Pine Meadows Public Golf, Pine Meadows Lounge
1990	Pine Meadows Golf
1995	Pine Meadows Golf, Pine Meadows Restaurant
2000	Pine Meadows Golf, Pine Meadows Restaurant, John Dodson
2006	Pine Meadows Golf, Tavern on the Green

According to a review of historic city directories, the subject property has been occupied by Pine Meadow Golf Course and a restaurant/lounge since at least 1975.

3.5 HISTORICAL TOPOGRAPHIC MAPS

In accordance with our approved scope of services, historical topographic maps were not reviewed as a part of this assessment.

3.6 CHAIN OF TITLE

In accordance with our approved scope of services, a Chain of Title search was not performed as part of this assessment.

4.0 REGULATORY AGENCY RECORDS REVIEW

4.1 REGULATORY AGENCIES

Local and state agencies, such as environmental health departments, fire prevention bureaus, and building and planning departments are contacted to identify any current or previous reports of hazardous materials use, storage, and/or unauthorized releases that may have impacted the subject property. In addition, information pertaining to Activity and Use Limitations (AULs), defined as legal or physical restrictions, or limitations on the use of, or access to, a site or facility, is requested.

4.1.1 HEALTH DEPARTMENT

On September 27, 2011, AEI contacted the Contra Costa County Hazardous Materials Program (CCCHMP) for information on the subject property and nearby sites of concern. Files at this agency may contain information regarding hazardous materials storage, as well as information regarding unauthorized releases of petroleum hydrocarbons or other contaminants that may affect the soil or groundwater in the area.

No information indicating current or prior use or storage of hazardous materials, or the existence of AULs was on file for the subject property with the CCCHMP.

4.1.2 FIRE DEPARTMENT

On October 11, 2011, AEI visited the Contra Costa County Fire Department (CCCFD) for information on the subject property to identify any evidence of previous or current hazardous material usage.

Date	Business	Document type	Document Notes/Violations
1970	Pine Meadows Pro Shop	Referral statement	A 500-gallon gasoline AST is located on the property; however is going to be removed and replaced with 55-gallon drum with suction type dispenser.
1999	Pine Meadows Golf Course	Inspection	None

Although no removal records were available at the CCCFD for the 500-gallon AST, no AST was observed at the subject property and no indication of any spills, leaks, or releases were noted in agency records, on the regulatory database, or during the site reconnaissance. Based on the lack of documented release, the former presence of a 500-gallon gasoline AST is not expected to represent a significant environmental concern.

4.1.3 BUILDING DEPARTMENT

On October 11, 2011, AEI visited the Martinez Building Department (MBD) for information on the subject property in order to identify historical tenants and property use. Please refer to the following table for a listing of permits reviewed:

Building Permits Reviewed

Year(s)	Owner/Applicant	Description of Permit/Building Use
1970	James Coward	Erect metal building
1972	James Coward	Add pro shop, hallway and restrooms

No information indicating current or prior use or storage of hazardous materials, or the existence of AULs was on file for the subject property with the MBD.

4.1.4 PLANNING DEPARTMENT

On October 13, 2011, AEI contacted the Martinez Planning Department (MPD) for information on the subject property in order to identify AULs associated with the subject property.

No information indicating the existence of AULs was on file for the subject property with the MPD. Furthermore, the MPD was unaware of any specific sampling requirements prior to redeveloping the subject property for residential purposes; however, they highly suggested sampling regardless.

4.1.5 COUNTY ASSESSOR OFFICE

On October 13, 2011, AEI contacted the Contra Costa County assessor's office for information on the subject property in order to determine the earliest recorded date of development and use.

According to the Contra Costa County assessor's office, the earliest recorded date of development on subject property was 1970, and the subject property was utilized as a pro shop, club house, and golf course.

4.1.6 DEPARTMENT OF OIL AND GAS

Department of Oil and Gas (DOG) maps concerning the subject property and nearby properties were reviewed. DOG maps contain information regarding oil and gas development.

According to the DOG map, there are no oil or gas wells within 500 feet of the subject property. No environmental concerns were noted during the DOG map review.

5.0 REGULATORY DATABASE RECORDS REVIEW

AEI contracted EDR to conduct a search of federal, state, tribal, and local databases containing known and suspected sites of environmental contamination. The number of listed sites identified within the approximate minimum search distance (AMSD) from the Federal and State environmental records database listings specified in ASTM Standard E 1527-05 are summarized in the following table. A copy of the regulatory database report is included in Appendix B of this report.

The subject property was not identified in the databases reviewed.

In determining if a site is a potential environmental concern to the subject property in the records summary table below, AEI has applied the following criteria to classify the site(s) as low concern: 1) the site(s) only hold an operating permit (which does not imply a release), 2) the site(s) have been granted "No Further Action" by the appropriate regulatory agency, and/or 3) based upon AEI's review, the distance and/or topographic position relative to the subject property reduce the level of risk associated with the site(s).

5.1 RECORDS SUMMARY

Database	Search Distance (Miles)	Subject Property Listed	Total Number of Listings	Potential Environmental Concern to the Subject Property (Yes/No)
NPL	1	No	0	
DELISTED NPL	0.5	No	0	
CERCLIS	0.5	No	0	
CERCLIS NFRAP	0.5	No	0	
RCRA CORRACTS	1	No	0	
RCRA-TSD	0.5	No	0	
RCRA LG-GEN, SM-GEN, CESQGs, VGN, NLR	TP/ADJ	No	0	
US ENG CONTROLS	TP	No	0	
US INST CONTROLS	TP	No	0	
ERNS	TP	No	0	
STATE/TRIBAL HWS	1	No	0	
STATE/TRIBAL SWLF	0.5	No	0	
STATE/TRIBAL REGISTERED STORAGE TANKS	TP/ADJ	No	0	
STATE/TRIBAL LUST	0.5	No	3	No, based on relative distance from the subject property.

Database	Search Distance (Miles)	Subject Property Listed	Total Number of Listings	Potential Environmental Concern to the Subject Property (Yes/No)
STATE/TRIBAL ENG-INST CONTROLS	TP	No	0	
STATE/TRIBAL VCP	0.5	No	0	
STATE/TRIBAL BROWNFIELD	0.5	No	0	
ORPHAN	N/A	No	82	None of the identified orphan sites are located in the immediate vicinity (500-feet) of the subject property, and therefore, these sites are not expected to represent a significant environmental concern.
NON-ASTM DATABASES	TP/ADJ	No	0	

Based on the relative distance from the subject property, inferred direction of groundwater flow, and/or regulatory status, the listed sites are not expected to represent a significant environmental concern.

6.0 INTERVIEWS AND USER PROVIDED INFORMATION

6.1 INTERVIEWS

Pursuant to ASTM E1527-05, the following interviews were performed during this investigation in order to obtain information indicating RECs in connection with the subject property.

6.1.1 INTERVIEW WITH OWNER

The subject property owner, Ms. Christine Dean, was contacted on October 13, 2011. Ms. Dean has been associated with the subject property for 30 years. According to Ms. Dean, the subject property totals 25.9 acres and is improved with a 2,634 square foot pro shop/restaurant building which was constructed in 1970. Ms. Dean was asked if she was aware of any of the following:

Any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property.		Yes	**X**	No
Any pending, threatened or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property.		Yes	**X**	No
Any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products.		Yes	**X**	No
Any incidents of flooding, leaks, or other water intrusion, and/or complaints related to indoor air quality.		Yes	**X**	No

6.1.2 INTERVIEW WITH KEY SITE MANAGER

The key site manager was identified as Ms. Christine Dean; refer to Section 6.1.1.

6.1.3 PAST OWNERS, OPERATORS AND OCCUPANTS

Interviews with past owners and occupants regarding historical onsite operations were not reasonably ascertainable. However, based on information obtained from other sources, it is likely that the information provided by past owners and operators would have been duplicative.

6.1.4 INTERVIEW WITH OTHERS

Information obtained during interviews with local government officials is incorporated into the appropriate segments of this section.

6.2 USER PROVIDED INFORMATION

User provided information is intended to help identify the possibility of RECs in connection with the subject property. According to ASTM E1527-05 and EPA's AAI Rule, certain items should be researched by the prospective landowner or grantee, and the results of such inquiries may be provided to the environmental professional. The responsibility for qualifying for Landowner Liability Protections (LLPs) by conducting the inquiries ultimately rests with the User, and providing the information to the environmental professional would be prudent if such information is available.

6.2.1 ENVIRONMENTAL LIENS

AEI was not informed by the User, DeNova Homes Inc, represented by Mr. Derek Pampe, of any environmental cleanup liens encumbering the subject property that are filed or recorded under federal, tribal, state or local law.

6.2.2 ACTIVITY AND LAND USE LIMITATIONS

AEI was not informed by the User of any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the subject property and/or have been filed or recorded in a registry under federal, tribal, state or local law.

6.2.3 SPECIALIZED KNOWLEDGE

AEI was not informed by the User of any specialized knowledge or experience related to the subject property or nearby properties.

6.2.4 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

The User did not indicate to AEI any information to suggest that the valuation of the subject property is significantly less than the valuation for comparable properties due to environmental factors.

6.2.5 COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

The User did not inform AEI of any commonly known or reasonably ascertainable information about the subject property which aided AEI in identifying conditions indicative of a release or threatened release.

6.2.6 KNOWLEDGE OF PRESENCE OR LIKELY PRESENCE OF CONTAMINATION

The User did not inform AEI of any obvious indicators that pointed to the presence or likely presence of contamination at the subject property.

6.3 PREVIOUS REPORTS AND OTHER PROVIDED DOCUMENTATION

No prior reports or relevant documentation in association with the subject property were made available to AEI during the course of this assessment.

7.0 SITE INSPECTION AND RECONNAISSANCE

On October 11, 2011, a site reconnaissance of the subject property and adjacent properties was conducted by Mr. Jesse Regnier of AEI in order to obtain information indicating the likelihood of RECs at the subject property and adjacent properties as specified in ASTM Standard Practice E1527-05 §8.4.2, 8.4.3 and 8.4.4. During the onsite reconnaissance, AEI was not accompanied. AEI inspected the pro shop, restrooms, maintenance sheds, petroleum storage areas, and golf course.

7.1 SUBJECT PROPERTY RECONNAISSANCE FINDINGS

Yes	No	Observation
X		Hazardous Substances and/or Petroleum Products in Connection with Property Use
	X	Aboveground & Underground Hazardous Substance or Petroleum Product Storage Tanks (ASTs / USTs)
	X	Hazardous Substance and Petroleum Product Containers and Unidentified Containers not in Connection with Property Use
	X	Unidentified Substance Containers
X		Electrical or Mechanical Equipment Likely to Contain Fluids
	X	Interior Stains or Corrosion
	X	Strong, Pungent or Noxious Odors
	X	Pools of Liquid
	X	Drains, Sumps and Clarifiers
	X	Pits, Ponds and Lagoons
	X	Stained Soil or Pavement
	X	Stressed Vegetation
	X	Solid Waste Disposal or Evidence of Fill Materials
	X	Waste Water Discharges
	X	Wells
	X	Septic Systems
	X	Other

The subject property is currently occupied by Pine Meadow's Golf Course. On-site operations include golfing, golf course maintenance, retail, and food service activities. The above identified observed items are further discussed below.

HAZARDOUS SUBSTANCES AND/OR PETROLEUM PRODUCTS IN CONNECTION WITH PROPERTY USE

Hazardous Material (size/quantity)	Location	Secondary Containment	Staining/Spills
Diesel fuel (3x55-gallons)	Northwest of building	Yes	No
Gasoline fuel (2x55-gallons)	Northwest of building	Yes	No
Used oil (55-gallons)	Northwest of building	No	No

No leaks or spills were observed in the vicinity of the petroleum products noted in the table above and therefore are these products are not expected to represent a significant environmental concern.

The subject property has been used as a golf course since 1970 and agricultural land/orchard since at least 1939. The nature of use at the subject property involves the application, storage, and mixing of pesticides and herbicides at the subject property. A weed and feed storage shed was located adjacent to the maintenance building. The weed and feed storage shed was locked during AEI's site reconnaissance. The chemicals are reportedly utilized to service the golf greens/fairways located on the subject property. Based on the duration of use as a golf course and the tendency of these constituents to remain in near surface soils, the application and storage of pesticides and herbicides at the subject property may have impacted the subject property. Soil sampling would be recommended prior to any redevelopment of the subject property to determine whether the application of pesticides and herbicides has adversely impacted the subject property.

ELECTRICAL OR MECHANICAL EQUIPMENT LIKELY TO CONTAIN FLUIDS

Toxic polychlorinated biphenyls (PCBs) were commonly used historically in electrical equipment such as transformers, fluorescent lamp ballasts, and capacitors. According to United States EPA regulation 40 CFR, Part 761, there are three categories for classifying such equipment: <50 ppm of PCBs is considered "Non-PCB"; between 50 and 500 ppm is considered "PCB-Contaminated"; and >500 ppm is considered "PCB-Containing". Pursuant to 15 U.S.C. 2605(e)(2)(A), the manufacture, process, or distribution in commerce or use of any polychlorinated biphenyl in any manner other than in a totally enclosed manner was prohibited after January 1, 1977.

Transformers

The management of potential PCB-containing transformers is the responsibility of the local utility or the transformer owner. Actual material samples need to be collected to determine if transformers are PCB-containing.

Five pole-mounted transformers were observed on the subject property during the site inspection. The transformers are owned and operated by PG&E, and based on the presumed date of installation, are expected to be PCB containing. Federal Regulations (40 CFR 761. Subpart G) require any release of material containing greater than 50 ppm PCB and occurring after May 4, 1987, be cleaned up by the Owner (PG&E) following the United States Environmental Protection Agency's (USEPA) PCB spill cleanup policy. No spills, staining or leaks were observed on or around the transformers. Based on the good condition of the equipment, the transformers are not expected to represent a significant environmental concern.

7.2 NON-ASTM SERVICES

7.2.1 ASBESTOS-CONTAINING BUILDING MATERIALS

OSHA

For buildings constructed prior to 1981, the Code of Federal Regulations (29 CFR 1926.1101 and 29 CFR 1910.1001) define presumed asbestos-containing material (PACM) as 1. Thermal System Insulation (TSI), e.g., boiler insulation, pipe lagging, fireproofing; and 2. Surfacing Materials, e.g., acoustical ceilings. Building owners/employers are responsible for locating the presence and quantity of PACM. Building Owners/employers can rebut installed material as PACM by either having an inspection in accordance with Asbestos Hazard Emergency Response

Act (AHERA) (40 CFR Part 763, Subpart E) or hiring an accredited inspector to take bulk samples of the suspect material.
Typical materials not covered by the presumptive rule include but are not limited to: floor tiles and adhesives, wallboard systems, siding and roofing. Building materials such as wallboard systems may contain asbestos but unless a building owner/employer has specific knowledge or should have known through the exercise of due diligence that these other materials contain asbestos, the standard does not compel the building owner to sample these materials.

NESHAP

The applicability of the EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Chapter 61, Subpart M) apply to the owner or operator of a facility where an inspection for the presence of asbestos-containing materials (ACM), including Category I (asbestos containing packings, gaskets, resilient floor coverings and asphalt roofing products), and Category II (all remaining types of non-friable asbestos containing material not included in Category I that when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure), non-friable ACM must occur prior to the commencement of demolition or renovation activities. NESHAP defines ACM as any material or product that contains *greater than* 1% asbestos. It should be noted that the NESHAP regulation applies to all facilities regardless of construction date, including: 1. Any institutional, commercial, public, industrial, or residential structure, installation, or building; 2. Any ship; and 3. Any active or inactive waste disposal site. This requirement is typically enforced by the EPA or by local air pollution control/air quality management districts.

The information below is for general informational purposes only and does not constitute an asbestos survey. In addition, the information is not intended to comply with federal, state or local regulations in regards to ACM.

Due to the age of the subject property building, there is a potential that ACMs are present. The condition and friability of the identified suspect ACMs is noted in the following table:

Suspect Asbestos Containing Materials (ACMs)

Material	Location	Friable	Condition
Drywall Systems	Throughout Subject Property Pro Shop	Yes	Good
Wall Texture	Throughout Subject Property Pro Shop	Yes	Good
Ceiling Texture	Throughout Subject Property Pro Shop	Yes	Good
Covebase and Mastic	Throughout Subject Property Pro Shop	No	Good
Roofing Systems	Roof	Not Inspected	Not Inspected

All observed suspect ACMs were in good condition and are not expected to pose a health and safety concern to the occupants of the subject property at this time.

7.2.2 LEAD-BASED PAINT

Lead-based paint (LBP) is defined as any paint, varnish, stain, or other applied coating that has ≥1 mg/cm^2 (5,000 µg/g or 5,000 ppm) or more of lead by federal guidelines; state and local definitions may differ from the federal definitions in amounts ranging from 0.5 mg/cm^2 to 2.0 mg/cm^2. Section 1017 of the Housing and Urban Development (HUD) Guidelines, Residential Lead-Based Paint Hazard Reduction Act of 1992, otherwise known as "Title X", defines a LBP

hazard is "any condition that causes exposure to lead that would result in adverse human health effects" resulting from lead-contaminated dust, bare, lead-contaminated soil, and/or lead-contaminated paint that is deteriorated or present on accessible, friction, or impact surfaces. Therefore, under Title X, intact lead-based paint on most walls and ceilings would not be considered a "hazard", although the paint should be maintained and its condition and monitored to ensure that it does not deteriorate and become a hazard. Additionally, Section 1018 of this law directed HUD and EPA to require the disclosure of known information on lead-based paint and lead-based paint hazards before the sale or lease of most housing built before 1978. Most private housing, public housing, federally owned or subsidized housing are affected by this rule.

Lead-containing paint (LCP) is defined as any paint with any detectable amount of lead present in it. It is important to note that LCP may create a lead hazard when being removed. The condition of these materials must be monitored when they are being disturbed. In the event LCP is subject to abrading, sanding, torching and/or cutting during demolition or renovation activities, there may be regulatory issues that must be addressed.

The information below is for general informational purposes only and does not constitute a lead hazard evaluation. In addition, the information is not intended to comply with federal, state or local regulations in regards to lead-containing paints.

In buildings constructed after 1978, it is unlikely that LBP is present. Structures built prior to 1978 and especially prior to the 1960's should be expected to contain LBP.

Due to the age of the subject property building, there is a potential that LBP is present. All observed painted surfaces were in good condition and are not expected to pose a health and safety concern to the occupants of the subject property at this time. Local regulations may apply to LBP in association with building demolition/renovations and worker/occupant protection. Actual material samples would need to be collected or an XRF survey performed in order to determine if LBP is present. It should be noted that construction activities that disturb materials or paints containing *any amount* of lead may be subject to certain requirements of the Occupational Safety and Health Administration (OSHA) lead standard contained in 29 CFR 1910.1025 and 1926.62.

7.2.3 RADON

Radon is a naturally-occurring, odorless, invisible gas. Natural radon levels vary and are closely related to geologic formations. Radon may enter buildings through basement sumps or other openings.

The US EPA has prepared a map to assist National, State, and local organizations to target their resources and to implement radon-resistant building codes. The map divides the country into three Radon Zones, Zone 1 being those areas with the average predicted indoor radon concentration in residential dwellings exceeding the EPA Action limit of 4.0 picoCuries per Liter (pCi/L). It is important to note that the EPA has found homes with elevated levels of radon in all three zones, and the EPA recommends site specific testing in order to determine radon levels at a specific location. However, the map does give a valuable indication of the propensity of radon gas accumulation in structures.

Radon sampling was not requested as part of this assessment. According to the US EPA, the radon zone level for the area is Zone 2, which has a predicted average indoor screening level between 2 pCi/L and 4 pCi/L, equal to or below the action level of 4.0 pCi/L set forth by the EPA.

7.2.4 DRINKING WATER SOURCES AND LEAD IN DRINKING WATER

The Contra Costa Water District supplies potable water to the subject property. The most recent water quality report states that lead levels in the areas water supply were non-detect and therefore are well within standards established by the US EPA.

7.2.5 MOLD/INDOOR AIR QUALITY ISSUES

Molds are simple, microscopic organisms, which can often be seen in the form of discoloration, frequently green, gray, white, brown or black. When excessive moisture or water accumulates indoors, mold growth will often occur, particularly if the moisture problem remains undiscovered or is not addressed. As such, interior areas of buildings characterized by poor ventilation and high humidity are the most common locations of mold growth. Building materials including drywall, wallpaper, baseboards, wood framing, insulation, and carpeting often play host to such growth. Mold spores primarily cause health problems through the inhalation of mold spores or the toxins they emit when they are present in large numbers. This can occur primarily when there is active mold growth within places where people live or work.

Mold, if present, may or may not visually manifest itself. Neither the individual completing this inspection, nor AEI has any liability for the identification of mold-related concerns except as defined in applicable industry standards. In short, this Phase I ESA should not be construed as a mold survey or inspection.

AEI Consultants observed interior areas of the subject buildings in order to identify the significant presence of mold. AEI did not note obvious visual or olfactory indications of the presence of mold, nor did AEI observe obvious indications of significant water damage. As such, no bulk sampling of suspect surfaces was conducted as part of this assessment and no additional action with respect to mold appears to be warranted at this time.

This activity was not designed to discover all areas which may be affected by mold growth on the subject property. Rather, it is intended to give the client an indication if significant (based on observed areas) mold growth is present at the subject property. Additional areas of mold not observed as part of this limited assessment, possibly in pipe chases, HVAC systems and behind enclosed walls and ceilings, may be present on the subject property.

7.3 ADJACENT PROPERTY RECONNAISSANCE FINDINGS

Yes	No	Observation
	X	Hazardous Substances and/or Petroleum Products in Connection with Property Use
	X	Aboveground & Underground Hazardous Substance or Petroleum Product Storage Tanks (ASTs / USTs)
	X	Hazardous Substance and Petroleum Product Containers and Unidentified Containers not in Connection with Property Use
	X	Unidentified Substance Containers
	X	Electrical or Mechanical Equipment Likely to Contain Fluids
	X	Strong, Pungent or Noxious Odors
	X	Pools of Liquid
	X	Drains, Sumps and Clarifiers
	X	Pits, Ponds and Lagoons
	X	Stained Soil or Pavement
	X	Stressed Vegetation
	X	Solid Waste Disposal or Evidence of Fill Materials
	X	Waste Water Discharges
	X	Wells
	X	Septic Systems
	X	Other

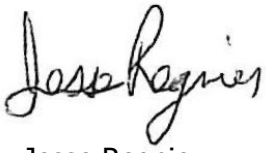
None of the above listed items were observed during the site inspection.

8.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONALS

By signing this report, the senior author declares that, to the best of his or her professional knowledge and belief, he or she meets the definition of *Environmental Professional* as defined in §312.10 of 40 CFR Part 312.

The senior author has the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property. The senior author has developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Prepared By:



Jesse Regnier
Project Manager

Reviewed By:

Steve Kovach, REA
Senior Author

AEI Consultants

9.0 REFERENCES

Item	Date(s)	Source
Topographic Map	1995	United States Geological Survey (USGS)
Regulatory Database	September 27, 2011	Environmental Data Resources (EDR)
Aerial Photographs	1939, 1946, 1959, 1965, 1975, 1985, 1993, 2006	EDR
Sanborn Maps	September 27, 2011	EDR
City Directories	1975, 1980, 1985, 1990, 1995, 2000, 2006	AEI's Private Collection of Haines and Co. Criss-Cross Directories
Health Department	September 27, 2011	Contra Costa County Environmental Health Department
Fire Department	October 11, 2011	Contra Costa County Fire Department
Building Department	October 11, 2011	Martinez Building Department
Planning Department	October 13, 2011	Martinez Planning Department
Oil and Gas Wells	October 13, 2011	Department of Oil and Gas
Assessor's Office	October 13, 2011	Contra Costa County Assessor's Office
Interviews	October 6, 2011	Christine Dean and Derek Pampe
Geology and Hydrogeology	October 13, 2011	USGS
Radon	1993	http://www.epa.gov/radon/zonemap.html

FIGURES

SITE LOCATION MAP

451 Vine Hill Way, Martinez, California 94553

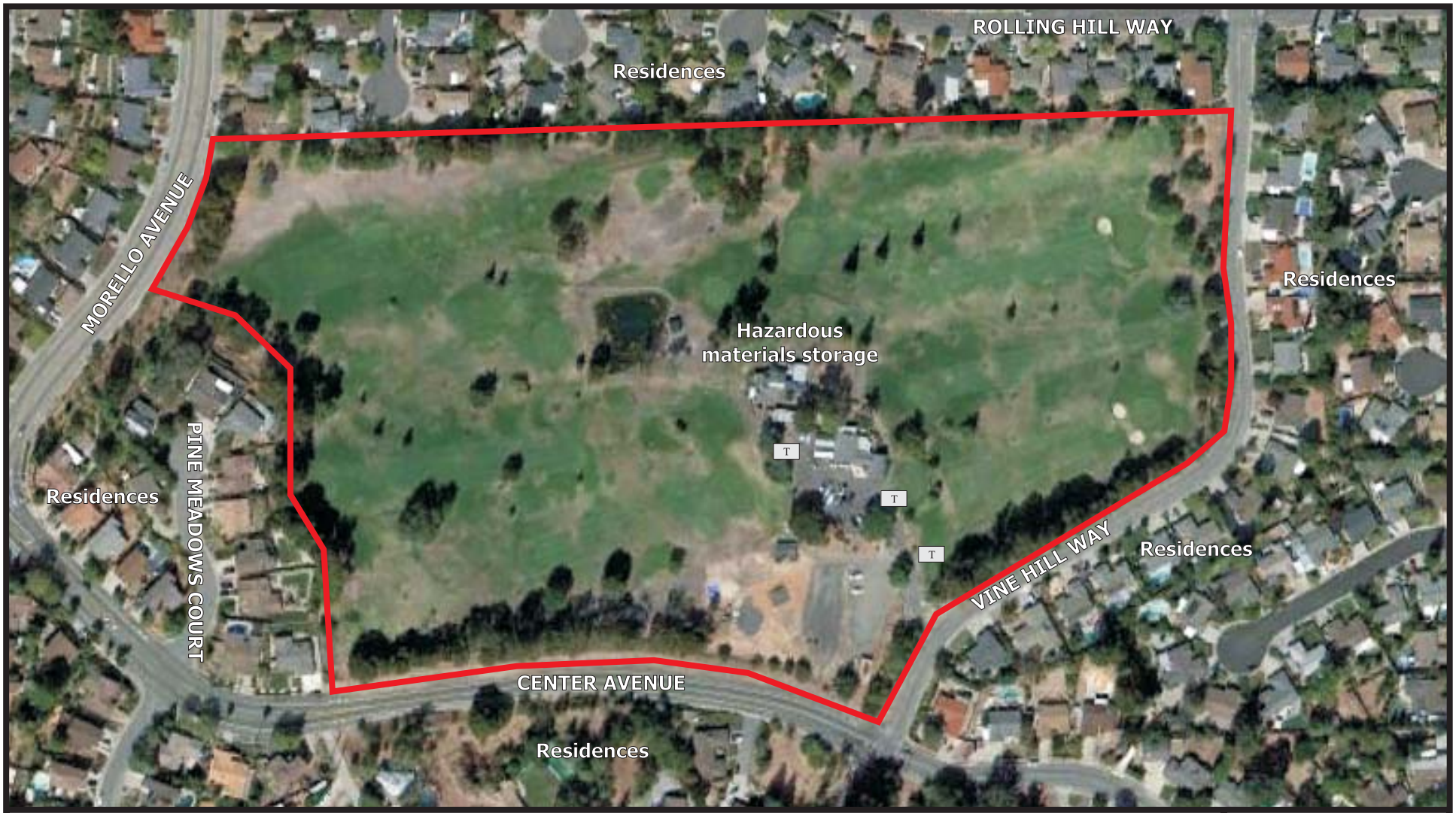
N

FIGURE 1

Project Number: 301027

Source: USGS

AEI Consultants



SITE MAP

451 Vine Hill Way, Martinez, California 94553

N

Legend

Approximate Property Boundary

Transformer T

FIGURE 2

Project Number: 301027

AEI Consultants

APPENDIX A

PROPERTY PHOTOGRAPHS

1. Entrance to Pine Meadows Golf Course on the east side of the subject property from the east.

2. South elevation of subject property's pro shop.

3. South elevation of subject property's pro shop and restaurant.

4. West elevation of subject property's restaurant.

AEI Consultants

5. North elevation of subject property's restaurant.

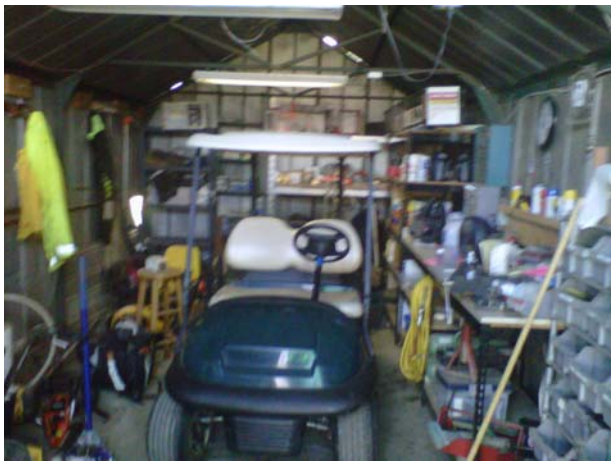
6. East elevation of subject property's pro shop.

7. Hazardous materials storage area northwest of subject property building.

8. Storage sheds to the northwest of subject property building.

9. Gasoline and diesel drums with secondary containment.

10. Used oil drum.



11. Maintenance shed.

12. Pesticide and fertilizer storage unit.

13. Graded area on southeastern portion of subject property from the east.

14. Two storage units beyond gravel lot in southeastern portion of subject property from the north.

15. Pine Meadow's Golf Course and pond from the south.

16. Pine Meadow's Golf Course from the east.

17. West elevation of east adjacent residences beyond Vine Hill Way.

18. North elevation of south adjacent residences.

19. West elevation of west adjacent residences beyond Morello Avenue.

20. North elevation of north adjacent residences beyond Rolling Hill Way.

APPENDIX B

REGULATORY DATABASE

451 Vine Hill Way
451 Vine Hill Way
Martinez, CA 94553

Inquiry Number: 3174321.2s
September 27, 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

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GeoCheck - Not Requested	

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

451 VINE HILL WAY
MARTINEZ, CA 94553

COORDINATES

Latitude (North):	37.986200 - 37˚ 59' 10.3''
Longitude (West):	122.099600 - 122˚ 5' 58.6''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	579070.3
UTM Y (Meters):	4204460.5
Elevation:	227 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	37122-H1 WALNUT CREEK, CA
Most Recent Revision:	1999
North Map:	38122-A1 VINE HILL, CA
Most Recent Revision:	1980

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	2006, 2005
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-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

SLIC ---------- Statewide SLIC Cases
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

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

VCP ..... Voluntary Cleanup Program Properties
INDIAN VCP ..... Voluntary Cleanup Priority Listing

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
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

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
WDS	Waste Discharge System
NPDES	NPDES Permits Listing
Cortese	"Cortese" Hazardous Waste & Substances Sites List
DRYCLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
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
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
PROC	Certified Processors Database
MWMP	Medical Waste Management Program Listing
COAL ASH DOE	Sleam-Electric Plan Operation Data

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-LQG: 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.

A review of the RCRA-LQG list, as provided by EDR, and dated 06/15/2011 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHEVRON 91338	***1250 MORELLO AVE***	***N 1/8 - 1/4 (0.235 mi.)***	***A6***	***14***

RCRA-SQG: 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.

A review of the RCRA-SQG list, as provided by EDR, and dated 06/15/2011 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHEVRON STATION 91338	***1250 MORELLO AVE***	***N 1/8 - 1/4 (0.235 mi.)***	***A5***	***12***

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 08/09/2011 has revealed that there are 3 LUST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHEVRON	***1250 MORELLO AVE***	***N 1/8 - 1/4 (0.235 mi.)***	***A3***	***9***
CHEVRON GAS & FOOD MART #91338	***1250 MORELLO AVE***	***N 1/8 - 1/4 (0.235 mi.)***	***A7***	***15***
Status: Completed - Case Closed				
SHELL	***1175 MUIR***	***N 1/4 - 1/2 (0.252 mi.)***	***A8***	***17***
Status: Open - Site Assessment				

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 08/09/2011 has revealed that there is 1 UST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHEVRON GAS & FOOD MART #91338	***1250 MORELLO AVE***	***N 1/8 - 1/4 (0.235 mi.)***	***A7***	***15***

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 06/01/2011 has revealed that there is 1 SWRCY site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
NEXCYCLE	1145 ARNOLD DR	N 1/4 - 1/2 (0.450 mi.)	9	21

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
91338	***1250 MORELLO AVE***	***N 1/8 - 1/4 (0.235 mi.)***	***A2***	***7***

SWEEPS UST: 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.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there is 1 SWEEPS UST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHEVRON	***1250 MORELLO AVE***	***N 1/8 - 1/4 (0.235 mi.)***	***A3***	***9***

Other Ascertainable Records

HIST CORTESE: 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].

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 2 HIST CORTESE sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHEVRON	1250 MORELLO	N 1/8 - 1/4 (0.235 mi.)	A4	12
SHELL	***1175 MUIR***	***N 1/4 - 1/2 (0.252 mi.)***	***A8***	***17***

CONTRA COSTA CO. SITE LIST: Lists includes sites from the Underground Tank Program, Hazardous Waste Generator Program & Business Plan 12185 Program

A review of the CONTRA COSTA CO. SITE LIST list, as provided by EDR, and dated 08/30/2011 has revealed that there are 2 CONTRA COSTA CO. SITE LIST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ABC MOBILE BRAKE	2002 RADCLIFFE CT	ESE 0 - 1/8 (0.111 mi.)	1	7
91338	***1250 MORELLO AVE***	***N 1/8 - 1/4 (0.235 mi.)***	***A2***	***7***

Notify 65: 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.

A review of the Notify 65 list, as provided by EDR, and dated 10/21/1993 has revealed that there is 1 Notify 65 site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MERRIT, KAY	921 ARNOLD DRIVE	NW 1/2 - 1 (0.892 mi.)	10	22

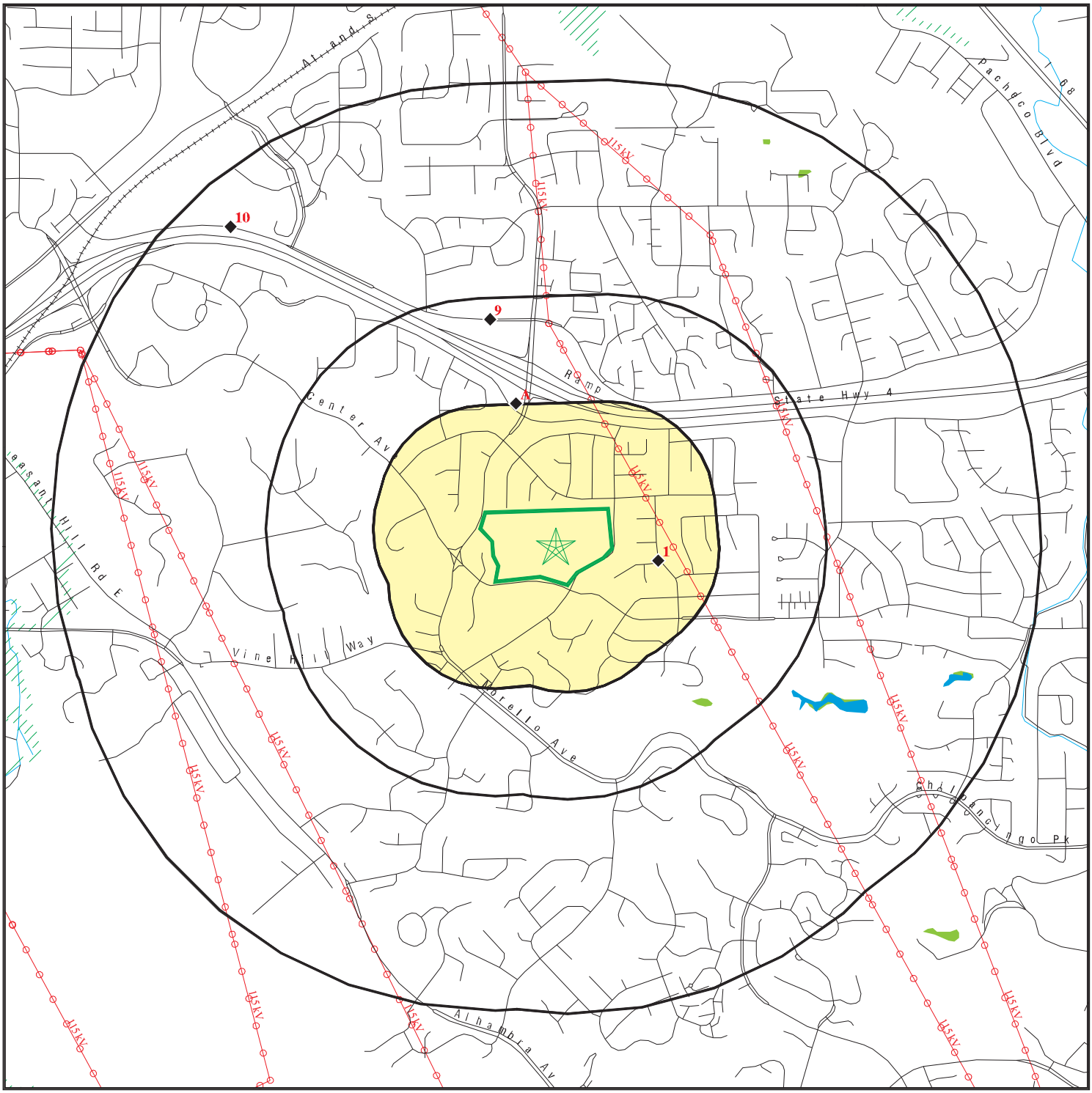
EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 82 records.

Site Name	Database(s)
SOLANO WAY	Toxic Pits, HIST CORTESE, CHMIRS
VINE HILL MEADOWS	NPDES
I T VINE HILL	FTTS, HIST FTTS, FINDS
CONTRA COSTA COUNTY/EMERG RESPONSE	Toxic Pits, HAZNET
MARTINEZ CITY DUMP	CERC-NFRAP
SHELL OIL CO (OLD RODEO REF)	CERC-NFRAP
CONTRA COSTA CO SAN DIST STP	CERC-NFRAP
MARTINEZ STATION	HIST UST
HILL GRADE	ERNS
HILL GRADE	ERNS
AIRWAY BLVD AT KITTY HAWK WAY	ERNS
SOLINR WAY/AVON REFINERY	ERNS
AVON REFINERY/SOLANO WAY	ERNS
AVON WAY	ERNS
AVON WAY	ERNS
AVON WAY	ERNS
AVON REFINERY SOLANO WAY	ERNS
AVON REFINERY-SOLANO WAY AT WATERF	ERNS
AVON REFINERY SOLANO WAY	ERNS
AVON REFINERY SOLANO WAY	ERNS
AVON REFINERY SOLANO WAY	ERNS
AVON REFINERY SOLANO WAY	ERNS
AVON REFINERY @ 150 SOLANO WAY AND	ERNS
INT ST RT 4 SOLANO AVE & ARNOLD IN	ERNS
MARTINEZ REFINERY ON SOLANO WAY &	ERNS
MONSANTO CHEMICAL PROPERTY / SOLAN	ERNS
SALANO WAY AND WATERFRONT RD	ERNS
SALANO WAY AND WATERFRONT RD	ERNS
N/E SECTION OF TANK FARM ON SOLANO	ERNS
SOLANO WAY	ERNS
SOLANO WAY/AVON REFINERY	ERNS
SOLANO WAY	ERNS
SOLANO WAY AT TRACK 6	ERNS
SOLANO WAY	ERNS
SOLANO WAY	ERNS
SOLANO WAY	ERNS
SOLANO WAY	ERNS
SOLANO WAY	ERNS
SOLANO WAY	ERNS
SOLANO WAY	ERNS
SOLANO WAY, AVON REFINERY	ERNS
SOLANO WAY	ERNS
SOLANO WAY AT WATERFRONT RD	ERNS
SOLANO WAY	ERNS
SOLANO WAY	ERNS
SOLANO WAY AT WATERFRONT ROAD	ERNS
SOLANO WAY, 1/2 MI S OF WATERFRONT	ERNS
SOLANO WAY	ERNS
SOLANO WAY AVON REFINERY	ERNS
SOLANO WAY	ERNS
SOLANO WAY	ERNS
SOLANO WAY	ERNS
SOLANO WAY AND WATERFRONT RD	ERNS
SOLANO WAY	ERNS
SOLANO WAY, TANK FARM CONCORD TOSC	ERNS
SOLANO WAY AT WATERFRONT RD	ERNS
SOLANO WAY	ERNS
SOLANO WAY	ERNS
SOLANO WAY AND WATERFRONT WAY	ERNS

SOLANO WAY AT WATERFRONT ST	ERNS
SOLANO WAY	ERNS
SOLANO WAY AT WATERFRONT	ERNS
SOLANO WAY AND WATERFRONT RD	ERNS
SOLANO WAY	ERNS
SOLANO WAY	ERNS
SOLOMONS WAY	ERNS
150 SOLONO WAY	ERNS
SOLONO WAY AND WATERFRONT ROAD 1 M	ERNS
TOSCO AVON REFINERY/ 1 SOLANO WAY	ERNS
TOSCO REFINERY SOLANO WAY	ERNS
TOSCO REFINING CO 150 SOLANO WAY	ERNS
TOSCO REFINING CO 150 SOLANO WAY	ERNS
VINEHILL SITE 896 WATERBURG WAY	ERNS
#3 WATER TREATMENT PLANT SOLANO WA	ERNS
WATERFRONT RD AT SOLANO WAY	ERNS
WATERFRONT RD NR WATERBIRD WAY	ERNS
WATERFRONT RD BETWEEN SOLANO WAY A	ERNS
NO WAY	ERNS
BOYETT PETROLEUM	SLIC
VINCENT ROAD AT MAYHEW WAY	SLIC
SFPP, LP MARTINEZ STATION	CONTRA COSTA CO. SITE LIST
ACHE LANDFILL	ODI

OVERVIEW MAP - 3174321.2s



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

National Wetland Inventory

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: 451 Vine Hill Way ADDRESS: 451 Vine Hill Way Martinez CA 94553 LAT/LONG: 37.9862 / 122.0996	CLIENT: AEI Consultants CONTACT: Karina Garcia INQUIRY #: 3174321.2s DATE: September 27, 2011 6:09 pm

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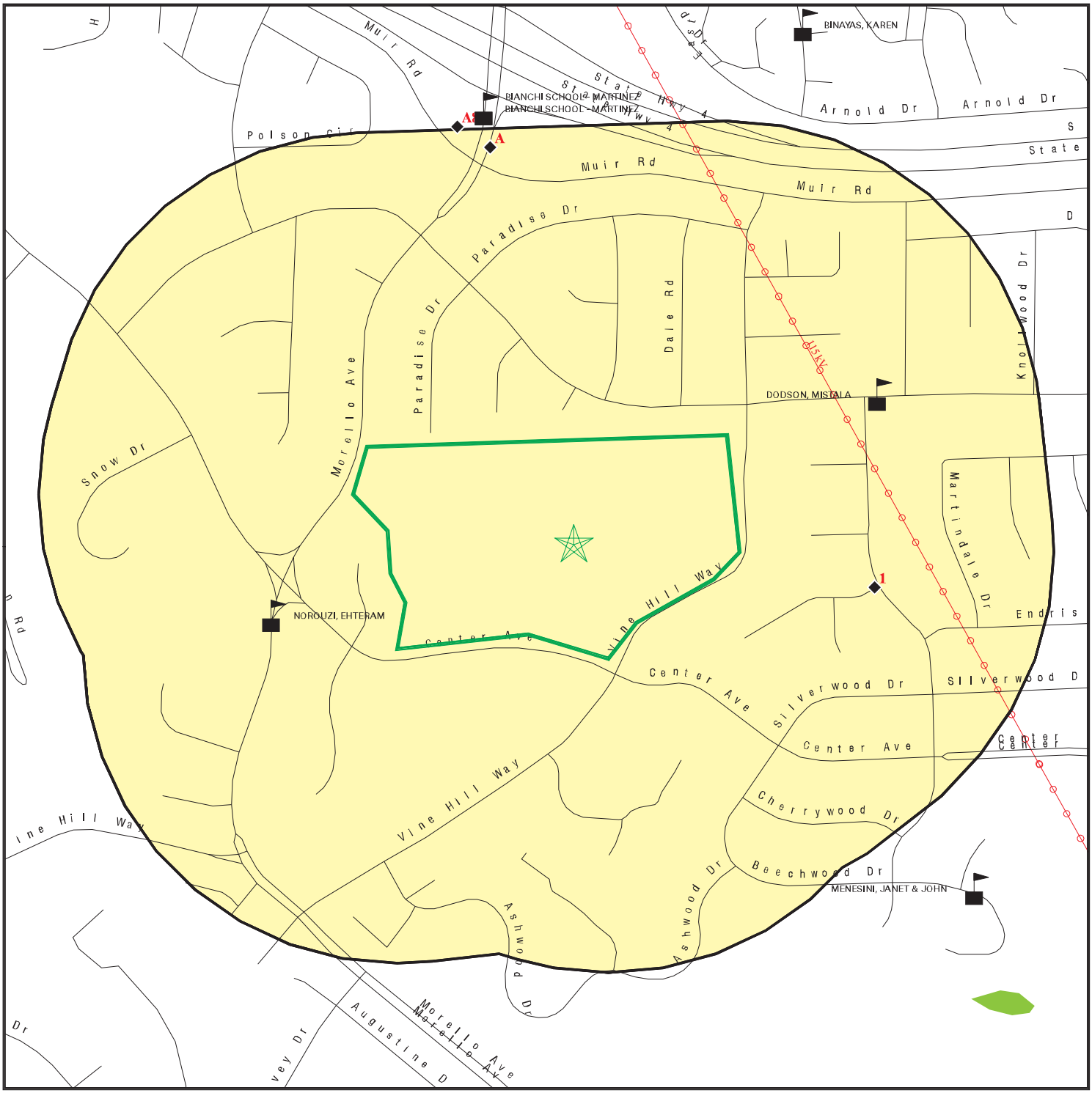
DETAIL MAP - 3174321.2s



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 451 Vine Hill Way	CLIENT: AEI Consultants
ADDRESS: 451 Vine Hill Way Martinez CA 94553	CONTACT: Karina Garcia
LAT/LONG: 37.9862 / 122.0996	INQUIRY #: 3174321.2s DATE: September 27, 2011 6:10 pm

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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	1	NR	NR	NR	1
RCRA-SQG		0.250	0	1	NR	NR	NR	1
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	2	1	NR	NR	3
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	1	NR	NR	NR	1
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								
VCP		0.500	0	0	0	NR	NR	0
INDIAN 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	1	NR	NR	1
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	1	NR	NR	NR	1
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
WDS		TP	NR	NR	NR	NR	NR	0
NPDES		TP	NR	NR	NR	NR	NR	0
Cortese		0.500	0	0	0	NR	NR	0
HIST CORTESE		0.500	0	1	1	NR	NR	2
CONTRA COSTA CO. SITE LIST		0.250	1	1	NR	NR	NR	2
Notify 65		1.000	0	0	0	1	NR	1
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
WIP		0.250	0	0	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
COAL ASH EPA		0.500	0	0	0	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
EDR PROPRIETARY RECORDS								
EDR Proprietary Records								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
ESE
< 1/8
0.111 mi.
586 ft.

ABC MOBILE BRAKE
2002 RADCLIFFE CT
MARTINEZ, CA 94553

CONTRA COSTA CO. SITE LIST **S102261314**
N/A

Relative:
Lower

Actual:
162 ft.

CONTRA COSTA CO. SITE LIST:

Region:	CONTRA COSTA
Facility ID:	771119
Tier:	Not reported
Program Status:	Not reported
Generator Fee Item:	Yes
Inactive Date:	10/30/1998

A2
North
1/8-1/4
0.235 mi.
1241 ft.

91338
1250 MORELLO AVE
MARTINEZ, CA 94553
Site 1 of 7 in cluster A

HIST UST **U001597374**
CONTRA COSTA CO. SITE LIST **N/A**
HAZNET

Relative:
Lower

Actual:
160 ft.

HIST UST:

Region:	STATE
Facility ID:	00000062036
Facility Type:	Gas Station
Other Type:	Not reported
Total Tanks:	0004
Contact Name:	BENSON,E J
Telephone:	4152292554
Owner Name:	CHEVRON U.S.A. INC.
Owner Address:	575 MARKET
Owner City,St,Zip:	SAN FRANCISCO, CA 94105
Tank Num:	001
Container Num:	1
Year Installed:	1970
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Tank Construction:	0000250 unknown
Leak Detection:	Stock Inventor
Tank Num:	002
Container Num:	2
Year Installed:	1970
Tank Capacity:	00005000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Tank Construction:	0000250 unknown
Leak Detection:	Stock Inventor
Tank Num:	003
Container Num:	3
Year Installed:	1970
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Tank Construction:	0000250 unknown
Leak Detection:	Stock Inventor
Tank Num:	004

91338 (Continued) **U001597374**

Container Num: 4
Year Installed: 1970
Tank Capacity: 00001000
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: 0000130 unknown
Leak Detection: Stock Inventor

CONTRA COSTA CO. SITE LIST:
Region: CONTRA COSTA
Facility ID: 762036
Tier: Not reported
Program Status: HWG, UST, Hmmp
Generator Fee Item: No
Inactive Date: Not reported

HAZNET:
Year: 2010
Gepaid: CAR000117200
Contact: KATHY NORRIS - RM L2173
Telephone: 9258425931
Mailing Name: Not reported
Mailing Address: PO BOX 6004
Mailing City,St,Zip: SAN RAMON, CA 945830000
Gen County: Not reported
TSD EPA ID: CAD044429835
TSD County: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons: 0.0175
Facility County: Contra Costa

Year: 2010
Gepaid: CAR000117200
Contact: KATHY NORRIS - RM L2173
Telephone: 9258425931
Mailing Name: Not reported
Mailing Address: PO BOX 6004
Mailing City,St,Zip: SAN RAMON, CA 945830000
Gen County: Not reported
TSD EPA ID: CAD982444481
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: OTHER TREATMENT
Tons: 0.075
Facility County: Contra Costa

Year: 2010
Gepaid: CAR000117200
Contact: KATHY NORRIS - RM L2173
Telephone: 9258425931
Mailing Name: Not reported
Mailing Address: PO BOX 6004
Mailing City,St,Zip: SAN RAMON, CA 945830000
Gen County: Not reported

91338 (Continued) **U001597374**

TSD EPA ID:	CAD044429835
TSD County:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.0034
Facility County:	Contra Costa
Year:	2010
Gepaid:	CAR000117200
Contact:	KATHY NORRIS - RM L2173
Telephone:	9258425931
Mailing Name:	Not reported
Mailing Address:	PO BOX 6004
Mailing City,St,Zip:	SAN RAMON, CA 945830000
Gen County:	Not reported
TSD EPA ID:	CAD982444481
TSD County:	Not reported
Waste Category:	Other organic solids
Disposal Method:	METALS RECOVERY INCLUDING RETORING,SMELTING,CHEMICALS,ECT
Tons:	0.025
Facility County:	Contra Costa
Year:	2010
Gepaid:	CAR000117200
Contact:	KATHY NORRIS - RM L2173
Telephone:	9258425931
Mailing Name:	Not reported
Mailing Address:	PO BOX 6004
Mailing City,St,Zip:	SAN RAMON, CA 945830000
Gen County:	Not reported
TSD EPA ID:	CAD044429835
TSD County:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.102
Facility County:	Contra Costa

Click this hyperlink while viewing on your computer to access
14 additional CA_HAZNET: record(s) in the EDR Site Report.

A3 **CHEVRON** **LUST** **S105030266**
North **1250 MORELLO AVE** **SWEEPS UST** **N/A**
1/8-1/4 **MARTINEZ, CA 94553**
0.235 mi.
1241 ft. **Site 2 of 7 in cluster A**

Relative:
Lower

Actual:
160 ft.

LUST REG 2:

Region:	2
Facility Id:	07-0085
Facility Status:	Pollution Characterization
Case Number:	62036
How Discovered:	Tank Closure
Leak Cause:	UNK
Leak Source:	UNK
Date Leak Confirmed:	Not reported
Oversight Program:	LUST

CHEVRON (Continued) **S105030266**

Prelim. Site Assesment Wokplan Submitted:	Not reported
Preliminary Site Assesment Began:	5/20/1988
Pollution Characterization Began:	6/15/1994
Pollution Remediation Plan Submitted:	Not reported
Date Remediation Action Underway:	Not reported
Date Post Remedial Action Monitoring Began:	Not reported

SWEEPS UST:

Status:	A
Comp Number:	62036
Number:	2
Board Of Equalization:	44-031913
Ref Date:	06-24-92
Act Date:	06-24-92
Created Date:	07-22-88
Tank Status:	A
Owner Tank Id:	3
Swrcb Tank Id:	07-000-062036-000003
Actv Date:	06-24-92
Capacity:	12000
Tank Use:	M.V. FUEL
Stg:	P
Content:	PRM UNLEADED
Number Of Tanks:	4

Status:	A
Comp Number:	62036
Number:	2
Board Of Equalization:	44-031913
Ref Date:	06-24-92
Act Date:	06-24-92
Created Date:	07-22-88
Tank Status:	A
Owner Tank Id:	2
Swrcb Tank Id:	07-000-062036-000005
Actv Date:	09-16-93
Capacity:	12000
Tank Use:	M.V. FUEL
Stg:	P
Content:	PLUS UNLEADED
Number Of Tanks:	Not reported

Status:	A
Comp Number:	62036
Number:	2
Board Of Equalization:	44-031913
Ref Date:	06-24-92
Act Date:	06-24-92
Created Date:	07-22-88
Tank Status:	A
Owner Tank Id:	2
Swrcb Tank Id:	07-000-062036-000006
Actv Date:	05-13-92
Capacity:	12000
Tank Use:	M.V. FUEL
Stg:	P
Content:	REG UNLEADED

CHEVRON (Continued) **S105030266**

Number Of Tanks: Not reported

Status: A
Comp Number: 62036
Number: 2
Board Of Equalization: 44-031913
Ref Date: 06-24-92
Act Date: 06-24-92
Created Date: 07-22-88
Tank Status: A
Owner Tank Id: 1
Swrcb Tank Id: 07-000-062036-000007
Actv Date: 06-24-92
Capacity: 2590
Tank Use: M.V. FUEL
Stg: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 62036
Number: Not reported
Board Of Equalization: 44-031913
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 07-000-062036-000001
Actv Date: Not reported
Capacity: 10000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: 3

Status: Not reported
Comp Number: 62036
Number: Not reported
Board Of Equalization: 44-031913
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 07-000-062036-000002
Actv Date: Not reported
Capacity: 5000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 62036
Number: Not reported
Board Of Equalization: 44-031913

CHEVRON (Continued) **S105030266**

Ref Date:	Not reported
Act Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	07-000-062036-000004
Actv Date:	Not reported
Capacity:	1000
Tank Use:	OIL
Stg:	WASTE
Content:	WASTE OIL
Number Of Tanks:	Not reported

A4 **CHEVRON** **HIST CORTESE** **S110060441**
North **1250 MORELLO** **N/A**
1/8-1/4 **MARTINEZ, CA 94553**
0.235 mi.
1241 ft. **Site 3 of 7 in cluster A**

Relative: **Lower**

Actual: **160 ft.**

CORTESE:

Region:	CORTESE
Facility County Code:	7
Reg By:	LTNKA
Reg Id:	07-0085

A5 **CHEVRON STATION 91338** **RCRA-SQG** **1005441257**
North **1250 MORELLO AVE** **FINDS** **CAR000117200**
1/8-1/4 **MARTINEZ, CA 94553**
0.235 mi.
1241 ft. **Site 4 of 7 in cluster A**

Relative: **Lower**

Actual: **160 ft.**

RCRA-SQG:

Date form received by agency:	05/16/2002
Facility name:	CHEVRON STATION 91338
Facility address:	1250 MORELLO AVE MARTINEZ, CA 945534711
EPA ID:	CAR000117200
Mailing address:	P O BOX 6004 SAN RAMON, CA 94583
Contact:	KATHY NORRIS
Contact address:	P O BOX 6004 SAN RAMON, CA 94583
Contact country:	US
Contact telephone:	(925) 842-5931
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	CHEVRON PRODUCTS COMPANY
Owner/operator address:	P O BOX 6004

CHEVRON STATION 91338 (Continued) **1005441257**

SAN RAMON, CA 94583
Owner/operator country: Not reported
Owner/operator telephone: (925) 842-5931
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Hazardous Waste Summary:
Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D018
Waste name: BENZENE

Violation Status: No violations found

FINDS:

Registry ID: 110012545503

Environmental Interest/Information System
California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

A6
North
1/8-1/4
0.235 mi.
1241 ft.

CHEVRON 91338
1250 MORELLO AVE
MARTINEZ, CA 94553

RCRA-LQG **1007199990**
HAZNET **CAL000032215**

Site 5 of 7 in cluster A

Relative:
Lower

Actual:
160 ft.

RCRA-LQG:

Date form received by agency:	03/14/2002
Facility name:	CHEVRON 91338
Facility address:	1250 MORELLO AVE MARTINEZ, CA 94553
EPA ID:	CAL000032215
Mailing address:	PO BOX 6004 ROOM L2173 SAN RAMON, CA 94583
Contact:	KATHY L NORRIS
Contact address:	Not reported Not reported
Contact country:	Not reported
Contact telephone:	(925) 842-5931
Contact email:	Not reported
EPA Region:	09
Classification:	Large Quantity Generator
Description:	Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Hazardous Waste Summary:

Waste code:	134
Waste name:	134
Waste code:	D001

CHEVRON 91338 (Continued) **1007199990**

Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Violation Status: No violations found

HAZNET:

Year:	2003
Gepaid:	CAL000032215
Contact:	KATHY NORRIS
Telephone:	9258425931
Mailing Name:	Not reported
Mailing Address:	PO BOX 6004
Mailing City,St,Zip:	SAN RAMON, CA 945830000
Gen County:	Contra Costa
TSD EPA ID:	CAD009452657
TSD County:	Contra Costa
Waste Category:	Aqueous solution with total organic residues less than 10 percent
Disposal Method:	R01
Tons:	0.2
Facility County:	7

A7 **CHEVRON GAS & FOOD MART #91338** **LUST U003938840**
North **1250 MORELLO AVE** **UST N/A**
1/8-1/4 **MARTINEZ, CA 94553**
0.235 mi.
1241 ft. **Site 6 of 7 in cluster A**

Relative:
Lower

Actual:
160 ft.

LUST:

Region:	STATE
Global Id:	T0601300081
Latitude:	37.991019
Longitude:	-122.100018
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	02/02/2006
Lead Agency:	SAN FRANCISCO BAY RWQCB (REGION 2)
Case Worker:	MYM
Local Agency:	CONTRA COSTA COUNTY
RB Case Number:	07-0085
LOC Case Number:	62036
File Location:	Not reported
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

LUST:

Global Id:	T0601300081
Contact Type:	Regional Board Caseworker
Contact Name:	MARTIN MUSONGE
Organization Name:	SAN FRANCISCO BAY RWQCB (REGION 2)
Address:	1515 CLAY STREET
City:	OAKLAND

CHEVRON GAS & FOOD MART #91338 (Continued) **U003938840**

Email: mmusonge@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0601300081
Contact Type: Local Agency Caseworker
Contact Name: SUE LOYD
Organization Name: CONTRA COSTA COUNTY
Address: 4333 PACHECO BLVD.
City: MARTINEZ
Email: sloyd@hsd.co.contra-costa.ca.us
Phone Number: Not reported

LUST:
Global Id: T0601300081
Action Type: RESPONSE
Date: 2005-08-30 00:00:00
Action: Monitoring Report - Quarterly

Global Id: T0601300081
Action Type: ENFORCEMENT
Date: 2004-11-15 00:00:00
Action: Staff Letter

Global Id: T0601300081
Action Type: RESPONSE
Date: 2005-07-31 00:00:00
Action: Monitoring Report - Quarterly

Global Id: T0601300081
Action Type: RESPONSE
Date: 2002-10-29 00:00:00
Action: Monitoring Report - Quarterly

Global Id: T0601300081
Action Type: RESPONSE
Date: 2003-04-11 00:00:00
Action: Monitoring Report - Quarterly

Global Id: T0601300081
Action Type: RESPONSE
Date: 2005-01-15 00:00:00
Action: Soil and Water Investigation Report

Global Id: T0601300081
Action Type: RESPONSE
Date: 2003-10-16 00:00:00
Action: Monitoring Report - Quarterly

Global Id: T0601300081
Action Type: ENFORCEMENT
Date: 2004-10-06 00:00:00
Action: Staff Letter

Global Id: T0601300081
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Discovery

CHEVRON GAS & FOOD MART #91338 (Continued) **U003938840**

Global Id: T0601300081
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Reported

Global Id: T0601300081
Action Type: RESPONSE
Date: 2005-01-31 00:00:00
Action: Monitoring Report - Quarterly

Global Id: T0601300081
Action Type: RESPONSE
Date: 2002-04-04 00:00:00
Action: Monitoring Report - Quarterly

Global Id: T0601300081
Action Type: ENFORCEMENT
Date: 2006-02-02 00:00:00
Action: Closure/No Further Action Letter

Global Id: T0601300081
Action Type: ENFORCEMENT
Date: 2002-04-04 00:00:00
Action: Staff Letter

Global Id: T0601300081
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Stopped

UST:
Facility ID: 13853
Latitude: 37.99077
Longitude: -122.10082

A8
North
1/4-1/2
0.252 mi.
1332 ft.

SHELL
1175 MUIR
MARTINEZ, CA 94553

Site 7 of 7 in cluster A

HIST CORTESE **S105126303**
LUST **N/A**
CONTRA COSTA CO. SITE LIST
SWEEPS UST
HAZNET

Relative:
Lower

Actual:
163 ft.

CORTESE:
Region: CORTESE
Facility County Code: Not reported
Reg By: Not reported
Reg Id: Not reported

LUST:
Region: STATE
Global Id: T0601300257
Latitude: 37.9899
Longitude: -122.0947
Case Type: LUST Cleanup Site
Status: Open - Site Assessment
Status Date: 10/30/2007
Lead Agency: SAN FRANCISCO BAY RWQCB (REGION 2)

SHELL (Continued) **S105126303**

Case Worker:	MYM
Local Agency:	CONTRA COSTA COUNTY
RB Case Number:	07-0276
LOC Case Number:	31848
File Location:	Not reported
Potential Media Affect:	Other Groundwater (uses other than drinking water), Under Investigation
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

LUST:

Global Id:	T0601300257
Contact Type:	Local Agency Caseworker
Contact Name:	SUE LOYD
Organization Name:	CONTRA COSTA COUNTY
Address:	4333 PACHECO BLVD.
City:	MARTINEZ
Email:	sloyd@hsd.co.contra-costa.ca.us
Phone Number:	Not reported

Global Id:	T0601300257
Contact Type:	Regional Board Caseworker
Contact Name:	MARTIN MUSONGE
Organization Name:	SAN FRANCISCO BAY RWQCB (REGION 2)
Address:	1515 CLAY STREET
City:	OAKLAND
Email:	mmusonge@waterboards.ca.gov
Phone Number:	Not reported

LUST:

Global Id:	T0601300257
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Discovery

Global Id:	T0601300257
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Reported

Global Id:	T0601300257
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Stopped

LUST REG 2:

Region:	2
Facility Id:	07-0276
Facility Status:	Case Closed
Case Number:	31848
How Discovered:	Tank Closure
Leak Cause:	UNK
Leak Source:	UNK
Date Leak Confirmed:	Not reported

SHELL (Continued) **S105126303**

Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

CONTRA COSTA CO. SITE LIST:
Region: CONTRA COSTA
Facility ID: 731848
Tier: Not reported
Program Status: HWG, UST, Hmmp
Generator Fee Item: No
Inactive Date: Not reported

SWEEPS UST:
Status: A
Comp Number: 31848
Number: 1
Board Of Equalization: 44-000074
Ref Date: 03-02-93
Act Date: 06-10-93
Created Date: 07-22-88
Tank Status: A
Owner Tank Id: 4038-1008-SU-1
Swrcb Tank Id: 07-000-031848-000001
Actv Date: 02-12-92
Capacity: 10000
Tank Use: M.V. FUEL
Stg: P
Content: REG UNLEADED
Number Of Tanks: 3

Status: A
Comp Number: 31848
Number: 1
Board Of Equalization: 44-000074
Ref Date: 03-02-93
Act Date: 06-10-93
Created Date: 07-22-88
Tank Status: A
Owner Tank Id: 4038-1008-SU-1
Swrcb Tank Id: 07-000-031848-000002
Actv Date: 06-10-93
Capacity: 10000
Tank Use: M.V. FUEL
Stg: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: A
Comp Number: 31848
Number: 1
Board Of Equalization: 44-000074
Ref Date: 03-02-93

SHELL (Continued) **S105126303**

Act Date:	06-10-93
Created Date:	07-22-88
Tank Status:	A
Owner Tank Id:	4038-1008-REG1
Swrcb Tank Id:	07-000-031848-000003
Actv Date:	03-02-93
Capacity:	10000
Tank Use:	M.V. FUEL
Stg:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported

HAZNET:

Year:	2010
Gepaid:	CAR000183046
Contact:	J. Traylor/ENV REPORTING ANALYST
Telephone:	7132416992
Mailing Name:	Not reported
Mailing Address:	PO Box 3127
Mailing City,St,Zip:	HOUSTON, TX 772530000
Gen County:	Not reported
TSD EPA ID:	CAD059494310
TSD County:	Not reported
Waste Category:	Aqueous solution with total organic residues less than 10 percent
Disposal Method:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.084
Facility County:	Contra Costa

Year:	2009
Gepaid:	CAR000183046
Contact:	DON F WISDOM
Telephone:	2818742238
Mailing Name:	Not reported
Mailing Address:	12700 NORTHBOROUGH RM 300 F07
Mailing City,St,Zip:	HOUSTON, TX 770670000
Gen County:	Contra Costa
TSD EPA ID:	CAD008302903
TSD County:	Los Angeles
Waste Category:	Other organic solids
Disposal Method:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.02
Facility County:	Contra Costa

Year:	2008
Gepaid:	CAR000183046
Contact:	DON F WISDOM
Telephone:	2818742238
Mailing Name:	Not reported
Mailing Address:	12700 NORTHBOROUGH RM 300 F07
Mailing City,St,Zip:	HOUSTON, TX 770670000
Gen County:	Contra Costa
TSD EPA ID:	CAD008302903
TSD County:	Los Angeles
Waste Category:	Other organic solids
Disposal Method:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY

SHELL (Continued) **S105126303**

(H010-H129) OR (H131-H135)
Tons: 0.035
Facility County: Contra Costa

Year: 2008
Gepaid: CAR000183046
Contact: DON F WISDOM
Telephone: 2818742238
Mailing Name: Not reported
Mailing Address: 12700 NORTHBOROUGH RM 300 F07
Mailing City,St,Zip: HOUSTON, TX 770670000
Gen County: Contra Costa
TSD EPA ID: CAD008830290
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons: 0.02
Facility County: Contra Costa

Year: 2004
Gepaid: CAL000105055
Contact: NORA CORTEZ/ENVT'L DATABASE
Telephone: 7132412258
Mailing Name: Not reported
Mailing Address: 12700 NORTHBOROUGH DRIVE
Mailing City,St,Zip: HOUSTON, TX 770672508
Gen County: Contra Costa
TSD EPA ID: CAD009466392
TSD County: Contra Costa
Waste Category: Other empty containers 30 gallons or more
Disposal Method: Not reported
Tons: 0.5
Facility County: Not reported

Click this hyperlink while viewing on your computer to access additional CA_HAZNET: detail in the EDR Site Report.

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9 **NEXCYCLE** **SWRCY** **S109291985**
North **1145 ARNOLD DR** **N/A**
1/4-1/2 **MARTINEZ, CA 94553**
0.450 mi.
2377 ft.

Relative:
Lower

Actual:
161 ft.

SWRCY:
Facility Phone Number: (909) 796-2210
Whether The Facility Is Grandfathered: N
Effective Date: 09/03/2008
Rural: N
As Of: 2011-05-31 00:00:00
Party Number: 27644

10
NW
1/2-1
0.892 mi.
4711 ft.

MERRIT, KAY
921 ARNOLD DRIVE
MARTINEZ, CA 92522

Notify 65 **S100179582**
N/A

Relative:
Lower

Actual:
208 ft.

Notify 65:

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Incident Description:	92522

Count: 82 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CONCORD	S108543172	BOYETT PETROLEUM	TO HWY	94523	SLIC
CONTRA COSTA COUNTY	2009915041	HILL GRADE	HILL GRADE		ERNS
CONTRA COSTA COUNTY	2008915041	HILL GRADE	HILL GRADE		ERNS
LIVERMORE	94371626	AIRWAY BLVD AT KITTY HAWK WAY	AIRWAY BLVD	94553	ERNS
MARTINEY	94400944	SOLINR WAY/AVON REFINERY	SOLINR WAY/AVON REFINERY	94553	ERNS
MARTINEZ	S103894548	SFPP, LP MARTINEZ STATION	HWY 680 & ESCOBAR	94553	CONTRA COSTA CO. SITE LIST
MARTINEZ	93332881	AVON REFINERY/SOLANO WAY	AVON REFINERY/SOLANO WAY		ERNS
MARTINEZ	93468069	AVON WAY	AVON WAY	94553	ERNS
MARTINEZ	93326636	AVON WAY	AVON WAY	94553	ERNS
MARTINEZ	93327974	AVON WAY	AVON WAY	94553	ERNS
MARTINEZ	91466683	AVON REFINERY SOLANO WAY	AVON REFINERY SOLANO WAY	94553	ERNS
MARTINEZ	92291092	AVON REFINERY-SOLANO WAY AT WATERF	AVON REFINERY-SOLANO WAY AT WA	94553	ERNS
MARTINEZ	91217458	AVON REFINERY SOLANO WAY	AVON REFINERY SOLANO WAY		ERNS
MARTINEZ	91466265	AVON REFINERY SOLANO WAY	AVON REFINERY SOLANO WAY	94553	ERNS
MARTINEZ	91200810	AVON REFINERY SOLANO WAY	AVON REFINERY SOLANO WAY		ERNS
MARTINEZ	91216139	AVON REFINERY SOLANO WAY	AVON REFINERY SOLANO WAY		ERNS
MARTINEZ	99622465	AVON REFINERY @ 150 SOLANO WAY AND	AVON REFINERY @ 150 SOLANO WAY	94553	ERNS
MARTINEZ	S100925114	CONTRA COSTA COUNTY/EMERG RESPONSE	CONTRA COSTA COUNTY		Toxic Pits, HAZNET
MARTINEZ	1003878254	MARTINEZ CITY DUMP	1 MI E OF MARTINEZ	94553	CERC-NFRAP
MARTINEZ	1006282860	I T VINE HILL	EAST END ARTHUR ROAD	94553	FTTS, HIST FTTS, FINDS
MARTINEZ	1007443868	ACHE LANDFILL	N END OF ARTHUR RD OFF HWY 680		ODI
MARTINEZ	8873506	INT ST RT 4 SOLANO AVE & ARNOLD IN	INT ST RT 4 SOLANO AVE & ARNOL		ERNS
MARTINEZ	93346261	MARTINEZ REFINERY ON SOLANO WAY &	MARTINEZ REFINERY ON SOLANO WA	94553	ERNS
MARTINEZ	98435321	MONSANTO CHEMICAL PROPERTY / SOLAN	MONSANTO CHEMICAL PROPERTY / S		ERNS
MARTINEZ	U001597429	MARTINEZ STATION	SOUTH ON HWY 680 TO ESCOBAR EX	94553	HIST UST
MARTINEZ	S109464377	VINE HILL MEADOWS	RODRIGUES AVE	94553	NPDES
MARTINEZ	94400692	SALANO WAY AND WATERFRONT RD	SALANO WAY AND WATERFRONT RD	94553	ERNS
MARTINEZ	94406647	SALANO WAY AND WATERFRONT RD	SALANO WAY AND WATERFRONT RD	94553	ERNS
MARTINEZ	91201888	N/E SECTION OF TANK FARM ON SOLANO	N/E SECTION OF TANK FARM ON SO	94553	ERNS
MARTINEZ	1003878526	SHELL OIL CO (OLD RODEO REF)	ON SN PABLO BAY 9MI W OF	94553	CERC-NFRAP
MARTINEZ	93325873	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	94376363	SOLANO WAY/AVON REFINERY	SOLANO WAY/AVON REFINERY	94553	ERNS
MARTINEZ	93328628	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	96497721	SOLANO WAY AT TRACK 6	SOLANO WAY AT TRACK 6	94553	ERNS
MARTINEZ	93468145	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	94369053	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	93326656	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	93334913	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	94387027	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	93349320	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	93468295	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	93468071	SOLANO WAY, AVON REFINERY	SOLANO WAY, AVON REFINERY	94553	ERNS
MARTINEZ	94365410	SOLANO WAY	SOLANO WAY	94553	ERNS

Count: 82 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MARTINEZ	94359910	SOLANO WAY AT WATERFRONT RD	SOLANO WAY AT WATERFRONT RD	94553	ERNS
MARTINEZ	93346961	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	94363645	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	93342500	SOLANO WAY AT WATERFRONT ROAD	SOLANO WAY AT WATERFRONT ROAD	94553	ERNS
MARTINEZ	93338330	SOLANO WAY, 1/2 MI S OF WATERFRONT	SOLANO WAY, 1/2 MI S OF WATERF	94553	ERNS
MARTINEZ	94407519	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	91234490	SOLANO WAY AVON REFINERY	SOLANO WAY AVON REFINERY	94553	ERNS
MARTINEZ	91232206	SOLANO WAY	SOLANO WAY		ERNS
MARTINEZ	92291031	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	92275876	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	93302389	SOLANO WAY AND WATERFRONT RD	SOLANO WAY AND WATERFRONT RD	94553	ERNS
MARTINEZ	92293025	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	92296089	SOLANO WAY, TANK FARM CONCORD TOSC	SOLANO WAY, TANK FARM CONCORD	94553	ERNS
MARTINEZ	94379591	SOLANO WAY AT WATERFRONT RD	SOLANO WAY AT WATERFRONT RD	94553	ERNS
MARTINEZ	93319051	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	93342393	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	93335770	SOLANO WAY AND WATERFRONT WAY	SOLANO WAY AND WATERFRONT WAY	94553	ERNS
MARTINEZ	92297613	SOLANO WAY AT WATERFRONT ST	SOLANO WAY AT WATERFRONT ST	94553	ERNS
MARTINEZ	94369055	SOLANO WAY	SOLANO WAY	94553	ERNS
MARTINEZ	94379705	SOLANO WAY AT WATERFRONT	SOLANO WAY AT WATERFRONT	94553	ERNS
MARTINEZ	92258354	SOLANO WAY AND WATERFRONT RD	SOLANO WAY AND WATERFRONT RD	-	ERNS
MARTINEZ	2000525271	SOLANO WAY	SOLANO WAY	0	ERNS
MARTINEZ	99649611	SOLANO WAY	SOLANO WAY		ERNS
MARTINEZ	S100925063		SOLANO WAY		Toxic Pits, HIST CORTESE, CHMIRS
MARTINEZ	94406839	SOLOMONS WAY	SOLOMONS WAY	94553	ERNS
MARTINEZ	2008876673	150 SOLONO WAY	150 SOLONO WAY	94553	ERNS
MARTINEZ	96497951	SOLONO WAY AND WATERFRONT ROAD 1 M	SOLONO WAY AND WATERFRONT ROAD	94553	ERNS
MARTINEZ	92256517	TOSCO AVON REFINERY/ 1 SOLANO WAY	TOSCO AVON REFINERY/ 1 SOLANO	94553	ERNS
MARTINEZ	93323511	TOSCO REFINERY SOLANO WAY	TOSCO REFINERY SOLANO WAY	94553	ERNS
MARTINEZ	98449218	TOSCO REFINING CO 150 SOLANO WAY	TOSCO REFINING CO 150 SOLANO W	94553	ERNS
MARTINEZ	98449159	TOSCO REFINING CO 150 SOLANO WAY	TOSCO REFINING CO 150 SOLANO W	94553	ERNS
MARTINEZ	98441654	VINEHILL SITE 896 WATERBURG WAY	VINEHILL SITE 896 WATERBURG WA	94553	ERNS
MARTINEZ	91220223	#3 WATER TREATMENT PLANT SOLANO WA	#3 WATER TREATMENT PLANT SOLAN	94553	ERNS
MARTINEZ	94363305	WATERFRONT RD AT SOLANO WAY	WATERFRONT RD AT SOLANO WAY	94553	ERNS
MARTINEZ	92256577	WATERFRONT RD NR WATERBIRD WAY	WATERFRONT RD NR WATERBIRD WAY	-	ERNS
MARTINEZ	8863283	WATERFRONT RD BETWEEN SOLANO WAY A	WATERFRONT RD BETWEEN SOLANO W		ERNS
MARTINEZ	2000668406	NO WAY	NO WAY	94553	ERNS
PACHECO	1003878422	CONTRA COSTA CO SAN DIST STP	PACHECO RD-FWY680/H4	94553	CERC-NFRAP
PLEASANT HILL	S107473182	VINCENT ROAD AT MAYHEW WAY	VINCENT ROAD AT MAYHEW WAY	94523	SLIC

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: 03/31/2011
Date Data Arrived at EDR: 04/13/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 07/12/2011
Next Scheduled EDR Contact: 10/24/2011
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: 03/31/2011
Date Data Arrived at EDR: 04/13/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 07/12/2011
Next Scheduled EDR Contact: 10/24/2011
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: 03/31/2011
Date Data Arrived at EDR: 04/13/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 07/12/2011
Next Scheduled EDR Contact: 10/24/2011
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: 09/01/2011
Next Scheduled EDR Contact: 12/12/2011
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 EPAa??s 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: 07/15/2011
Next Scheduled EDR Contact: 10/24/2011
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: 09/01/2011
Next Scheduled EDR Contact: 12/12/2011
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: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
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: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
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: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
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: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
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: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
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: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
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: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
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: 04/05/2011
Date Data Arrived at EDR: 04/05/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 70

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 07/05/2011
Next Scheduled EDR Contact: 10/17/2011
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: 08/09/2011
Date Data Arrived at EDR: 08/09/2011
Date Made Active in Reports: 09/09/2011
Number of Days to Update: 31

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/15/2011
Next Scheduled EDR Contact: 11/21/2011
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: 08/09/2011
Date Data Arrived at EDR: 08/09/2011
Date Made Active in Reports: 09/09/2011
Number of Days to Update: 31

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/15/2011
Next Scheduled EDR Contact: 11/21/2011
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: 05/23/2011
Date Data Arrived at EDR: 05/24/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 22

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/24/2011
Next Scheduled EDR Contact: 12/05/2011
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: 08/09/2011
Date Data Arrived at EDR: 08/11/2011
Date Made Active in Reports: 09/12/2011
Number of Days to Update: 32

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/20/2011
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: 08/09/2011
Date Data Arrived at EDR: 08/11/2011
Date Made Active in Reports: 09/12/2011
Number of Days to Update: 32

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/20/2011
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: 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 10
Telephone: 206-553-2857
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
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: 05/05/2011
Date Data Arrived at EDR: 08/02/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 42

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/02/2011
Next Scheduled EDR Contact: 11/14/2011
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: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
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: 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: 214-665-6597
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
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: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
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: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
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: 08/02/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Varies

State and tribal registered storage tank lists

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 08/09/2011
Date Data Arrived at EDR: 08/11/2011
Date Made Active in Reports: 09/09/2011
Number of Days to Update: 29
Source: SWRCB
Telephone: 916-480-1028
Last EDR Contact: 09/20/2011
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: 07/08/2011
Next Scheduled EDR Contact: 10/24/2011
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: 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 10
Telephone: 206-553-2857
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
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: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
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: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
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: 08/02/2011
Next Scheduled EDR Contact: 11/14/2011
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: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
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: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
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: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
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: 05/05/2011
Date Data Arrived at EDR: 08/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 36

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/02/2011
Next Scheduled EDR Contact: 11/14/2011
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: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
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: 08/09/2011
Date Data Arrived at EDR: 08/09/2011
Date Made Active in Reports: 09/09/2011
Number of Days to Update: 31

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/15/2011
Next Scheduled EDR Contact: 11/21/2011
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: 05/05/2011
Date Data Arrived at EDR: 07/05/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 70

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/05/2011
Next Scheduled EDR Contact: 10/17/2011
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: 09/26/2011
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: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 06/01/2011
Date Data Arrived at EDR: 06/21/2011
Date Made Active in Reports: 07/15/2011
Number of Days to Update: 24

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: 05/24/2011
Date Data Arrived at EDR: 05/24/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 22

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/05/2011
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: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
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: 04/08/2011
Date Data Arrived at EDR: 06/16/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 89

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 09/07/2011
Next Scheduled EDR Contact: 12/19/2011
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: 08/09/2011
Date Data Arrived at EDR: 08/09/2011
Date Made Active in Reports: 09/09/2011
Number of Days to Update: 31

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/15/2011
Next Scheduled EDR Contact: 11/21/2011
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: 08/08/2011
Next Scheduled EDR Contact: 10/17/2011
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: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
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: 05/05/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 125
Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 08/12/2011
Next Scheduled EDR Contact: 11/14/2011
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: 07/11/2011
Next Scheduled EDR Contact: 09/05/2011
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: 06/28/2011
Date Data Arrived at EDR: 06/29/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 9
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
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: 06/13/2011
Date Data Arrived at EDR: 06/14/2011
Date Made Active in Reports: 07/15/2011
Number of Days to Update: 31

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/13/2011
Next Scheduled EDR Contact: 12/26/2011
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: 04/05/2011
Date Data Arrived at EDR: 04/05/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 161

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 07/05/2011
Next Scheduled EDR Contact: 10/17/2011
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: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
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: 08/09/2011
Date Data Arrived at EDR: 08/11/2011
Date Made Active in Reports: 09/12/2011
Number of Days to Update: 32

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/20/2011
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: 08/09/2011
Date Data Arrived at EDR: 08/11/2011
Date Made Active in Reports: 09/12/2011
Number of Days to Update: 32

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/20/2011
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: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
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: 01/12/2011
Date Data Arrived at EDR: 02/11/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/09/2011
Next Scheduled EDR Contact: 11/21/2011
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: 07/22/2011
Next Scheduled EDR Contact: 10/31/2011
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: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
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: 12/31/2010
Date Data Arrived at EDR: 04/05/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 70

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
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: 05/31/2011
Date Data Arrived at EDR: 06/15/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 90

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/14/2011
Next Scheduled EDR Contact: 12/26/2011
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: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
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: 05/06/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/08/2011
Next Scheduled EDR Contact: 12/19/2011
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: 09/01/2011
Next Scheduled EDR Contact: 12/12/2011
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: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
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: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
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: 08/18/2011
Next Scheduled EDR Contact: 11/14/2011
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: 07/22/2011
Next Scheduled EDR Contact: 10/31/2011
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: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
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: 07/12/2011
Next Scheduled EDR Contact: 10/24/2011
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: 09/13/2011
Next Scheduled EDR Contact: 12/26/2011
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: 09/01/2011
Next Scheduled EDR Contact: 12/12/2011
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: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Quarterly

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/24/2011
Date Data Arrived at EDR: 05/24/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/24/2011
Next Scheduled EDR Contact: 12/05/2011
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: 07/01/2011
Date Data Arrived at EDR: 07/01/2011
Date Made Active in Reports: 07/15/2011
Number of Days to Update: 14

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
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: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
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: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
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: 07/19/2011
Next Scheduled EDR Contact: 10/31/2011
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: 06/30/2011
Next Scheduled EDR Contact: 10/10/2011
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: 07/22/2011
Next Scheduled EDR Contact: 10/31/2011
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: 07/15/2011
Next Scheduled EDR Contact: 11/07/2011
Data Release Frequency: Varies

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 06/01/2011
Date Data Arrived at EDR: 06/21/2011
Date Made Active in Reports: 07/15/2011
Number of Days to Update: 24
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: 06/09/2011
Date Data Arrived at EDR: 06/16/2011
Date Made Active in Reports: 07/15/2011
Number of Days to Update: 29
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
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: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
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: 09/16/2011
Next Scheduled EDR Contact: 12/26/2011
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: 07/18/2011
Date Data Arrived at EDR: 07/19/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 23
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/19/2011
Next Scheduled EDR Contact: 10/31/2011
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: 09/01/2011
Next Scheduled EDR Contact: 12/12/2011
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: 03/15/2011
Date Data Arrived at EDR: 03/16/2011
Date Made Active in Reports: 04/26/2011
Number of Days to Update: 41

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 09/14/2011
Next Scheduled EDR Contact: 12/05/2011
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: 08/05/2011
Next Scheduled EDR Contact: 11/14/2011
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: 07/22/2011
Next Scheduled EDR Contact: 10/31/2011
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: 08/05/2011
Next Scheduled EDR Contact: 11/14/2011
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

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 07/21/2011
Date Data Arrived at EDR: 07/21/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 21

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Semi-Annually

Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 07/21/2011
Date Data Arrived at EDR: 07/21/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 21

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Semi-Annually

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 03/29/2011
Date Data Arrived at EDR: 04/20/2011
Date Made Active in Reports: 05/17/2011
Number of Days to Update: 27

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Varies

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 12/01/2010
Date Data Arrived at EDR: 04/20/2011
Date Made Active in Reports: 05/17/2011
Number of Days to Update: 27

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/30/2011
Date Data Arrived at EDR: 08/31/2011
Date Made Active in Reports: 09/19/2011
Number of Days to Update: 19

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 08/09/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Semi-Annually

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 03/28/2011
Date Data Arrived at EDR: 05/13/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 33

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 08/22/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 07/18/2011
Date Data Arrived at EDR: 07/19/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 23

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/08/2011
Date Data Arrived at EDR: 03/03/2011
Date Made Active in Reports: 03/24/2011
Number of Days to Update: 21

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 09/27/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/13/2011
Date Data Arrived at EDR: 06/14/2011
Date Made Active in Reports: 07/19/2011
Number of Days to Update: 35

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

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: 09/13/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county?s Certified Unified Program Agency database. California?s Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 06/09/2011
Date Data Arrived at EDR: 06/09/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 29

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
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: 03/31/2011
Date Data Arrived at EDR: 06/09/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 6

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/25/2011
Date Data Arrived at EDR: 07/27/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 15

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/27/2011
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: 08/23/2011
Next Scheduled EDR Contact: 12/05/2011
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: 07/22/2011
Next Scheduled EDR Contact: 11/07/2011
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: 07/25/2011
Next Scheduled EDR Contact: 11/07/2011
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: 05/02/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 07/18/2011
Date Data Arrived at EDR: 07/21/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 21

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county?s Certified Unified Program Agency database. California?s Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 06/07/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 30

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 07/15/2011
Date Data Arrived at EDR: 07/25/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 17

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 07/11/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 06/06/2011
Date Data Arrived at EDR: 06/06/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 9

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 07/07/2011
Date Data Arrived at EDR: 07/08/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 34

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 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: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
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: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/22/2011
Date Data Arrived at EDR: 08/23/2011
Date Made Active in Reports: 09/19/2011
Number of Days to Update: 27

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 08/22/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 08/01/2011
Date Data Arrived at EDR: 08/23/2011
Date Made Active in Reports: 09/19/2011
Number of Days to Update: 27

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/17/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/05/2011
Date Data Arrived at EDR: 05/20/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 26
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/17/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 08/01/2011
Date Data Arrived at EDR: 08/23/2011
Date Made Active in Reports: 09/16/2011
Number of Days to Update: 24
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/17/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/20/2011
Date Data Arrived at EDR: 06/21/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 17
Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
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: 07/14/2011
Date Data Arrived at EDR: 07/22/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 20
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: 07/20/2011
Date Data Arrived at EDR: 07/22/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 20
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: 05/02/2011
Date Data Arrived at EDR: 07/19/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 23
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/08/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/02/2011
Date Data Arrived at EDR: 07/19/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 23

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/08/2011
Next Scheduled EDR Contact: 10/24/2011
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: 08/26/2011
Date Data Arrived at EDR: 08/31/2011
Date Made Active in Reports: 09/19/2011
Number of Days to Update: 19

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
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: 09/16/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2010
Date Data Arrived at EDR: 11/16/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 70

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
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: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
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: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
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: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
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: 06/27/2011
Date Data Arrived at EDR: 06/29/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 9
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 LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 05/31/2011
Date Data Arrived at EDR: 05/31/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 38
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 07/13/2011
Date Data Arrived at EDR: 07/15/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 27
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/12/2012
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 06/20/2011
Date Data Arrived at EDR: 06/21/2011
Date Made Active in Reports: 07/15/2011
Number of Days to Update: 24
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 11/22/2010
Date Data Arrived at EDR: 03/03/2011
Date Made Active in Reports: 03/24/2011
Number of Days to Update: 21

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

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: 07/20/2011
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 Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 08/31/2009
Date Data Arrived at EDR: 08/31/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 18

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 08/31/2011
Date Data Arrived at EDR: 08/31/2011
Date Made Active in Reports: 09/09/2011
Number of Days to Update: 9

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 08/31/2011
Date Data Arrived at EDR: 08/31/2011
Date Made Active in Reports: 09/19/2011
Number of Days to Update: 19

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/09/2011
Date Data Arrived at EDR: 06/29/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 9
Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 06/09/2011
Date Data Arrived at EDR: 07/01/2011
Date Made Active in Reports: 07/13/2011
Number of Days to Update: 12
Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
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: 07/05/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 06/13/2011
Date Data Arrived at EDR: 06/14/2011
Date Made Active in Reports: 07/13/2011
Number of Days to Update: 29
Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
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: 07/26/2011
Date Data Arrived at EDR: 08/26/2011
Date Made Active in Reports: 09/19/2011
Number of Days to Update: 24
Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/23/2011
Next Scheduled EDR Contact: 12/05/2011
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: 04/01/2011
Date Data Arrived at EDR: 04/07/2011
Date Made Active in Reports: 05/12/2011
Number of Days to Update: 35
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/22/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/23/2011
Next Scheduled EDR Contact: 12/05/2011
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: 07/26/2011
Date Data Arrived at EDR: 08/08/2011
Date Made Active in Reports: 09/09/2011
Number of Days to Update: 32

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
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: 05/25/2011
Date Data Arrived at EDR: 06/21/2011
Date Made Active in Reports: 07/13/2011
Number of Days to Update: 22

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: 08/15/2011
Date Data Arrived at EDR: 08/23/2011
Date Made Active in Reports: 09/16/2011
Number of Days to Update: 24

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 08/23/2011
Date Data Arrived at EDR: 08/26/2011
Date Made Active in Reports: 09/19/2011
Number of Days to Update: 24

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 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: 08/26/2011
Next Scheduled EDR Contact: 12/05/2011
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: 07/20/2011
Next Scheduled EDR Contact: 10/31/2011
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: 08/09/2011
Next Scheduled EDR Contact: 11/21/2011
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: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
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

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APPENDIX C

HISTORICAL SOURCES

AERIAL PHOTOGRAPH

451 Vine Hill Way, Martinez, California 94553

N

Approximate Property Boundary

Year: 1939

Project Number: 301027

AEI Consultants

AERIAL PHOTOGRAPH

451 Vine Hill Way, Martinez, California 94553

N

Approximate Property Boundary

Year: 1946

Project Number: 301027

AEI Consultants

AERIAL PHOTOGRAPH

451 Vine Hill Way, Martinez, California 94553

N

Approximate Property Boundary

Year: 1959

Project Number: 301027

AEI Consultants

AERIAL PHOTOGRAPH

451 Vine Hill Way, Martinez, California 94553

N

Approximate Property Boundary

Year: 1965

Project Number: 301027

AEI Consultants

AERIAL PHOTOGRAPH

451 Vine Hill Way, Martinez, California 94553

N

Approximate Property Boundary

Year: 1975

Project Number: 301027

AEI Consultants

AERIAL PHOTOGRAPH

451 Vine Hill Way, Martinez, California 94553

N

Approximate Property Boundary

Year: 1982

Project Number: 301027

AEI Consultants

AERIAL PHOTOGRAPH

451 Vine Hill Way, Martinez, California 94553

N

Approximate Property Boundary

Year: 1993

Project Number: 301027

AEI Consultants

AERIAL PHOTOGRAPH

451 Vine Hill Way, Martinez, California 94553

N

Approximate Property Boundary

Year: 2006

Project Number: 301027

AEI Consultants

451 Vine Hill Way
451 Vine Hill Way
Martinez, CA 94553

Inquiry Number: 3174321.3
September 27, 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

9/27/11

Site Name:
451 Vine Hill Way
451 Vine Hill Way
Martinez, CA 94553

EDR Inquiry # 3174321.3

Client Name:
AEI Consultants
2500 Camino Diablo
Walnut Creek, CA 94597

Contact: Karina Garcia

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 AEI Consultants 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: 451 Vine Hill Way
Address: 451 Vine Hill Way
City, State, Zip: Martinez, CA 94553
Cross Street:
P.O. # 9771
Project: 301027
Certification # AEF7-45B4-BE9E

Sanborn® Library search results
Certification # AEF7-45B4-BE9E

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

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APPENDIX D

REGULATORY AGENCY RECORDS

CONTRA COSTA COUNTY CONSOLIDATED FIRE DISTRICT

FIRE PREVENTION BUREAU

REFERRAL STATEMENT

DATE 8-21-70 STATION 13

ADDRESS 951 Vine Hill Way Martinez

OCCUPANCY Prod. Shop & Restrms.

REMARKS 500 gal. Gas TANK above ground.
IS going to remove tank - use
55 gal drum w/ Suction type dispenser
They will call when complete
by: 9-15-70

F-650
1/68 21

INSPECTOR CB Inv. CC

AEI Consultants
Environmental & Engineering Services
2500 Camino Diablo, Walnut Creek, CA 94597
Tel: 925.746.6000 Fax: 925.746.6099

September 27, 2011

Ms. JoAnn West
Contra Costa County Fire Protection District
2010 Geary Road
Pleasant Hill, CA 94523
(925) 941-3673
(925) 941-3309 FAX

Subject: File Review Request
AEI Project No. 301027

Dear Ms. West:

Please indicate if you have any current or archived records pertaining to aboveground storage tanks (ASTs), underground storage tanks (USTs), hazardous materials storage/disposal and/or industrial waste discharges for the following site(s):

- 451 Vine Hill Way, Martinez, CA 94553 (APN: 162-020-019)

If you do not have any records, please indicate in the space below and fax back this sheet to (925) 746-6099, call me at (925) 746-6047, or email me at jregnier@aeiconsultants.com if you have any questions.

Sincerely,

Jesse Regnier
Project Manager

☐ No Files for address(es) listed above
Name: _____
Title: _____
Phone: _____

X_____ _____
Signature Date

AEI Consultants
Environmental & Engineering Services
2500 Camino Diablo, Walnut Creek, CA 94597
Tel: 925.746.6000 Fax: 925.746.6099

September 27, 2011

Ms. Alex McMullen
Contra Costa County Hazardous Materials Program
4585 Pacheco Boulevard, Suite 100
Martinez, CA 94553
(925) 335-3200
(925) 646-2073 FAX

Subject: File Review Request
Project Numbers: 301027

Dear Alex:

AEI has been contracted to perform a Phase I Environmental Site Assessment. Please indicate if you have any current records for 2011 pertaining to aboveground storage tanks (ASTs), underground storage tanks (USTs), hazardous materials storage/disposal, industrial waste discharges and/or spills/releases for the following site:

- 451 Vine Hill Way, Martinez, CA 94553 (APN: 162-020-019)

If you do not have any records, please indicate in the space below and fax back this sheet to (925) 746-6099, call me at (925) 746-6047, or email me at jregnier@aeiconsultants.com if you have any questions.

Sincerely,

Jesse Regnier
Project Manager

☐ No Files for address(es) listed above
Name: _____
Title: _____
Phone: _____

X_____ _____
Signature Date

AEI Consultants
Environmental & Engineering Services
2500 Camino Diablo, Walnut Creek, CA 94597
Tel: 925.746.6000 Fax: 925.746.6099

September 27, 2011

Martinez Building Division
525 Henrietta Street
Martinez, California 94553
925.372.3550
925.372.0257 FAX

Subject: Freedom of Information Act (FOIA) Request/File Review Request
AEI Project No. 301027

To Whom It May Concern:

AEI has been contracted to perform a Phase I Environmental Site Assessment. Please accept this records request to view all plans and permits for the following addresses:

- 451 Vine Hill Way, Martinez

I understand I will need to come into review any permits you may have. Please call me at (925) 746-6047 or email me at jregnier@aeiconsultants.com regarding whether or not you have any records for the above listed addresses.

Sincerely,

Jesse Regnier
Project Manager

APPENDIX E

ASTM USER QUESTIONNAIRE

AEI Consultants
Environmental & Engineering Services

ASTM E 1527-05 User Questionnaire

In order to qualify for the protection offered under the EPA All Appropriate Inquiry (AAI) Standard, the **User** (entities seeking to use the ASTM E1527-05 Practice to complete an environmental site assessment of the property; i.e. Lenders and/or Borrowers) must provide the following information (if available) to the environmental professional. Failure to provide this information could result in a determination that AAI is not complete. This information should be the collective knowledge of the entities relying on the Phase I. **Please note that you are not being asked to evaluate the property, but rather to provide your knowledge of information on the property.**

Site Name/Address: 451 Vine Hill Way, Martinez CA 94553

Person Interviewed/Title: Derek Pampe - Director of Land Acquisition Date: 10/6/11

If known, when was the property initially developed? Approx 1960's and 1970's

If different, when were the current building(s) on the property constructed? 1970

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? (**Note:** If unknown, a review of title records or an environmental lien search is recommended)

Yes ☐ No ☑ If you answer yes, please include an explanation in the space provided below:

2. Activity and land use limitations 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?

Engineering Controls are defined as physical modifications to a site or facility to reduce or eliminate the potential for exposure to hazardous substances or petroleum products in the soil or ground water on the property). *Institutional Controls* are defined as a legal or administrative restriction on the use of, or access to, a site or facility to 1) reduce or eliminate the potential for exposure to hazardous substances or petroleum products in the soil or ground water on the property, or 2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment.

Yes ☐ No ☑ If you answer yes, please include an explanation in the space provided below:

3. Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).

As the *User* of this *ESA* do you have any specialized knowledge or experience related to 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 you answer yes, please include an explanation in the space provided below:

4. Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).

a) Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*?

Yes☑ No☐ If you answer no, please include an explanation in the space provided below, including whether the lower purchase price is because contamination is known or believed to be present at the *property*?

5. Commonly known or *reasonably 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 you answered yes to any of the questions above, please include an explanation in the space provided below:

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 you answer yes, please include an explanation in the space provided below:

Please provide the following property contact information:

Property Owner: Christine Dean Phone Number: 925-200-2255

Key Site Personnel: _____ Phone Number: _____

Past Owner: _____ Phone Number: _____

Signature: _____ Date: 10/6/11

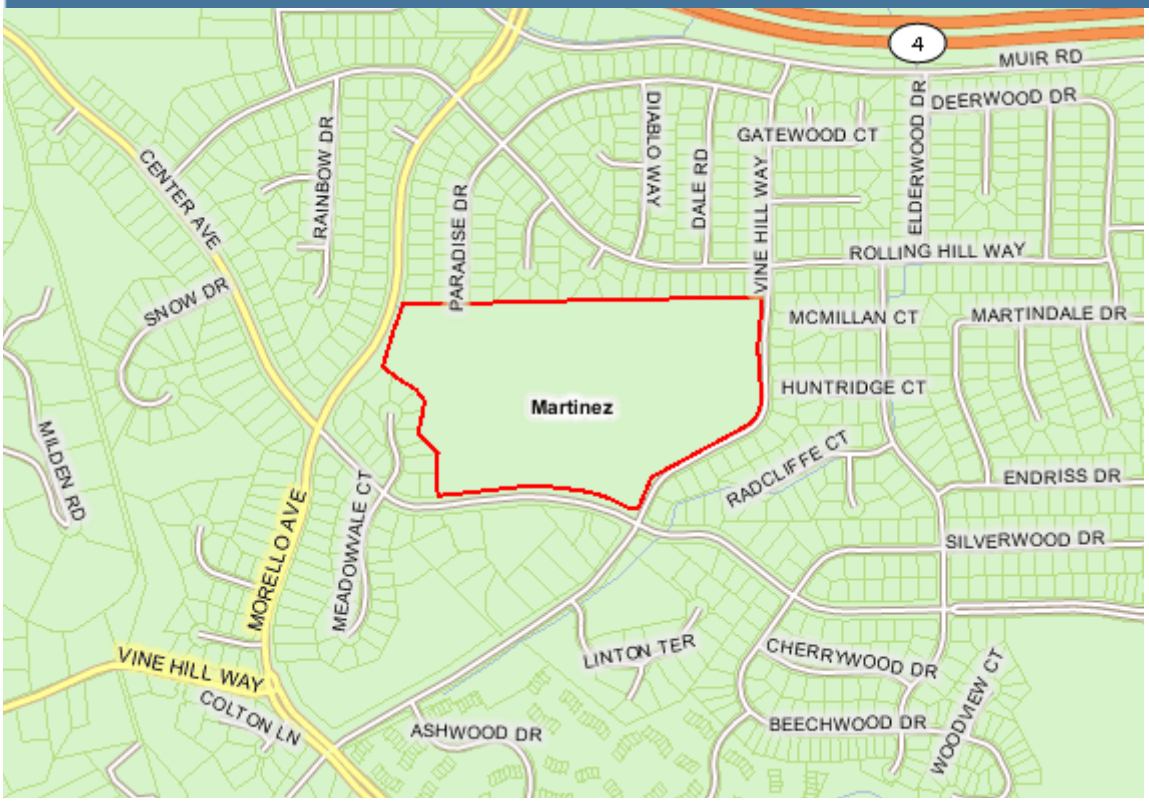
APPENDIX F

OTHER SUPPORTING DOCUMENTATION

Contra Costa County

California Mapping Information Center

Map



Details

Parcel Details

APN	162020019
Site Street Name	VINE HILL
Site Street Suffix	WAY
Site City	MARTINEZ
Site Zip Code	94553
Supervisor District	2
Site Description	POR RO LAS JUNTAS
Existing Land Use	golf course
Existing Land Use Category	Commercial
Assessed Land Value	153,084
Assessed Improvement Value	57,396
Personal Property	0
Property Statement Improvements	0
Lot Size	1,128,204
Deed Reference	11011 669
Transfer Date	1/18/2011
Public Sale Price	0
Total Assessed Value	210,480

Tax Rate Area Information

Tax Rate Area	05007
TRA Region	Martinez
TRA Description	COUNTYWIDE TAX,CC WTR LEVY LAND,BART,EAST BAY REGNL PK,MT DIABLO 2002 BND,COMM COLL 2002 BND

Parcel Exemption Information

No results returned

Building Information

Year Built	0
Total Living Area	273
Pool	N
Year Built	0
Total Living Area	2,361
Pool	N

Notification Address Information

Owner Address	231 WINHAM ST
Owner City and State	SALINAS CA
Owner Zip Code	93901

Map Legend

AEI Consultants

Environmental & Engineering Services

PHASE I ESA PRE-SITE INSPECTION QUESTIONNAIRE

Project Manager: Jesse Regnier — Project No: 301027

PROJECT/SITE INFORMATION

Client Name: DeNova Homes

Project Street Address(es): 451 Vine Hill Way

City: Martinez — County: Contra Costa — State: CA — Zip: 94553

CONTACT INFORMATION

Contact	*Name*	*Telephone Number*	*Years Associated w/Site*
Owner:	Christine Dean	925-200-2255	30+
Site Contact:	Derek Pampe	925-852-0553	2
Key Site Mgr:			
Previous Owner(s):			

PROPERTY USE AND SPECIFICATIONS

☐ Single-Family Residential	☐ Vacant or undeveloped
☐ Multi-Family Residential	☐ Agricultural *specify type*:
☐ Commercial Office	☐ Industrial *specify type*:
☐ Commercial Retail	☒ Other *specify type*: Golf Course

Provide a general site description:

Existing use is a golf course and pro shop.

Total Property Size: 25.9 ac	Original Construction Date: 1970
Total Number of Buildings: 1	Was Construction Phased? ☐ Yes ☐ No ☒ Unk
Total Sq. Ft. of Buildings:2634	Dates of Renovations/Phases:

Are there any bodies of water on or immediately adjacent to the site? ☐ Yes ☒ No If yes, please describe:

Potable Water Source: CCWD	Electricity: PGE	Gas:PGE

Any waste water discharge at the site? ☐ Septic Tank/Leachfield ☐ Sanitary Sewer ☐ Other

OCCUPANTS/TENANTS

Current Occupant(s)/Tenant(s)	*Length of occupancy*	*Brief description of on-site operations*

Please fax completed questionnaire to: (###) ###-####

Previous Occupant(s)/Tenant(s)	*Length of occupancy*	*Brief description of on-site operations*

Has the subject site ever been occupied by the following:
☐ Dry Cleaner ☐ Gas Station ☐ Printing Facility ☐ Manufacturing Facility
If yes, provide length of occupancy:

Have any previous investigations been performed at the subject property? ☐ Yes ☒ No If Yes, are copies available?

If Yes, note type and describe: ☐ Phase I ESA ☐ Phase II ☐ Asbestos ☐ Lead Paint ☐ Radon

ON-SITE ENVIRONMENTAL CONDITIONS

Are you aware of any of the following environmental conditions, either current or former, on the subject site?
NOTE: If applicable, please provide inventory records, inspection records and material safety data sheets to site inspector during site inspection.

Environmental Condition/Issue	*Response*	*Notes on Yes Responses*
Aboveground Storage Tanks	☐ Yes ☒ No	
Underground Storage Tanks	☐ Yes ☒ No	
Hazardous/Toxic Substances	☐ Yes ☒ No	
Stored Chemicals	☐ Yes ☒ No	
Chemical Spills/Releases	☐ Yes ☒ No	
Dump Areas/Landfills	☐ Yes ☒ No	
Waste Treatment Systems	☐ Yes ☒ No	
Wastewater Discharges	☐ Yes ☒ No	
Floor Drains/Sumps/Clarifiers	☐ Yes ☒ No	

Please fax completed questionnaire to: (###) ###-####

AEI Consultants

Environmental & Engineering Services

Are you aware of any of the following environmental conditions, either current or former, on the subject site?		
Environmental Condition/Issue	*Response*	*Notes on Yes Responses*
Pits, Ponds, Lagoons	☒ Yes ☐ No	Temporary, Man Made Irrigation water storage area
Stained Soil/Vegetation	☐ Yes ☒ No	
Pesticide/Herbicide Use	☒ Yes ☐ No	Potential use exists given Golf Course operations
Polychlorinated Biphenyls (PCBs)	☐ Yes ☒ No	
Electrical Transformers	☐ Yes ☒ No	
Hydraulic Lifts	☐ Yes ☒ No	
Elevators	☐ Yes ☒ No	
Asbestos	☐ Yes ☒ No	
Lead-based paint	☐ Yes ☒ No	
Oil/Gas Wells	☐ Yes ☒ No	
Environmental Clean-ups	☐ Yes ☒ No	
Environmental Permits	☐ Yes ☒ No	

OTHER ENVIRONMENTAL CONDITIONS

Are you aware of any environmental liens recorded against the property? ☐ Yes ☒ No

Are you aware of any pending, past or threatened litigation related to hazardous substances or petroleum products releases at the property? ☐ Yes ☒ No

Are you aware of any cases of extreme water damage or mold throughout the building(s)? ☐ Yes ☒ No
If yes, provide brief explanation.

Person Completing Questionnaire:
Derek Pampe

Title/Affiliation to the subject property:
Director of Land Acquistion/Buyer

Number of Years Associated with the subject property: 2

Date: 10/6/11

Please fax completed questionnaire to: (###) ###-####

APPENDIX G

QUALIFICATIONS

Jesse Regnier – Project Manager

B.S. -- Environmental Sciences and Environmental Design, University of Massachusetts, Amherst

OSHA 40-Hour Hazardous Waste Worker Training

Mr. Regnier provides project management to ensure ASTM compliance and satisfaction of client requirements for Phase I Environmental Site Assessments, Environmental Transaction Screens, Environmental Traction Analyses, Regulatory Database Reviews, and Historical Records Reviews.

Project experience for Mr. Regnier includes:

- Phase I Environmental Site Assessments
- Environmental Transaction Screens
- Environmental Transaction Analyses
- Site Surveys
- Regulatory Database Reviews
- Historical Records Reviews

In addition, prior to joining the environmental service industry, Mr. Regnier spent four years studying a broad range of environmental disciplines, including: urban and environmental planning; environmental law and policy; climatology, environmental science and chemistry, and forest fire ecology.

Steve G. Kovach, REA - Due Diligence Manager, Northern California Region

B.A. - Botany, Miami University (Ohio)
Minor – Conservation and the Environment

California Registered Environmental Assessor (REA Class I 08274)
Certified OSHA 40-Hour Hazardous Waste Operations and Emergency Response

Mr. Kovach has spent over nine years working in a broad range of environmental and engineering disciplines including: engineering and environmental due diligence services, industrial air, water, and wastewater permit compliance and monitoring, hazardous waste management and disposal, electrical utilities projects, environmental engineering projects, and wetland ecology research. Mr. Kovach has worked closely with regulatory agencies including the US Environmental Protection Agency, Department of Toxic Substance Control, California Water Resources Control Board, California Integrated Waste Management Board, Bay Area Air Quality Management District, East Bay Municipal Utilities District, and the US Department of Energy.

Currently, Mr. Kovach is the Due Diligence Manager, Northern California Region for AEI, specializing in environmental due diligence services. As a senior member of AEI, Mr. Kovach provides staff supervision and senior review expertise to ensure ASTM compliance and satisfaction of client requirements for environmental assessments. AEI's review process provides for customization of reports to client needs, as well as strict conformance to ASTM standards. Additionally, Mr. Kovach provides senior project management to ensure ASTM compliance and satisfaction of client requirements for Phase I Environmental Site Assessments, Transaction Screens, and other related environmental assessments performed throughout California, Arizona, Nevada, Oregon, and Washington.

Appendix I

Phase II Soils Investigation

December 5, 2011

SOIL INVESTIGATION REPORT

Property Identification:
Pine Meadows Golf Course
451 Vine Hill Way
Martinez, CA 94553

AEI Project No. 301027

Prepared for:
Mr. Derek Pampe
DeNova Homes
1500 Willow Pass Court
Concord, California 94520

Prepared by:
AEI Consultants
2500 Camino Diablo
Walnut Creek, CA 94597
(925) 746-6000

San Francisco HQ
Atlanta
Chicago
Costa Mesa
Dallas
Denver
Los Angeles
Miami
New York
Phoenix
Portland
San Jose

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FIGURE 2 *SITE PLAN*
FIGURE 3 *SAMPLING LOCATIONS AEI-21 THROUGH AEI-24*

TABLES

TABLE 1 *SOIL SAMPLE ANALYTICAL RESULTS*

APPENDICES

APPENDIX A *LABORATORY ANALYTICAL RESULTS WITH CHAIN OF CUSTODY DOCUMENTATION*

AEI Consultants
Environmental & Engineering Services
2500 Camino Diablo, Walnut Creek, CA 94597
Tel: 925.746.6000 Fax: 925.746.6099

December 5, 2011

Mr. Derek Pampe
DeNova Homes
1500 Willow Pass Court
Concord, California 94520

Subject: **Soil Investigation**
Pine Meadows Golf Course
451 Vine Hill Way
Martinez, California 94553
AEI Project No. 301027

Dear Mr. Pampe:

INTRODUCTION

This report describes the activities and results of the Soil Investigation performed by AEI Consultants at the above referenced property (Figure 1: Site Location Map). AEI was requested to assess whether shallow soils of the property had been impacted by onsite storage of petroleum hydrocarbons and the historical applications of pesticides associated with prior agricultural / orchard use of the land and of the gold course since the early 1970s. AEI understands that the site is being considered for residential redevelopment.

SITE DESCRIPTION AND HISTORY

The subject property, which consists of a golf course, pro shop and restaurant, is located on the southwest corner of the intersection between Vine Hill Way and Rolling Hill Way in a residential area of Martinez, California. The property totals approximately 25.9 acres and is improved with a single-story building totaling approximately 2,634 square feet. The subject property is currently occupied by Pine Meadow's Golf Course. On-site operations include golfing, golf course maintenance, retail, and food service activities. In addition to the subject property building, the property is improved with several storage units and maintenance sheds, a pond, asphalt-paved parking areas and associated landscaping.

AEI performed a Phase I Environmental Site Assessment (ESA) for the site, detailed in a report dated October 14, 2011. The ESA identified the following Recognized Environmental Condition (REC). The site has been used as a golf course since 1970 and prior to that as agricultural land/orchard since at least 1939. The use of the properties as a golf course typically involves the application, storage, and mixing of pesticides and herbicides. A pesticide and fertilizer storage shed was observed adjacent to the maintenance building. The chemicals within the storage shed are reportedly utilized to service the golf greens/fairways located on the subject property. Based on the duration of use as a golf course and the tendency of these constituents

to remain in near surface soils, the application and storage of pesticides and herbicides at the subject property may have impacted the subject property.

In addition, a storage shed housing petroleum product (gasoline, diesel, and motor oil) associated with property use was observed approximately 45 feet southwest of the pesticide and fertilizer storage shed during the course of the Phase I ESA.

AEI was requested by the client to assess whether shallow soils of the property had been impacted by onsite storage of petroleum hydrocarbons and the historical applications of pesticides associated with prior agricultural / orchard use of the land and of the gold course since the early 1970s.

INVESTIGATION ACTIVITIES

AEI performed the sampling activities at the site on November 14, 2011. Prior to sampling, the property was divided into a grid pattern with twenty (20) cells of approximately equal size. Twenty (20) shallow soil samples were collected throughout the property; one (1) from each grid cell (AEI-1 through AEI-20). Due to the possible difference in pesticide use within the putting green areas, four (4) additional shallow soil samples were collected from four randomly selected green areas (AEI-A through AEI-D). Two (2) shallow soil samples were collected immediately adjacent to the petroleum hydrocarbon storage shed (AEI-21 and AEI-22). Two (2) shallow soil samples were collected immediately adjacent to the pesticide and fertilizer storage shed (AEI-23 and AEI-24). In addition, one (1) sludge sample was collected from a northwestern near-shore location from the pond (SLUDGE-A). A total of twenty nine (29) discrete shallow soil samples were collected during the course of the investigation.

Refer to Figures 2 and 3 for the sampling locations.

Shallow Soil Sample Collection

In each location, a small pit was dug to approximately 6 inches below ground surface (bgs) using a shovel. The samples were then collected into 6 inch by 2 inch brass liner driven into the soil with a wooden mallet. The soil samples were immediately sealed with Teflon tape and plastic caps, labeled, and placed in a cooler with ice to await transportation to the laboratory.

The sludge sample from the pond was collected using an AMS multi-stage sludge sampler and collected from the surface of the sludge/water interface to a depth of approximately 6-inches within the sludge.

Following sample collection, each sampling location was backfilled with soil cuttings and the sampling coordinates logged with a Garmin® Global Positioning System (GPS) device.

Laboratory Analysis

The soil samples were transported on November 15, 2011 to McCampbell Analytical Inc. (Department of Health Services Certification #1644) of Pittsburgh, California for analysis under chain of custody.

The discrete soil samples collected from throughout the golf course and putting green areas were combined in the laboratory to form six (6) 4-point composite samples. A total of six (6) 4-point composite, two (2) discrete soil samples, and one (1) sludge sample were analyzed for organochlorine pesticides (8080 target list) low-level by EPA Method SW8081A and metals arsenic, total chromium, and lead by EPA Method SW6020. Two (2) soil samples were analyzed for Herbicides by EPA Method SW8151A. Two (2) soil samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline (TPH-g), diesel (TPH-d), and motor oil (TPH-mo) by EPA Method 8015B. Silica gel cleanup was performed on all diesel and motor oil analyses.

Analytical reports and chain of custody documents are included as Appendix A.

FINDINGS AND RESULTS

Shallow soil encountered in the sampling locations typically consisted of brown sandy/silty loam. Shallow soil in the putting green areas contained a higher percentage of medium to coarse grained sand. No apparent chemical odors or staining were observed during the collection of the shallow soil samples.

Soil Sample Analytical Results

Aldrin was detected in one discrete sample at a concentration of 0.00015 milligrams per kilogram (mg/kg). A-chlordane and g-chlordane were detected in the sludge sample at 0.0045 and 0.0031 mg/kg, respectively. Dichlorodiphenyltrichloroethane (DDT) was detected in one composite sample at 0.0047 mg/kg. Dieldrin was detected in the same composite sample at 0.0015 mg/kg. Endosulfan II was detected in one composite sample at 0.00055 mg/kg. No other target pesticides were detected at or exceeding laboratory reporting limits in the samples analyzed. Herbicides were not detected at or exceeding laboratory reporting limits in the two samples analyzed.

TPH-g was detected in one sample at 5.4 mg/kg. TPH-d and TPH-mo were detected in two samples at maximums of 380 mg/kg and 1,100 mg/kg, respectively.

Metals arsenic, total chromium, and lead were detected at concentrations representative of naturally-occurring background conditions[1].

Soil sample analytical data is presented in Table 1.

SUMMARY AND CONCLUSIONS

The investigation included the collection and analyses of shallow soil samples from twenty-nine (29) locations throughout the property. AEI was requested to assess whether shallow soils of the property had been impacted by onsite storage of petroleum hydrocarbons and the historical applications of pesticides associated with prior agricultural / orchard use of the land and of the gold course since the early 1970s.

---

[1] *Protocol for Determining Background Concentrations of Metals in Soil at Lawrence Berkeley National Laboratory (LBNL),* University of California for the U.S. Department of Energy, August 1995

Relatively low, trace concentrations of the pesticides DDT, dieldrin, and endosulfan II were detected in the composite samples from the golf course and putting green areas. Aldrin was detected at a low concentration in a sampling location advanced immediately adjacent to the pesticide and fertilizer shed. Low concentrations of a-chlordane and g-chlordane were detected in the sludge sample collected from the pond. No other pesticides were detected exceeding laboratory reporting limits in the composite or discrete samples analyzed. Herbicides were not detected in the two sampling locations adjacent to the pesticide and fertilizer shed. Arsenic, total chromium, and lead were detected in the samples analyzed at concentrations representative of naturally-occurring background conditions[1]. However, significant concentrations of heavy-range petroleum hydrocarbons were detected in shallow soil adjacent to the petroleum hydrocarbon storage shed.

For comparison, sample analytical data was compared to the San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs[2]) and Cal-EPA Human Health Screening Levels (CHHSLs[3]) in Table 1. The ESLs selected for comparison were the default residential ESL and CHHSL screening values, as well as the ESL value for residential land use considering a direct exposure pathway. Residential ESLs are primarily calculated assuming 30-year residential exposure via incidental ingestion, dermal contact, and inhalation of airborne chemical constituents from affective soil media. The ESL direct exposure value presented in Table 1 considers residential and construction worker exposure scenarios and is the lowest direct exposure value (target carcinogenic risk of 1 x 10^-6 and a hazard quotient of 0.2). None of the pesticide detections in the composite/discrete soil samples or sludge within the pond exceed applicable ESLs or the CHHSLs. Motor oil detected in the borings adjacent to the petroleum hydrocarbon storage shed exceeds both the default and direct exposure ESLs. Diesel detected in one sample adjacent to the petroleum hydrocarbon storage shed, AEI-22-0.5', exceeds both the default and direct exposure ESLs. Although arsenic exceeds the default ESLs and CHHSLs, based on AEI's experience, the observed detections are consistent with naturally-occurring background concentrations commonly observed in the Bay Area and not indicative of an anthropogenic source.

Based on the findings of the investigation, no indication of a significant release of pesticides, herbicides, or metals was identified on the property. No further investigation relating to the current or previous use or storage of pesticides and herbicides on the property is recommended at this time. However, sample analytical results indicate that a release of diesel and oil range petroleum hydrocarbons occurred in the area of the petroleum product storage shed. AEI recommends mitigation of the petroleum impacted soil prior to development. It is expected that mechanical excavation and disposal of impacted soil in the area of the storage shed following its dismantling would be a viable, cost-effective approach to mitigate the release prior to redevelopment. Based on the low mobility of oil in soil, it is expected that impact does not extend beyond a depth of 3 to 4 feet bgs in this area. Confirmation soil samples following excavation would be needed to confirm that the release has been effectively removed.

---

[2] *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, California Regional Water Quality Control Board, San Francisco Bay Region, Interim Final, Revised May 2008

[3] *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties*, California Environmental Protection Agency, January 2005 (including revision for Lead, September 2009)

REPORT LIMITATIONS AND SIGNATURES

This report presents a summary of work completed by AEI, including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide requested information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses and observations. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices in the environmental engineering and construction field that existed at the time and location of the work. If you have any questions regarding this report, we can be reached at (925) 746-6000.

Sincerely,
AEI Consultants

Adrian M. Angel, GIT
Project Geologist

Peter J. McIntyre, PG, REA
Sr. Vice President, Principal Geologist

FIGURES

SITE LOCATION MAP

451 Vine Hill Way, Martinez, California 94553

N

FIGURE 1

Project Number: 301027

Source: USGS

AEI Consultants

LEGEND

N

Subject Property Boundary

AEI Approx. Sampling Location (11/14/2011)

Locations AEI-A through AEI-D Collected From Putting Green Areas

0' 90' 180'

APPROX. SCALE: 1 in = ~180 ft

Site Plan

451 Vine Hill Way
Martinez, California

FIGURE 2
Job No: 301027

AEI Consultants

LEGEND

N

AEI Approx. Sampling Location (11/14/2011)

0' 35'

APPROX. SCALE: 1 in = ~35 ft

Sampling Locations AEI-21 Through 24

451 Vine Hill Way
Martinez, California

FIGURE 3
Job No: 301027

AEI Consultants

TABLES

Table 1
Soil Sample Analytical Data
Petroleum Hydrocarbons, Organo-chlorine Pesticides, Herbicides, and Select Metals (As, Total Cr, Pb)
AEI Project No. 301027, 451 Vine Hill Way, Martinez, CA

Sample ID	Date Collected	Approx. Depth (feet)	TPH-g	TPH-d	TPH-mo	Aldrin	a-Chlordane	g-Chlordane	DDT	Dieldrin	Endosulfan II	All other Organo-chlorine Pesticides	All Chlorinated Herbicides	As	Cr**	Pb
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
			EPA Method 8015			*EPA Method SW8081A LL*							*EPA Method SW8151A*	*EPA Method SW6020*		
*AEI-1-0.5', 2-0.5, 5-0.5', 6-0.5'	11/14/2011	0.5	-	-	-	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	*0.00055*	<MDL	-	*5.6*	*22*	*17*
*AEI-3-0.5', 4-0.5', 7-0.5', 8-0.5'	11/14/2011	0.5	-	-	-	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<MDL	-	*5.5*	*20*	*13*
*AEI-9-0.5', 10-0.5', 13-0.5', 14-0.5'	11/14/2011	0.5	-	-	-	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<MDL	-	*5.6*	*33*	*7.5*
*AEI-11-0.5', 12-0.5', 15-0.5', 16-0.5'	11/14/2011	0.5	-	-	-	<0.0010	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<MDL	-	*5.4*	*36*	*9.6*
*AEI-17-0.5', 18-0.5', 19-0.5', 20-0.5'	11/14/2011	0.5	-	-	-	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<MDL	-	*4.8*	*26*	*12*
*AEI-A-0.5', B-0.5', C-0.5', D-0.5'	11/14/2011	0.5	-	-	-	<0.0004	<0.0004	<0.0004	*0.0047*	*0.0015*	<0.0004	<MDL	-	*5.0*	*45*	*21*
AEI-21-0.5'	11/14/2011	0.5	*5.4*	*67*	*450*	-	-	-	-	-	-	-	-	-	-	-
AEI-22-0.5'	11/14/2011	0.5	<1.0	*380*	*1,100*	-	-	-	-	-	-	-	-	-	-	-
AEI-23-0.5'	11/14/2011	0.5	-	-	-	*0.00015*	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<MDL	<MDL	*8.4*	*41*	*6.6*
AEI-24-0.5'	11/14/2011	0.5	-	-	-	<0.0040	<0.004	<0.004	<0.004	<0.004	<0.004	<MDL	<MDL	*6.1*	*37*	*5.0*
SLUDGE-A	11/14/2011	0.5	-	-	-	<0.0001	*0.0045*	*0.0031*	<0.0004	<0.0004	<0.0004	<MDL	-	*2.5*	*15*	*9.0*
CHHSL - Res	-	-	-	-	-	0.033	0.43^	0.43^	1.6	0.035	-	-	-	0.07	-	80
ESL - Default Res	-	-	83	83	370	0.032	0.44^	0.44^	1.7	0.0023	-	-	-	0.39	-	200
ESL - Direct Exposure Scenario (Res)	-	-	110	110	370	0.032	0.44^	0.44^	1.7	0.034	-	-	-	0.39	-	260
RL	-	-	1.0	1.0	5.0	0.0001	0.0004	0.0004	0.0004	0.0004	0.0004	varies	varies	0.5	0.5	0.5

Notes:
mg/kg = milligrams per kilogram
DDT = dichlorodiphenyltrichloroethane
TPH-g = total petroleum hydrocarbons as gasoline
TPH-d = total petroleum hydrocarbons as diesel (with silica gel cleanup)
TPH-mo = total petroleum hydrocarbons as motor oil (with silica gel cleanup)
As = arsenic, Cr = Total Chromium (unspeciated), Pb = Lead
"^" = ESL and CHHSL set for total Chlordane only and not speciated
"*" = 4-point composite sample
"**" = No ESL or CHHSL set for total chromium
RL = reporting limit (before any dilution)
MDL = method detection limit
CHHSL - Res = California Human Health Screening Levels, Residential Land Use Scenario, November 2007 (Table 1)
ESLs - Default Res = Environmental Screening Levels (ESLs) California Regional Water Quality Control Board, residential land use scenario where groundwater is a current or potential source of drinking water (May 2008)
ESL - DE = ESL direct exposure scenario

APPENDIX A

Laboratory Analytical Results
And
Chain of Custody Documentation

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

AEI Consultants	Client Project ID: #301027; DeNova Homes	Date Sampled: 11/14/11
		Date Received: 11/15/11
2500 Camino Diablo, Ste. #200	Client Contact: Adrian Angel	Date Reported: 11/22/11
Walnut Creek, CA 94597	Client P.O.: #WC083349	Date Completed: 11/22/11

WorkOrder: 1111521

November 22, 2011

Dear Adrian:

Enclosed within are:

1) The results of the **11** analyzed samples from your project: **#301027; DeNova Homes,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

1111521

McCAMPBELL ANALYTICAL INC.

1534 Willow Pass Road
Pittsburg, CA 94565
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? ☐ Yes ☐ No Email PDF Report: YES

Report To: Adrian Angel	Bill To: Same
Company: AEI Consultants	PO #: WC083349
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	E-Mail: aangel@aeiconsultants.com
Tel: (408) 559-7600	Fax: (408) 559-7601
Project #: 301027	Project Name: DeNova Homes
Project Location: 451 Vine Hill Way, Martinez, CA	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	Analysis Request	Other	Comments
AEI-1-0.5'		11/14/11	10:20A	1	Sleeve liner		X				X				Organo-chlorine pesticides EPA 8081 L.V; Arsenic, Lead, Total Chromium / 6010C		4-point composite
AEI-2-0.5'			10:45A														
AEI-5-0.5'			11:25A														
AEI-6-0.5'			11:45A														
AEI-3-0.5'			11:00A														4-point composite
AEI-4-0.5'			11:10A														
AEI-7-0.5'			12:00P														
AEI-8-0.5'			12:10P														
AEI-9-0.5'			12:30P														4-point composite
AEI-10-0.5'			12:55P														
AEI-13-0.5'			2:15P														
AEI-14-0.5'			2:05P														
AEI-11-0.5'			1:10P														4-point composite
AEI-12-0.5'			1:20P														

Relinquished By:	Date:	Time:	Received By:
	11/15/11	2:30P	
Relinquished By:	Date:	Time:	Received By:
	11/15/11	1700	
Relinquished By:	Date:	Time:	Received By:

ICE/t° 3.8
GOOD CONDITION ____
HEAD SPACE ABSENT ____
DECHLORINATED IN LAB ____

PRESERVATION APPROPRIATE CONTAINERS	VOAS	O&G	METALS	OTHER

PERSERVED IN LAB ____

McCAMPBELL ANALYTICAL INC.

1534 Willow Pass Road
Pittsburg, CA 94565
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? ☐ Yes ☐ No Email PDF Report: YES

Report To: Adrian Angel	Bill To: Same
Company: AEI Consultants	PO #: WC083349
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	E-Mail: aangel@aeiconsultants.com
Tel: (408) 559-7600	Fax: (408) 559-7601
Project #: 301027	Project Name: DeNova Homes
Project Location: 451 Vine Hill Way, Martinez, CA	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCl	HNO_3	Other	Analysis Request	Other	Comments
AEI-15-0.5'		11/14/11	1:55P	1	S		X				X				Organo-chlorine pesticides EPA 8081 + 8151 PSE ANALYSIS; EPA 625 / 8270; Arsenic, Lead, Total Chromium / 6010C		4-point composite
AEI-16-0.5'			1:35P														
AEI-17-0.5'			2:31P												Organo-chlorine pesticides EPA 8081 + 8151 PSE ANALYSIS; PCBs EPA 608 / 8080; VOCs EPA 624 / 8260; EPA 625 / 8270; Arsenic, Lead, Total Chromium / 6010C		4-point composite
AEI-18-0.5'			2:40P														
AEI-19-0.5'			2:55P														
AEI-20-0.5'			3:10P														
AEI-21-0.5'			4:15P													X	
AEI-22-0.5'			4:20P													X	
AEI-A-0.5'			3:25P												Organo-chlorine pesticides EPA 8081 + 8151 PSE ANALYSIS; Arsenic, Lead, Total Chromium / 6010C		4-point composite
AEI-B-0.5'			3:40P														
AEI-C-0.5'			3:45P														
AEI-D-0.5'			4:00P												MBTEX by EPA 8021/8015 NO	TPH multi-range (g/d/mo) / 8015 with silica gel; Herbicides / 8151A	
AEI-23-0.5'			4:45P												Organo-chlorine pesticides EPA 8081 + 8151 PSE ANALYSIS; EPA 625 / 8270	TPH multi-range (g/d/mo) / 8015 with silica gel; Herbicides / 8151A; Arsenic, Lead, Total Chromium / 6010C	Cancelled per Adrian A. 11/15
AEI-24-0.5'			4:50P														

Relinquished By:	Date: 11/15/11	Time: 2:30P	Received By:
Relinquished By:	Date: 11/15/11	Time: 17:00	Received By:
Relinquished By:	Date:	Time:	Received By:

	VOAS	O&G	METALS	OTHER
ICE/t°				
GOOD CONDITION				
HEAD SPACE ABSENT				
DECHLORINATED IN LAB				
PRESERVATION APPROPRIATE				
CONTAINERS				
PERSERVED IN LAB				

McCAMPBELL ANALYTICAL INC.

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Pittsburg, CA 94565
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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? ☐ Yes ☐ No Email PDF Report: YES

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Company: AEI Consultants	PO #: WC083349
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	E-Mail: aangel@aeiconsultants.com
Tel: (408) 559-7600	Fax: (408) 559-7601
Project #: 301027	Project Name: DeNova Homes
Project Location: 451 Vine Hill Way, Martinez, CA	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCl	HNO_3	Other
SLUDGE-A		11/14/11	5:10P	1	steel		X				X			

Analysis Request	Other	Comments
BTEX & TPH as Gas (602/8020 + 8015)		
TPH as Diesel (8015) w/ silica gel cleanup		
Total Petroleum Oil & Grease (5520 E&F/B&F)		
Total Petroleum Hydrocarbons (418.1)		
Pesticides by EPA 8081		
BTEX ONLY (EPA 602 / 8020)		
Organo-chlorine pesticides EPA 8081		
PCBs EPA 608 / 8080		
VOCs EPA 624 / 8260		
EPA 625 / 8270		
PAH's / PNA's by EPA 625 / 8270 / 8310		
CAM-17 Metals		
Arsenic, copper, lead by EPA 6010 (TTLC)		
TPH-d by 8015 with silica gel clean up		
MBTEX by EPA 8021/8015		
	TPH multi-range (g/d/mo) / 8015 with silica gel	
	Herbicides / 8151A	
X	Arsenic, Lead, Total Chromium / 6010C	

Relinquished By:	Date:	Time:	Received By:
	11/15/11	2:30P	
Relinquished By:	Date:	Time:	Received By:
	11/15/11	1706	
Relinquished By:	Date:	Time:	Received By:

	VOAS	O&G	METALS	OTHER
ICE/t°				
GOOD CONDITION	PRESERVATION			
HEAD SPACE ABSENT	APPROPRIATE			
DECHLORINATED IN LAB	CONTAINERS			
PERSERVED IN LAB				

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1111521 **ClientCode: AEL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag

Report to:
Adrian Angel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
(408) 559-7600 FAX: (408) 559-7601

Email: aangel@aeiconsultants.com
cc:
PO: #WC083349
ProjectNo: #301027; DeNova Homes

Bill to:
Sara Guerin
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
sguerin@aeiconsultants.com

Requested TAT: 5 days

Date Received: **11/15/2011**
Date Printed: **11/15/2011**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1111521-001	AEI-1,2,5,6-0.5'	Soil	11/14/2011 10:20	☐	A			A								
1111521-002	AEI-3,4,7,8-0.5'	Soil	11/14/2011 11:00	☐	A			A								
1111521-003	AEI-9,10,13,14-0.5'	Soil	11/14/2011 12:30	☐	A			A								
1111521-004	AEI-11,12,15,16-0.5'	Soil	11/14/2011 13:10	☐	A			A								
1111521-005	AEI-17-18,19,20-0.5'	Soil	11/14/2011 14:31	☐	A			A								
1111521-006	AEI-21-0.5'	Soil	11/14/2011 16:18	☐					A							
1111521-007	AEI-22-0.5'	Soil	11/14/2011 16:20	☐					A							
1111521-008	AEI-A,B,C,D-0.5'	Soil	11/14/2011 15:25	☐	A			A								
1111521-009	AEI-23-0.5'	Soil	11/14/2011 16:45	☐	A		A	A								
1111521-010	AEI-24-0.5'	Soil	11/14/2011 16:50	☐	A		A	A								
1111521-011	SLUDGE-A	Sludge	11/14/2011 17:10	☐		A		A								

Test Legend:

1	8081_S	2	8081_Sludge	3	8151A_S	4	METALSMS_S	5	TPH(DMO)WSG_S
6		7		8		9		10	
11		12							

The following SamplIDs: 006A, 007A contain testgroup.

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
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http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **11/15/2011 8:03:28 PM**

Project Name: **#301027; DeNova Homes**

Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **1111521** Matrix: Sludge/Soil

Carrier: Derik Cartan (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 3.8°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

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"When Quality Counts"

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

AEI Consultants	Client Project ID: #301027; DeNova Homes	Date Sampled: 11/14/11
		Date Received: 11/15/11
2500 Camino Diablo, Ste. #200	Client Contact: Adrian Angel	Date Extracted: 11/15/11
Walnut Creek, CA 94597	Client P.O.: #WC083349	Date Analyzed: 11/17/11-11/21/11

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3550B | Analytical Method: SW8081A | Work Order: 1111521

Lab ID	1111521-001A	1111521-002A	1111521-003A	1111521-004A	Reporting Limit for DF =1	
Client ID	AEI-1,2,5,6-0.5'	AEI-3,4,7,8-0.5'	AEI-9,10,13,14-0.5'	AEI-11,12,15,16-0.5'		
Matrix	S	S	S	S		
DF	1	1	1	10	MDL	RL
Compound	**Concentration**				mg/kg	mg/kg
Aldrin	ND	ND	ND	ND<0.0010	0.0001	0.001
a-BHC	ND	ND	ND	ND<0.0040	0.0004	0.001
b-BHC	ND	ND	ND	ND<0.0040	0.0004	0.001
d-BHC	ND	ND	ND	ND<0.0040	0.0004	0.001
g-BHC	ND	ND	ND	ND<0.0040	0.0004	0.001
Chlordane (Technical)	ND	ND	ND	ND<0.10	0.01	0.025
a-Chlordane	ND	ND	ND	ND<0.0040	0.0004	0.001
g-Chlordane	ND	ND	ND	ND<0.0040	0.0004	0.001
p,p-DDD	ND	ND	ND	ND<0.0040	0.0004	0.001
p,p-DDE	ND	ND	ND	ND<0.0040	0.0004	0.001
p,p-DDT	ND	ND	ND	ND<0.0040	0.0004	0.001
Dieldrin	ND	ND	ND	ND<0.0040	0.0004	0.001
Endosulfan I	ND	ND	ND	ND<0.0040	0.0004	0.001
Endosulfan II	0.00055,J	ND	ND	ND<0.0040	0.0004	0.001
Endosulfan sulfate	ND	ND	ND	ND<0.0040	0.0004	0.001
Endrin	ND	ND	ND	ND<0.0040	0.0004	0.001
Endrin aldehyde	ND	ND	ND	ND<0.0040	0.0004	0.001
Endrin ketone	ND	ND	ND	ND<0.010	0.001	0.001
Heptachlor	ND	ND	ND	ND<0.0040	0.0004	0.001
Heptachlor epoxide	ND	ND	ND	ND<0.0040	0.0004	0.001
Hexachlorobenzene	ND	ND	ND	ND<0.10	0.01	0.01
Hexachlorocyclopentadiene	ND	ND	ND	ND<0.20	0.02	0.02
Methoxychlor	ND	ND	ND	ND<0.010	0.001	0.001
Toxaphene	ND	ND	ND	ND<0.20	0.02	0.05
Surrogate Recoveries (%)						
%SS:	101	103	112	112		
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor.

surrogate diluted out of range or surrogate coelutes with another peak/sample contains surrogate.

J) analyte detected below quantitation limits
a3) sample diluted due to high organic content.

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AEI Consultants	Client Project ID: #301027; DeNova Homes	Date Sampled: 11/14/11
		Date Received: 11/15/11
2500 Camino Diablo, Ste. #200	Client Contact: Adrian Angel	Date Extracted: 11/15/11
Walnut Creek, CA 94597	Client P.O.: #WC083349	Date Analyzed: 11/17/11-11/21/11

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3550B | Analytical Method: SW8081A | Work Order: 1111521

Lab ID	1111521-005A	1111521-008A	1111521-009A	1111521-010A	Reporting Limit for DF =1	
Client ID	AEI-17-18,19,20-0.5'	AEI-A,B,C,D-0.5'	AEI-23-0.5'	AEI-24-0.5'		
Matrix	S	S	S	S		
DF	1	1	1	10	MDL	RL
Compound	**Concentration**				mg/kg	mg/kg
Aldrin	ND	ND	0.00015,J	ND<0.0040	0.0001	0.001
a-BHC	ND	ND	ND	ND<0.0040	0.0004	0.001
b-BHC	ND	ND	ND	ND<0.0040	0.0004	0.001
d-BHC	ND	ND	ND	ND<0.0040	0.0004	0.001
g-BHC	ND	ND	ND	ND<0.0040	0.0004	0.001
Chlordane (Technical)	ND	ND	ND	ND<0.10	0.01	0.025
a-Chlordane	ND	ND	ND	ND<0.0040	0.0004	0.001
g-Chlordane	ND	ND	ND	ND<0.0040	0.0004	0.001
p,p-DDD	ND	ND	ND	ND<0.0040	0.0004	0.001
p,p-DDE	ND	ND	ND	ND<0.0040	0.0004	0.001
p,p-DDT	ND	0.0047	ND	ND<0.0040	0.0004	0.001
Dieldrin	ND	0.0015	ND	ND<0.0040	0.0004	0.001
Endosulfan I	ND	ND	ND	ND<0.0040	0.0004	0.001
Endosulfan II	ND	ND	ND	ND<0.0040	0.0004	0.001
Endosulfan sulfate	ND	ND	ND	ND<0.0040	0.0004	0.001
Endrin	ND	ND	ND	ND<0.0040	0.0004	0.001
Endrin aldehyde	ND	ND	ND	ND<0.0040	0.0004	0.001
Endrin ketone	ND	ND	ND	ND<0.010	0.001	0.001
Heptachlor	ND	ND	ND	ND<0.0040	0.0004	0.001
Heptachlor epoxide	ND	ND	ND	ND<0.0040	0.0004	0.001
Hexachlorobenzene	ND	ND	ND	ND<0.10	0.01	0.01
Hexachlorocyclopentadiene	ND	ND	ND	ND<0.20	0.02	0.02
Methoxychlor	ND	ND	ND	ND<0.010	0.001	0.001
Toxaphene	ND	ND	ND	ND<0.20	0.02	0.05
Surrogate Recoveries (%)						
%SS:	108	119	116	103		
Comments				a3		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor.

surrogate diluted out of range or surrogate coelutes with another peak/sample contains surrogate.

J) analyte detected below quantitation limits
a3) sample diluted due to high organic content.

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AEI Consultants	Client Project ID: #301027; DeNova Homes	Date Sampled: 11/14/11
		Date Received: 11/15/11
2500 Camino Diablo, Ste. #200	Client Contact: Adrian Angel	Date Extracted: 11/15/11
Walnut Creek, CA 94597	Client P.O.: #WC083349	Date Analyzed: 11/19/11

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3550B | Analytical Method: SW8081A | Work Order: 1111521

Lab ID	1111521-011A				Reporting Limit for DF =1	
Client ID	SLUDGE-A					
Matrix	Sludge					
DF	1				MDL	RL
Compound	**Concentration**				mg/kg	mg/kg
Aldrin	ND				0.0001	0.001
a-BHC	ND				0.0004	0.001
b-BHC	ND				0.0004	0.001
d-BHC	ND				0.0004	0.001
g-BHC	ND				0.0004	0.001
Chlordane (Technical)	ND				0.01	0.025
a-Chlordane	0.0045				0.0004	0.001
g-Chlordane	0.0031				0.0004	0.001
p,p-DDD	ND				0.0004	0.001
p,p-DDE	ND				0.0004	0.001
p,p-DDT	ND				0.0004	0.001
Dieldrin	ND				0.0004	0.001
Endosulfan I	ND				0.0004	0.001
Endosulfan II	ND				0.0004	0.001
Endosulfan sulfate	ND				0.0004	0.001
Endrin	ND				0.0004	0.001
Endrin aldehyde	ND				0.0004	0.001
Endrin ketone	ND				0.001	0.001
Heptachlor	ND				0.0004	0.001
Heptachlor epoxide	ND				0.0004	0.001
Hexachlorobenzene	ND				0.01	0.01
Hexachlorocyclopentadiene	ND				0.02	0.02
Methoxychlor	ND				0.001	0.001
Toxaphene	ND				0.02	0.05
Surrogate Recoveries (%)						
%SS:	94					
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor.

surrogate diluted out of range or surrogate coelutes with another peak.

J) analyte detected below quantitation limits

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AEI Consultants	Client Project ID: #301027; DeNova Homes	Date Sampled: 11/14/11
		Date Received: 11/15/11
2500 Camino Diablo, Ste. #200	Client Contact: Adrian Angel	Date Extracted: 11/15/11
Walnut Creek, CA 94597	Client P.O.: #WC083349	Date Analyzed: 11/22/11

Chlorinated Herbicides by GC-ECD (Basic Target List)*

Extraction Method: SW8151A | Analytical Method: SW8151A | Work Order: 1111521

Lab ID	1111521-009A	1111521-010A			Reporting Limit for DF =1	
Client ID	AEI-23-0.5'	AEI-24-0.5'				
Matrix	S	S			MDL	RL
DF	20	10				
Compound	**Concentration**				mg/kg	mg/kg
Acifluorfen	ND<0.40	ND<0.20			0.02	0.05
Bentazon	ND<0.40	ND<0.20			0.02	0.05
Chloramben	ND<0.40	ND<0.20			0.02	0.05
2,4-D (Dichlorophenoxyacetic acid)	ND<0.40	ND<0.20			0.02	0.05
2,4-DB	ND<0.40	ND<0.20			0.02	0.05
Dalapon	ND<0.40	ND<0.20			0.02	0.05
DCPA (mono & diacid)	ND<0.40	ND<0.20			0.02	0.05
Dicamba	ND<0.40	ND<0.20			0.02	0.05
3,5-Dichlorobenzoic Acid	ND<0.40	ND<0.20			0.02	0.05
Dichloroprop	ND<0.40	ND<0.20			0.02	0.05
Dinoseb (DNBP)	ND<0.40	ND<0.20			0.02	0.05
MCPA	ND<40	ND<20			2.0	5.0
MCPP	ND<40	ND<20			2.0	5.0
4-Nitrophenol	ND<0.40	ND<0.20			0.02	0.05
Pentachlorophenol (PCP)	ND<0.40	ND<0.20			0.02	0.05
Picloram	ND<0.40	ND<0.20			0.02	0.05
2,4,5-T (Trichlorophenoxy acetic acid)	ND<0.40	ND<0.20			0.02	0.05
2,4,5-TP (Silvex)	ND<0.40	ND<0.20			0.02	0.05
Surrogate Recoveries (%)						
%SS:	77	84				
Comments	a3	a3				

* water samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

a3) sample diluted due to high organic content.

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Angela Rydelius, Lab Manager

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AEI Consultants	Client Project ID: #301027; DeNova Homes	Date Sampled: 11/14/11
		Date Received: 11/15/11
2500 Camino Diablo, Ste. #200	Client Contact: Adrian Angel	Date Extracted: 11/15/11
Walnut Creek, CA 94597	Client P.O.: #WC083349	Date Analyzed 11/19/11-11/21/11

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Bm Work Order: 1111521

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS	Comments
006A	AEI-21-0.5'	S	5.4	1	112	d9
007A	AEI-22-0.5'	S	ND	1	109	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit/method detection limit	MDL	1.0	mg/Kg
	RL	1.0	mg/Kg

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
d9) no recognizable pattern

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AEI Consultants	Client Project ID: #301027; DeNova Homes	Date Sampled: 11/14/11
2500 Camino Diablo, Ste. #200		Date Received: 11/15/11
	Client Contact: Adrian Angel	Date Extracted: 11/15/11
Walnut Creek, CA 94597	Client P.O.: #WC083349	Date Analyzed: 11/17/11

Metals*

Extraction method: SW3050B | Analytical methods: SW6020 | Work Order: 1111521

Lab ID	Client ID	Matrix	Extraction	Arsenic	Chromium	Lead	DF	% SS	Comments
001A	AEI-1,2,5,6-0.5'	S	TOTAL	5.6	22	17	1	104	
002A	AEI-3,4,7,8-0.5'	S	TOTAL	5.5	20	13	1	99	
003A	AEI-9,10,13,14-0.5'	S	TOTAL	5.6	33	7.5	1	105	
004A	AEI-11,12,15,16-0.5'	S	TOTAL	5.4	36	9.6	1	115	
005A	AEI-17-18,19,20-0.5'	S	TOTAL	4.8	26	12	1	120	
008A	AEI-A,B,C,D-0.5'	S	TOTAL	5.0	45	21	1	103	
009A	AEI-23-0.5'	S	TOTAL	8.4	41	6.6	1	124	
010A	AEI-24-0.5'	S	TOTAL	6.1	37	5.0	1	100	
011A	SLUDGE-A	Sludge	TOTAL	2.5	15	9.0	1	96	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit/method detection limit	MDL	TOTAL	0.1	0.1	0.1	mg/kg
	RL	TOTAL	0.5	0.5	0.5	mg/kg

*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

means surrogate diluted out of range; ND means not detected above the reporting limit/method detection limit; N/A means not applicable to this sample or instrument.

TOTAL = Hot acid digestion of a representative sample aliquot.
TRM = Total recoverable metals is the "direct analysis" of a sample aliquot taken from its acid-preserved container.
DISS = Dissolved metals by direct analysis of 0.45 µm filtered and acidified sample.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

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AEI Consultants	Client Project ID: #301027; DeNova Homes	Date Sampled: 11/14/11
		Date Received: 11/15/11
2500 Camino Diablo, Ste. #200	Client Contact: Adrian Angel	Date Extracted: 11/15/11
Walnut Creek, CA 94597	Client P.O.: #WC083349	Date Analyzed: 11/21/11

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3550B/3630C Analytical methods: SW8015B Work Order: 1111521

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS	Comments
1111521-006A	AEI-21-0.5'	S	67	450	20	99	e7,e2
1111521-007A	AEI-22-0.5'	S	380	1100	50	107	e7,e2

Reporting Limit for DF =1; ND means not detected at or above the RL/MDL	MDL	1.0	5.0	mg/Kg
	RL	1.0	5.0	mg/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
e2) diesel range compounds are significant; no recognizable pattern
e7) oil range compounds are significant

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QC SUMMARY REPORT FOR SW8081A

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 62750 | WorkOrder: 1111521

EPA Method: SW8081A | **Extraction: SW3550B** | **Spiked Sample ID: 1111515-055A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aldrin	ND<0.0020	0.020	72.7	73.1	0.575	103	106	2.98	70 - 130	30	70 - 130	30
g-BHC	ND<0.0020	0.020	74.3	71.1	4.44	86.6	88.8	2.41	70 - 130	30	70 - 130	30
p,p-DDT	ND<0.0020	0.050	70.3	70.3	0	78.7	81.7	3.79	70 - 130	30	70 - 130	30
Dieldrin	ND<0.0020	0.050	78.6	78.4	0.290	94.3	97.1	2.95	70 - 130	30	70 - 130	30
Endrin	ND<0.0020	0.050	78.3	77	1.70	96.4	99.1	2.78	70 - 130	30	70 - 130	30
Heptachlor	ND<0.0020	0.020	78.3	79.2	1.13	98	100	2.35	70 - 130	30	70 - 130	30
%SS:	110	0.050	107	107	0	96	100	4.43	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 62750 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1111521-001A	11/14/11 10:20 AM	11/15/11	11/17/11 11:41 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

surrogate diluted out of range or surrogate coelutes with another peak

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix inteference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8081A

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 62796 | WorkOrder: 1111521

EPA Method: SW8081A | **Extraction: SW3550B** | **Spiked Sample ID: 1111521-010A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aldrin	ND<0.010	0.020	NR	NR	NR	104	104	0	70 - 130	30	70 - 130	30
g-BHC	ND<0.010	0.020	NR	NR	NR	86.8	87.2	0.527	70 - 130	30	70 - 130	30
p,p-DDT	ND<0.010	0.050	NR	NR	NR	80.2	80.3	0.138	70 - 130	30	70 - 130	30
Dieldrin	ND<0.010	0.050	NR	NR	NR	93.5	94.6	1.13	70 - 130	30	70 - 130	30
Endrin	ND<0.010	0.050	NR	NR	NR	95.8	96.4	0.581	70 - 130	30	70 - 130	30
Heptachlor	ND<0.010	0.020	NR	NR	NR	100	100	0	70 - 130	30	70 - 130	30
%SS:	103	0.050	101	100	1.16	101	101	0	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 62796 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1111521-002A	11/14/11 11:00 AM	11/15/11	11/17/11 12:37 PM	1111521-003A	11/14/11 12:30 PM	11/15/11	11/17/11 1:34 PM
1111521-004A	11/14/11 1:10 PM	11/15/11	11/17/11 2:30 PM	1111521-005A	11/14/11 2:31 PM	11/15/11	11/19/11 11:44 AM
1111521-008A	11/14/11 3:25 PM	11/15/11	11/21/11 12:14 PM	1111521-009A	11/14/11 4:45 PM	11/15/11	11/21/11 1:10 PM
1111521-010A	11/14/11 4:50 PM	11/15/11	11/17/11 8:54 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

surrogate diluted out of range or surrogate coelutes with another peak

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix inteference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8081A

W.O. Sample Matrix: Sludge | QC Matrix: Soil | BatchID: 62796 | WorkOrder: 1111521

EPA Method: SW8081A | **Extraction: SW3550B** | **Spiked Sample ID: 1111521-010A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aldrin	ND<0.010	0.020	NR	NR	NR	104	104	0	70 - 130	30	70 - 130	30
g-BHC	ND<0.010	0.020	NR	NR	NR	86.8	87.2	0.527	70 - 130	30	70 - 130	30
p,p-DDT	ND<0.010	0.050	NR	NR	NR	80.2	80.3	0.138	70 - 130	30	70 - 130	30
Dieldrin	ND<0.010	0.050	NR	NR	NR	93.5	94.6	1.13	70 - 130	30	70 - 130	30
Endrin	ND<0.010	0.050	NR	NR	NR	95.8	96.4	0.581	70 - 130	30	70 - 130	30
Heptachlor	ND<0.010	0.020	NR	NR	NR	100	100	0	70 - 130	30	70 - 130	30
%SS:	103	0.050	101	100	1.16	101	101	0	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 62796 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1111521-011A	11/14/11 5:10 PM	11/15/11	11/19/11 12:40 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW8151A

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 62797 | WorkOrder: 1111521

EPA Method: SW8151A | **Extraction: SW8151A** | **Spiked Sample ID: 1111521-009A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
2,4-D (Dichlorophenoxyacetic acid)	ND<1.0	0.10	NR	NR	NR	86	88.7	3.13	60 - 140	30	60 - 140	30
2,4-DB	ND<1.0	0.10	NR	NR	NR	90.2	92.7	2.73	60 - 140	30	60 - 140	30
Dalapon	ND<1.0	0.10	NR	NR	NR	69.2	71.4	3.11	60 - 140	30	60 - 140	30
Dicamba	ND<1.0	0.10	NR	NR	NR	91.6	94.7	3.29	60 - 140	30	60 - 140	30
2,4,5-TP (Silvex)	ND<1.0	0.10	NR	NR	NR	98.3	101	2.61	60 - 140	30	60 - 140	30
%SS:	77	0.10	---#	---#	---#	83	86	3.76	60 - 140	30	60 - 140	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 62797 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1111521-009A	11/14/11 4:45 PM	11/15/11	11/22/11 3:01 AM	1111521-010A	11/14/11 4:50 PM	11/15/11	11/22/11 3:58 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 62742 | WorkOrder: 1111521

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1111449-002A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	0.60	108	114	5.87	120	114	5.16	70 - 130	20	70 - 130	20
MTBE	ND	0.10	86.1	84.1	2.41	91.6	86.1	6.17	70 - 130	20	70 - 130	20
Benzene	ND	0.10	107	108	0.472	113	106	6.42	70 - 130	20	70 - 130	20
Toluene	ND	0.10	107	108	0.667	113	107	6.05	70 - 130	20	70 - 130	20
Ethylbenzene	ND	0.10	107	108	0.609	112	104	8.15	70 - 130	20	70 - 130	20
Xylenes	ND	0.30	109	110	0.884	116	107	8.73	70 - 130	20	70 - 130	20
%SS:	112	0.10	97	91	6.18	93	86	7.89	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 62742 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1111521-006A	11/14/11 4:18 PM	11/15/11	11/21/11 12:27 PM	1111521-007A	11/14/11 4:20 PM	11/15/11	11/19/11 4:50 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW6020

W.O. Sample Matrix: Soil | QC Matrix: Soil | WorkOrder: 1111521

EPA Method: SW6020 | **Extraction: SW3050B** | **BatchID: 62773** | **Spiked Sample ID: 1111521-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	Spiked	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	mg/Kg	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Arsenic	5.6	50	97.3	96	1.19	10	109	107	1.30	75 - 125	20	75 - 125	20
Chromium	22	50	90.1	88.4	1.25	10	104	104	0	75 - 125	20	75 - 125	20
Lead	17	50	93.2	92.2	0.762	10	99.2	98.9	0.273	75 - 125	20	75 - 125	20
%SS:	104	500	103	103	0	500	91	91	0	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 62773 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1111521-001A	11/14/11 10:20 AM	11/15/11	11/17/11 7:09 PM	1111521-002A	11/14/11 11:00 AM	11/15/11	11/17/11 3:44 AM
1111521-003A	11/14/11 12:30 PM	11/15/11	11/17/11 3:51 AM	1111521-004A	11/14/11 1:10 PM	11/15/11	11/17/11 3:59 AM
1111521-005A	11/14/11 2:31 PM	11/15/11	11/17/11 4:06 AM	1111521-008A	11/14/11 3:25 PM	11/15/11	11/17/11 4:14 AM
1111521-009A	11/14/11 4:45 PM	11/15/11	11/17/11 4:21 AM	1111521-010A	11/14/11 4:50 PM	11/15/11	11/17/11 4:28 AM
1111521-011A	11/14/11 5:10 PM	11/15/11	11/17/11 4:36 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not applicable to this method.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 62693 | WorkOrder: 1111521

EPA Method: SW8015B | **Extraction: SW3550B/3630C** | **Spiked Sample ID: 1111389-097A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	10	40	94.2	106	8.99	108	109	1.63	70 - 130	30	70 - 130	30
%SS:	98	25	94	108	13.5	97	99	1.89	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 62693 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1111521-006A	11/14/11 4:18 PM	11/15/11	11/21/11 1:47 PM	1111521-007A	11/14/11 4:20 PM	11/15/11	11/21/11 12:47 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QA/QC Officer

Appendix J

Storm Drainage Memo

December 14, 2017
Job No.: 2000-000

M E M O R A N D U M

TO: City of Martinez

FROM: Jared Frey, P.E.

SUBJECT: Vine Hill Hydrology
Vine Hill Property
Martinez, California

This memorandum describes the approach used to address the stormwater runoff produced by the proposed development by DeNova Homes located in the City of Martinez. The proposed improvements include up to 92 single family homes, a private open space network and private roadways. The proposed development will also include frontage improvements to Morello Avenue, Vine Hill Way and Center Avenue.

Existing Conditions

The existing on-site improvements formerly served as a public golf course. Existing drainage facilities within the golf course were not mapped nor would they be used in the developed condition. The site is generally broken up into three separate watersheds. Majority of the site drains to the northeast corner where it is picked up by an existing inlet located in Vine Hill Way. A smaller portion of the site drains to the northwest corner of the site where it is picked up by a field inlet and discharged into the existing 36" pipe within Morello Avenue. The south end of the site drains towards the corner of Vine Hill Way and Center Avenue where it is collected by an existing 12" storm drain line. As noted in the letter from Contra Costa County Flood Control dated May 18, 2017 downstream storm drain facilities were designed to accept a 10 year design storm flow rate of 40cfs for this project site/drainage area.

Proposed Conditions

The existing drainage patterns of the site will generally remain the same. There will be a total of two points of connection in the areas described above. Two separate storm drain systems will be installed to maintain the existing drainage patterns. A Proposed Drainage Area Map Exhibit is attached.

Stormwater Treatment / Hydromodification

The site will comply with the current C.3, hydromodification, and guidelines set forth by Contra Costa County in the letter noted above. Bio-retention areas with detention facilities are located near each point of connection. The size of each area is consistent with the current Contra Costa

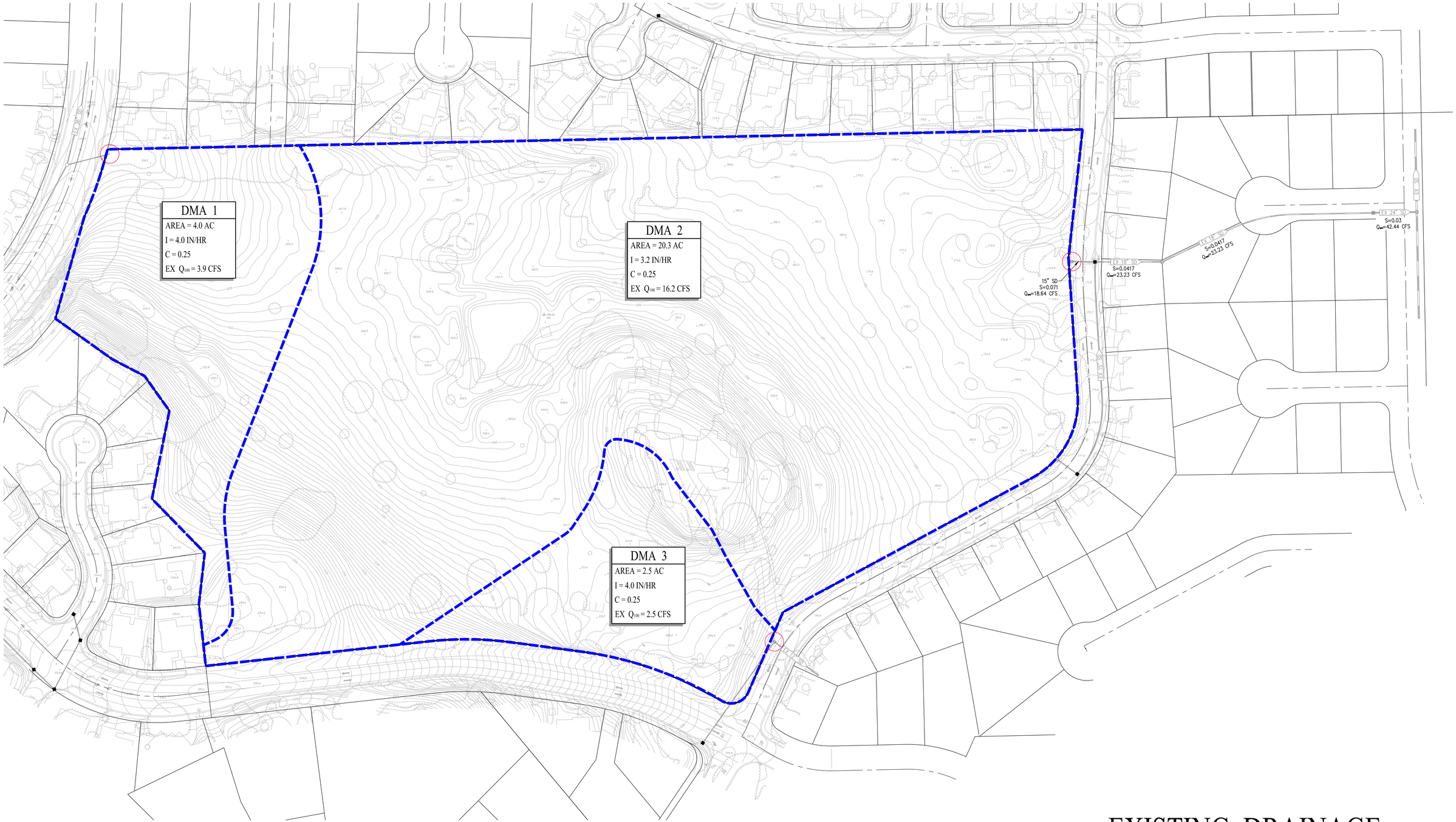
County C.3 IMP Calculator (attached) and will address both treatment and flow control for the site to ensure the post construction flows leaving the site are in conformance with the 10year design flow rate of 40cfs and the C3 requirements.

Conclusion

The existing site is made up of mostly pervious surfaces. The proposed improvements will significantly increase the amount of impervious areas resulting in increased runoff. Bioretention areas and detention storage systems will handle the increased flows to reduce post-development discharge rates as noted above.

Attachments:

Existing Hydrologic Map
Proposed Hydrologic Map
Stormwater Control Plan
IMP Calculator - Results



EXISTING DRAINAGE BOUNDARIES

VINE HILL

CITY OF MARTINEZ CONTRA COSTA COUNTY CALIFORNIA

0' 60' 180' 240'

SCALE: 1" = 60' DATE: AUGUST 7, 2017

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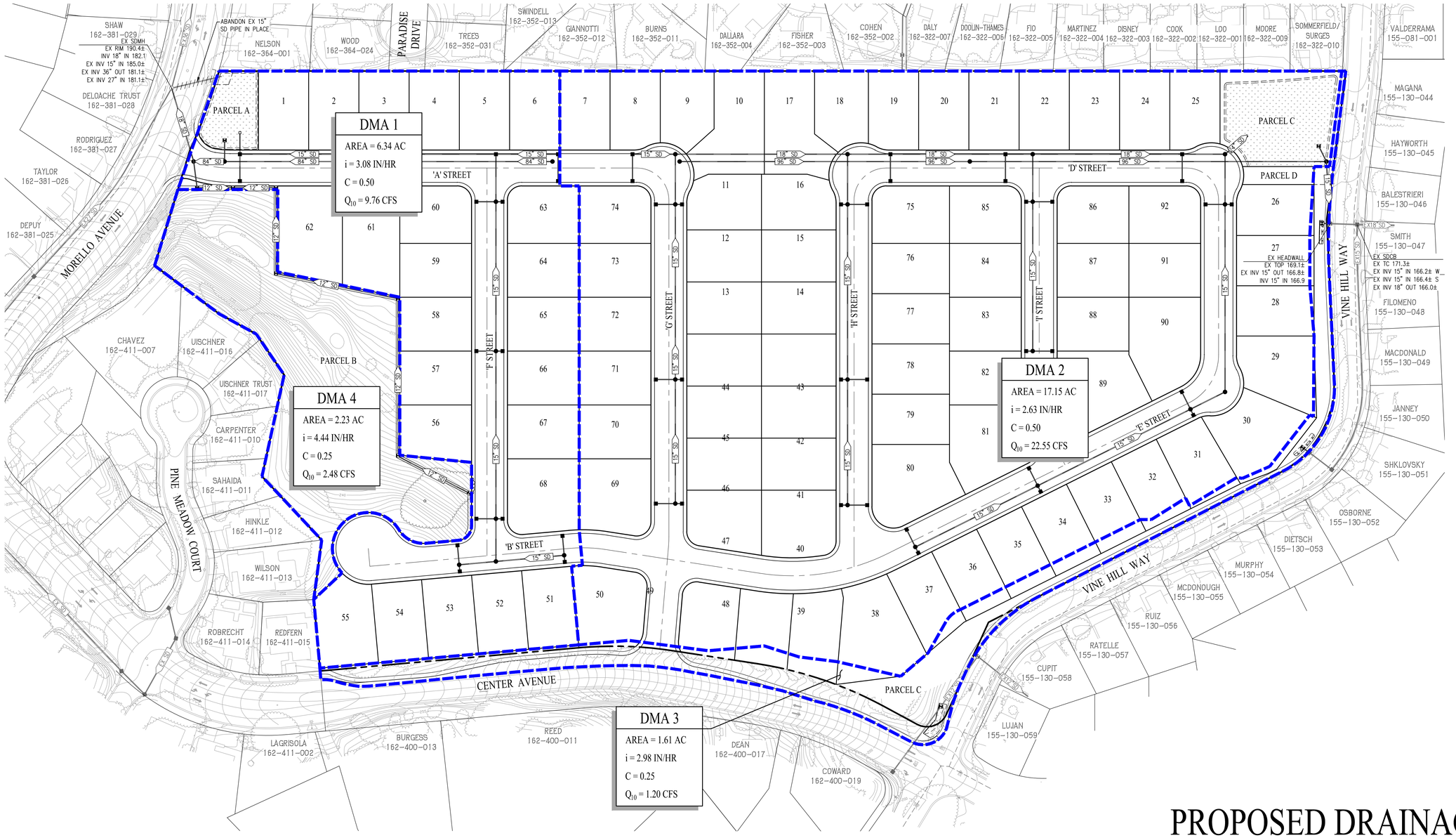

PRECIPITATION = 17.5 IN/YR

PROPOSED DRAINAGE BOUNDARIES

VINE HILL

CITY OF MARTINEZ CONTRA COSTA COUNTY CALIFORNIA

0' 60' 180' 240'

SCALE: 1" = 60' DATE: DECEMBER 13, 2017

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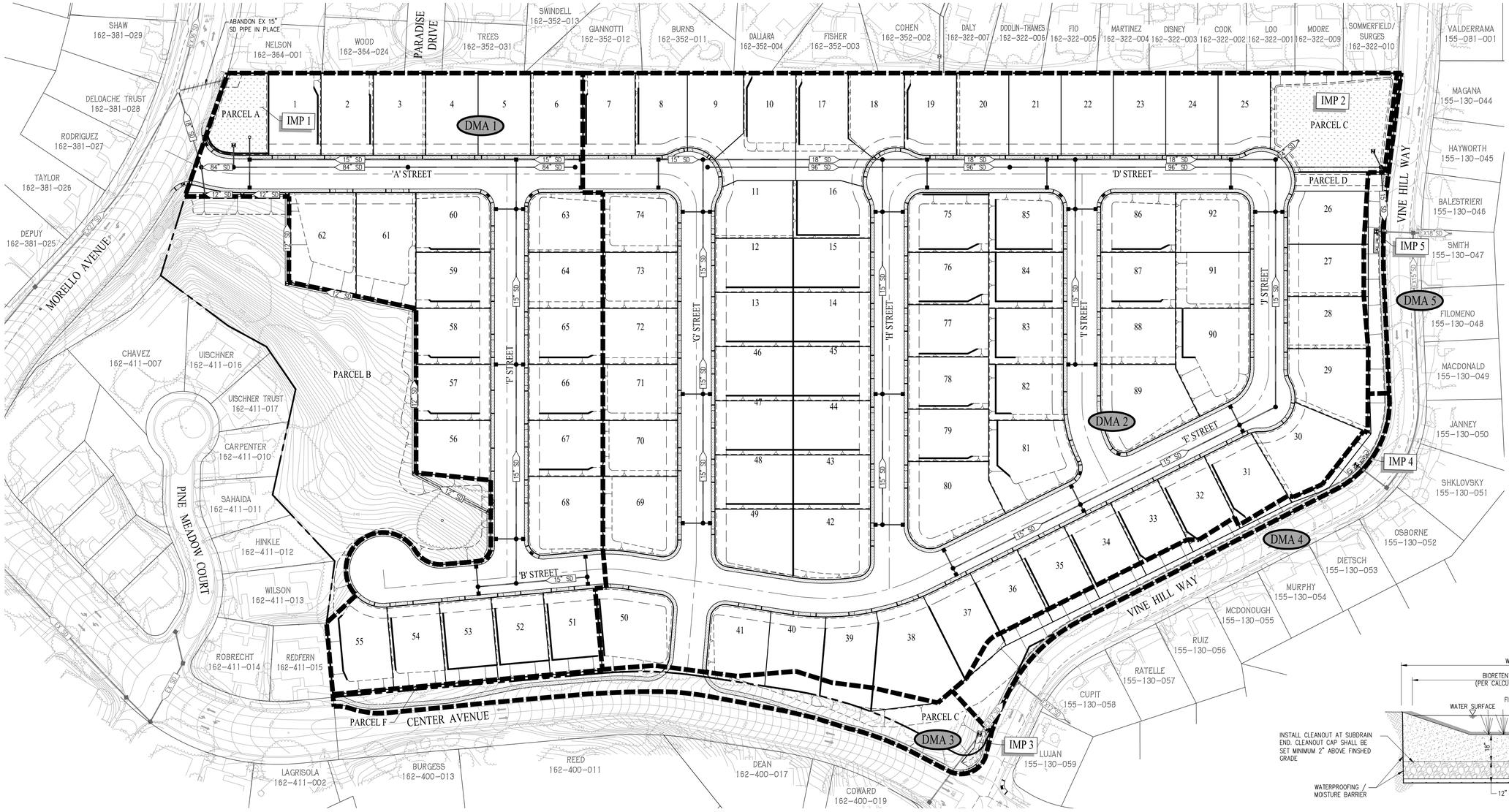
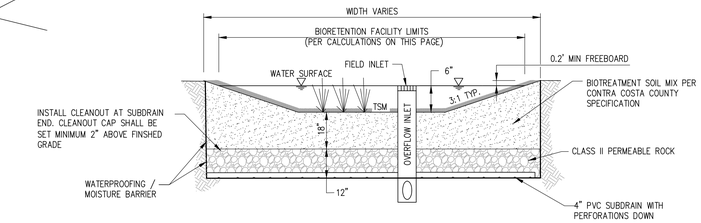


LEGEND:

EXISTING	PROPOSED	DESCRIPTION
	1	PROPOSED LOT NUMBER
		PROPERTY LINE
		LOT LINE
		RIGHT-OF-WAY LINE
		TOP OF CURB
x 67.0 EX SD	x 67.0 SD	SPOT ELEVATIONS / STORM DRAIN LINE
○	●	MANHOLE
⊠	⊠	FIELD INLET
□	■	CATCH BASIN
		BIO-RETENTION AREA
		COBBLES
	DMA 1	DRAINAGE MANAGEMENT AREA
	IMP 1	INTEGRATED MANAGEMENT PRACTICE
		DRAINAGE MANAGEMENT AREA BOUNDARY



STORMWATER TREATMENT SIZING CRITERIA SUMMARY

NOTES:

1. CALCULATIONS BASED ON CONTRA COSTA CLEAN WATER PROGRAM STORMWATER C.3 GUIDEBOOK, "STORMWATER QUALITY REQUIREMENTS FOR DEVELOPMENT APPLICATIONS" 6TH EDITION FEBRUARY 15, 2012.
2. SIZING CRITERIA FOR "BIORETENTION + VAULT"

   2a. THE BIORETENTION FACILITY IS SIZED AND DESIGNED TO THE TREATMENT ONLY CRITERIA (PER BIORETENTION FACILITY DESIGN SHEET, PG. 69 IN THE C.3 GUIDEBOOK)

   2b. THE VAULT IS SIZED USING EQUATION 4–3 (PAGE 52) AND THE FACTORS AND RAINFALL ADJUSTMENT EQUATIONS IN TABLES 4–11 AND 4–12 PER THE C.3 GUIDEBOOK.

BIORETENTION FACILITY SIZING CALCULATIONS & SUMMARY

DMA	IMPERVIOUS				PERVIOUS				*EFFECTIVE IMPERVIOUS AREA	TREATMENT SIZING FACTOR	**REQUIRED TREATMENT AREA (SF)	PROVIDED TREATMENT AREA (SF)
	TYPE	AREA (SF)	RUNOFF FACTOR	ADJUSTED IMPERVIOUS AREA (AREA x RUNOFF FACTOR) (SF)	TYPE	AREA (SF)	RUNOFF FACTOR	ADJUSTED PERVIOUS AREA (AREA x RUNOFF FACTOR) (SF)				
DMA 1	CONCRETE/ ROOF/ PAVEMENT/ ASPHALT	156,057	1.0	156,057	LANDSCAPE	112,422	0.1	11,242	167,299	0.04	6,692	6,700
DMA 2	CONCRETE/ ROOF/ PAVEMENT/ ASPHALT	389,714	1.0	389,714	LANDSCAPE	323,690	0.1	32,369	442,083	0.04	16,883	16,950
DMA 3	CONCRETE/ ROOF/ PAVEMENT/ ASPHALT	12,005	1.0	12,005	LANDSCAPE	23,651	0.1	2,365	14,370	0.04	575	587
DMA 4	CONCRETE/ ROOF/ PAVEMENT/ ASPHALT	3,731	1.0	3,731	LANDSCAPE	20,035	0.1	2,003	5,734	0.04	229	231
DMA 5	CONCRETE/ ROOF/ PAVEMENT/ ASPHALT	2,840	1.0	2,840	LANDSCAPE	5,985	0.1	598	3,438	0.04	138	160

*EFFECTIVE IMPERVIOUS AREA = ADJUSTED IMPERVIOUS AREA + ADJUSTED PERVIOUS AREA

**REQUIRED TREATMENT AREA = EFFECTIVE IMPERVIOUS AREA x TREATMENT SIZING FACTOR

SIZING CALCULATIONS FOR OVERSIZED PIPE

EQUATION 4–3:

$$\text{MIN. IMP VOLUME} = \sum\left(\frac{DMA\ Square\ Footage}{} \times \frac{DMA\ Runoff\ Factor}{} \times \frac{IMP\ Sizing\ Factor}{} \times \frac{Rain\ Adjustment\ Factor}{}\right)$$

- DMA RUNOFF FACTOR PER C.3 GUIDEBOOK TABLE 4–5 AS SHOWN ON THIS SHEET
- IMP FACTOR FOR SOIL TYPE D: VOLUME FACTOR: 0.064

RAIN ADJUSTMENT EQ. 4–9

$$Rain\ Adjustment = \frac{-0.0022 \times (MAP_{project\ site} - 20.2) + 0.05}{0.05}$$

$MAP_{project\ site}$ = 17.5

RAIN ADJUSTMENT = 1.119

MAX UNDERDRAIN FLOW EQ. 4–11

$$Flow\ (cfs\ per\ ft^2) = \frac{0.122 \times (MAP_{project\ site} - 20.2) + 1.85}{10^6}$$

ORIFICE AREA EQ. 4–18

$$Orifice\ Area\ (in\ feet) = \frac{UnderdrainMaxFlow}{c \times \sqrt{64.4 \times H}}$$

c = THE ORIFICE COEFFICIENT, 0.6

H= HEIGHT OF STORAGE ABOVE THE ORIFICE

ORIFICE DIAMETER EQ. 4–19

$$Orifice\ Diameter\ (in\ inches) = 12 \times \sqrt{\frac{4 \times Orifice\ Area}{\pi}}$$

OVERSIZED PIPE SUMMARY

DMA	VOLUME REQUIRED (CUBIC FT)	VOLUME PROVIDED (CUBIC FT)	PIPE SIZE
DMA 1	16,812	16,817	84" SD
DMA 2	44,137	44,240	96" SD

CALCULATIONS FOR OVERSIZED PIPE

DMA $1_{IMPERVIOUS}$

DMA SQUARE FOOTAGE: 156,057
DMA RUNOFF FACTOR: 1.0
IMP SIZING FACTOR: 0.064
RAIN ADJUSTMENT FACTOR: 1.119

TOTAL: 156,057 X 1.0 X 0.064 X 1.119 = 11,176

DMA $1_{PERVIOUS}$

DMA SQUARE FOOTAGE: 112,422
DMA RUNOFF FACTOR: 0.7
IMP SIZING FACTOR: 0.064
RAIN ADJUSTMENT FACTOR: 1.119

TOTAL: 112,422 X 0.7 X 0.064 X 1.119 = 5,636

DMA $2_{IMPERVIOUS}$

DMA SQUARE FOOTAGE: 389,714
DMA RUNOFF FACTOR: 1.0
IMP SIZING FACTOR: 0.064
RAIN ADJUSTMENT FACTOR: 1.119

TOTAL: 389,714 X 1.0 X 0.064 X 1.119 = 27,910

DMA $2_{PERVIOUS}$

DMA SQUARE FOOTAGE: 323,690
DMA RUNOFF FACTOR: 0.7
IMP SIZING FACTOR: 0.064
RAIN ADJUSTMENT FACTOR: 1.119

TOTAL: 323,690 X 0.7 X 0.064 X 1.119 = 16,227

MIN. IMP VOLUME
DMA 1 : 11,176 + 5,636 = 16,812
DMA 2 : 27,910 + 16,227 = 44,137

CALCULATIONS FOR OVERSIZED PIPE (con't)

MAX UNDERDRAIN FLOW EQ. 4–11

FLOW = (−0.122 X (17.5−20.2)+1.85)/10^6 = 1.0526 X 10^{-6} CFS/FT^2

FLOW DMA 1 (CFS) =
(1.5206 X 10^{-6}) X (TOTAL DRAINAGE AREA DMA 1 = 268,479 FT^2)
= 0.4082 CFS

FLOW DMA 2 (CFS) =
(1.5206 X 10^{-6}) X (TOTAL DRAINAGE AREA DMA 2 = 713,404 FT^2)
= 1.0848 CFS

ORIFICE AREA EQ. 4–18

DMA 1
C = 0.6, H = 5.7 FT
0.4082/(0.6 X √(64.4 FT/S X 5.7 FT))
ORIFICE AREA DMA 1 = 0.03551 FT^2

DMA 2
C = 0.6, H = 5.8 FT
1.0848/(0.6 X √(64.4 FT/S X 5.8 FT))
ORIFICE AREA DMA 2 = 0.09355 FT^2

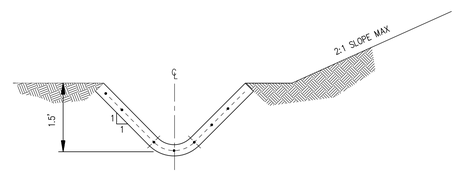
ORIFICE DIAMETER EQ. 4–19

DMA 1 ORIFICE DIAMETER
= 12 X √((4 X 0.03551)/π) = 2.55 INCHES
DMA 2 ORIFICE DIAMETER
= 12 X √((4 X 0.09355)/π) = 4.14 INCHES

RUNOFF FACTORS PER CCCCW PROGRAM

TABLE 4-5. RUNOFF FACTORS for evaluating drainage to self-retaining areas and for sizing IMPs.

Surface	Treatment and Flow Control	Treatment only
Roofs	1.0	1.0
Concrete or Asphalt	1.0	1.0
Pervious Concrete	0.1	0.1
Porous Asphalt	0.1	0.1
Grouted Unit Pavers	1.0	1.0
Solid Unit Pavers Set in Sand	0.5	0.2
Open and Porous Pavers	0.1	0.1
Crushed Aggregate	0.1	0.1
Turfblock	0.1	0.1
Landscape, Group A Soil	0.1	0.1
Landscape, Group B Soil	0.3	0.1
Landscape, Group C Soil	0.5	0.1
Landscape, Group D Soil	0.7	0.1



CONCRETE "V" DITCH DETAIL
NOT TO SCALE

VESTING TENTATIVE MAP
SUBDIVISION 9358
PRELIMINARY STORMWATER CONTROL PLAN
VINE HILL

CITY OF MARTINEZ CONTRA COSTA COUNTY CALIFORNIA

0' 60' 180' 240'
SCALE: 1" = 60'

DATE: DECEMBER 13, 2017

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SHEET NO.
TM-4
OF 6 SHEETS

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Project Name: Vine Hill
Project Type: Treatment and Flow Control
APN:
Drainage Area: 1,015,928
Mean Annual Precipitation: 17.5

IV. Areas Draining to IMPs

IMP Name: IMP1
IMP Type: Bioretention + Vault
Soil Group: IMP1

DMA Name	Area (sq ft)	Post Project Surface Type	DMA Runoff Factor	DMA Area x Runoff Factor
DMA1 IMP	113,725	Concrete or Asphalt	1.00	113,725
DMA1 PERV	82,664	Landscape	0.70	57,865
			Total	171,590

IMP Sizing

	IMP Sizing Factor	Rain Adjustment Factor	Minimum Area or Volume	Proposed Area or Volume
Area	0.040	1.000	6,864	6,865
Volume	0.064	1.119	12,286	12,290

Maximum Underdrain Flow (cfs)	0.30
Orifice Diameter (in)	2.52

IMP Name: IMP2
IMP Type: Bioretention + Vault
Soil Group: IMP2

DMA Name	Area (sq ft)	Post Project Surface Type	DMA Runoff Factor	DMA Area x Runoff Factor
DMA2 IMP	432,046	Concrete or Asphalt	1.00	432,046
DMA4	353,448	Landscape	0.70	247,414
			Total	679,460

IMP Sizing

	IMP Sizing Factor	Rain Adjustment Factor	Minimum Area or Volume	Proposed Area or Volume
Area	0.040	1.000	27,178	27,180
Volume	0.064	1.119	48,651	48,655

Maximum Underdrain Flow (cfs)	1.19
Orifice Diameter (in)	5.04

Report generated on 5/1/2017 12:00:00 AM by the Contra Costa Clean Water Program IMP Sizing Tool software (version 1.3.1.0).

Project Name: Vine Hill
Project Type: Treatment Only
APN:
Drainage Area: 68,247
Mean Annual Precipitation: 17.5

IV. Areas Draining to IMPs

IMP Name: IMP3
IMP Type: Bioretention Facility
Soil Group: IMP3

DMA Name	Area (sq ft)	Post Project Surface Type	DMA Runoff Factor	DMA Area x Runoff Factor
DMA3 IMP	12,005	Concrete or Asphalt	1.00	12,005
DMA3 PERV	23,651	Landscape	0.10	2,365
			Total	14,370
				Area

IMP Sizing

IMP Sizing Factor	Rain Adjustment Factor	Minimum Area or Volume	Proposed Area or Volume
0.040	1.000	575	587

IMP Name: IMP4
IMP Type: Bioretention Facility
Soil Group: IMP4

DMA Name	Area (sq ft)	Post Project Surface Type	DMA Runoff Factor	DMA Area x Runoff Factor
DMA4 IMP	3,731	Concrete or Asphalt	1.00	3,731
DMA4 PERV	20,035	Landscape	0.10	2,004
			Total	5,735
				Area

IMP Sizing

IMP Sizing Factor	Rain Adjustment Factor	Minimum Area or Volume	Proposed Area or Volume
0.040	1.000	229	231

IMP Name: IMP5
IMP Type: Bioretention Facility
Soil Group: IMP5

DMA Name	Area (sq ft)	Post Project Surface Type	DMA Runoff Factor	DMA Area x Runoff Factor
DMA5 IMP	2,840	Concrete or Asphalt	1.00	2,840
DMA5 PERV	5,985	Landscape	0.10	599
			Total	3,439
				Area

IMP Sizing

IMP Sizing Factor	Rain Adjustment Factor	Minimum Area or Volume	Proposed Area or Volume
0.040	1.000	138	160

Appendix K

Environmental Noise Assessment

Environmental Noise Assessment

Vine Hill Residential

City of Novato, California

Job # 2012-141

Prepared For:

De Novo Planning Group

4630 Brand Avenue
Sacramento, California 95819

Attn: Mr. Steve McMurtry

Prepared By:

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December 23, 2013

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A FHWA Traffic Noise Modeling Inputs and Results
B FHWA Traffic Noise Modeling – Proposed Project Site

This section provides a general description of the existing noise sources in the project vicinity, a discussion of the regulatory setting, and identifies potential noise impacts associated with the proposed project. Project impacts are evaluated relative to applicable noise level criteria and to the existing ambient noise environment. Mitigation measures have been identified for significant noise-related impacts.

The proposed Vine Hill Residential project is a 100 unit single family home development on 26 acres at the intersection of Center avenue and Vine Hill Way in the City of Martinez, California. Figure 1 shows the project area. Figure 2 shows the proposed project site plan.

ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community noise equivalent level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50 percent of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
SEL	Sound exposure levels. A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptor, Ldn, and shows very good correlation with community response to noise.

The day/night average level (Ldn) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because Ldn represents a 24-

hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to Ldn, but includes a +5 dB penalty for evening noise. Table 1 lists several examples of the noise levels associated with common situations.

TABLE 1 : TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	NOISE LEVEL (DBA)	COMMON INDOOR ACTIVITIES
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. NOVEMBER 2009.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop 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: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE LEVELS

Traffic Noise Levels

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop Ldn (24-hour average) noise contours for the primary project-area roadways. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model predicts hourly Leq values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict Ldn values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period.

Existing traffic volumes were obtained from the traffic study prepared for the project (Abrams Associates Traffic Engineering, Inc., December 10, 2013). Day/night traffic distributions were based upon file data for similar roadways. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions. Table 2 shows the results of this analysis. Appendix A provides the complete inputs and results for the FHWA traffic noise modeling.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segments. In some locations sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the project-area roadway segments analyzed in this report.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated

roadways, or elevated receivers. The distances reported in Table 2 are generally considered to be conservative estimates of noise exposure along the project-area roadways.

TABLE 2: PREDICTED EXISTING TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVEL AT CLOSEST RECEPTORS (LDN)	DISTANCES TO TRAFFIC NOISE CONTOURS, LDN (FEET)		
			70 DB	65 DB	60 DB
MORELLO AVE	NORTH OF SR-4	62.5	19	41	88
MORELLO AVE	NORTH OF MUIR RD	61.0	15	32	70
MORELLO AVE	MUIR RD TO CENTER AVE	60.9	15	32	69
MORELLO AVE	WEST PROJECT ENTRANCE TO CENTER AVE	N/A	N/A	N/A	N/A
MORELLO AVE	SOUTH OF CENTER AVE	57.9	9	20	43
CENTER AVE	WEST OF MORELLO AVE	54.6	6	12	26
CENTER AVE	MORELLO AVE TO VINE HILL WAY	52.9	4	9	20
CENTER AVE	EAST OF VINE HILL WAY	53.4	5	10	22
MUIR RD	WEST OF MORELLO WAY	57.1	8	18	38
MUIR RD	EAST OF MORELLO WAY	57.1	8	18	38
VINE HILL WAY	SOUTH OF CENTER AVE	52.2	4	8	18
VINE HILL WAY	CENTER AVE TO EAST PROJECT ENTRANCE	50.4	3	6	14
VINE HILL WAY	NORTH OF PROJECT ENTRANCE	N/A	N/A	N/A	N/A

NOTES: DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS.
SOURCE: FHWA-RD-77-108 with inputs from Abrams Associates and j.c. brennan & associates, Inc. 2013.

Aviation Noise Levels

Buchanan Field is the older of the two publicly owned airports in Contra Costa County. The airport dates from 1942 when the county acquired the property. The facility served as an Army air base during World War II, at which time the two original runways were constructed. Public use began in 1946 and has been continuous ever since.

Many modifications to individual components of the runway/taxiway system have been made over the years, but the basic configuration is essentially unchanged from when the airport opened. In particular, the airport's two major runways — now designated 1L-19R (oriented northeast/southwest) and 14L-32R (oriented northwest/southeast) — continue to have their original physical length despite several changes to landing threshold placement and usable length. Among the notable additions to the airfield was the construction during the 1960s of a shorter runway adjacent to each of the two primary runways. Also, from 1949 until 1967, a short, roughly east/west-oriented runway (now a taxiway) was in use.

Today, Buchanan Field Airport occupies a total of some 495 acres of property and controls aviation easements on an additional 50± acres. With extensive urban development on all sides, no significant changes in the airport's size or configuration are feasible. The most recent airport

master plan, adopted in 1990, focuses primarily on building area improvements such as a potential terminal building and additional aircraft hangars. Future enhancements to instrument approach procedures are anticipated in the plan, but no physical extension of the runways or other major runway system changes are proposed.

The most recent estimate of annual operations is 237,000 flights per year (1999). As of 1999, 592 aircraft were based at the airport. Airport operations are forecast to increase to 320,000 in the future (Contra Costa County Airport Land Use Compatibility Plan, December 2000).

Figure 3 shows the most recent noise contours developed for the airport.

COMMUNITY NOISE SURVEY

A community noise survey was conducted to document existing ambient noise levels at the project site. The data collected included the hourly average (Leq), median (L50), and the maximum level (Lmax) during the measurement period. Noise monitoring sites and the measured noise levels at each site are summarized in Table 3. Figure 1 shows the locations of the noise monitoring sites.

Community noise monitoring equipment included a Larson Davis Laboratories (LDL) Model 824 precision integrating sound level meter equipped with an LDL ½" microphone. The measurement system was calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

TABLE 3: EXISTING AMBIENT NOISE MONITORING RESULTS								
SITE	LOCATION	LDN (DBA)	MEASURED HOURLY NOISE LEVELS, DBA					
			DAYTIME (7:00 AM - 10:00 PM)			NIGHTTIME (10:00 PM – 7:00 AM)		
			LEQ	L50	LMAX	LEQ	L50	LMAX
A	West side of site. 60 feet to centerline of Morello Avenue.	NA	62.3	57.3	72.0	NA		
B	East side of site. 60 feet to centerline of Vine Hill Way.	NA	52.6	49.5	66.6	NA		
C	South side of site. 75 feet to centerline of Center Avenue.	NA	53.3	47.6	64.3	NA		

SOURCE: J.C. BRENNAN & ASSOCIATES, INC. - 2013

The results of the community noise survey shown in Table 3 indicate that existing transportation noise sources were the primary contributor to ambient noise on the project site.

REGULATORY FRAMEWORK

STATE

Governor's Office of Planning and Research (OPR)

The *State of California General Plan Guidelines* (State of California 1998), published by OPR provides guidance for the acceptability of projects within specific CNEL contours. The guidelines also present adjustment factors that may be used in order to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

LOCAL

City of Martinez General Plan

The City of Martinez Noise Element establishes a land use compatibility criterion of 60 dB Ldn at the outdoor activity areas of residential land uses. The intent of this standard is to provide an acceptable noise environment for outdoor activities. In addition, an interior noise level criterion of 45 dB Ldn is applied to all residential land uses. The intent of this standard is to provide a suitable environment for indoor communication and sleep. Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn or less using a practical application of the best available noise reduction measures, an exterior noise level of up to 70 dB Ldn may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with the 45 dB Ldn standard.

City of Martinez Municipal Code, Chapter 8.34 (Noise Control)

The City of Martinez Municipal Code also establishes acceptable noise level standards of 60 dB Ldn (exterior) and 45 dB Ldn (interior).

Additionally, the hours of operation for noise-producing construction equipment are also restricted through the Municipal Code. The operation of pile drivers, steam shovels, and pneumatic hammers used in construction, demolition, or other repair work, should be prohibited before 7:00 a.m. or after 7:00 p.m. Monday through Friday, and before 9:00 a.m. or after 5:00 p.m. on Saturdays, Sundays, and State, federal, or local holidays.

Contra Costa County Airport Land Use Compatibility Plan

The proposed project is located within the Airport Influence Area for the Buchanan Field Airport, as shown by Figure 3. The Buchanan Field Airport Policies contained within the Contra Costa County Airport Land Use Compatibility Plan establishes acceptable exterior aircraft noise levels of 55 dB CNEL for single-family residential uses.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact related to noise if it will result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without project;
- 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, expose people residing or working in the project area to excessive noise levels within two miles of a public airport or public use airport; or
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

Noise Standards

The noise standards applicable to the project include the relevant portions of the City of Martinez General Plan as described in the Regulatory Framework section above, and the following standards.

Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible,
- A 5-dB change is clearly perceptible, and
- A 10-dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project-noise conditions. Table 4 is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the Ldn.

TABLE 4: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

AMBIENT NOISE LEVEL WITHOUT PROJECT, LDN	INCREASE REQUIRED FOR SIGNIFICANT IMPACT
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

SOURCE: FEDERAL INTERAGENCY COMMITTEE ON NOISE (FICON)

Based on the Table 4 data, an increase in the traffic noise level of 5 dB or more would be significant where the pre-project noise level is less than 60 dB Ldn. Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-project traffic noise level exceeds 65 dB Ldn. The rationale for the Table 4 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

Vibration Standards

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The Butte County does not have specific policies pertaining to vibration levels. However, vibration levels associated with construction activities and railroad operations are addressed as potential noise impacts associated with project implementation.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 5 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v). The general threshold at which human annoyance could occur is notes as 0.1 in/sec p.p.v.

TABLE 5: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS			
PEAK PARTICLE VELOCITY INCHES/SECOND	PEAK PARTICLE VELOCITY MM/SECOND	HUMAN REACTION	EFFECT ON BUILDINGS
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage.

SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBORNE VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

IMPACT 1: EXPOSURE OF PERSONS TO, OR GENERATION OF NOISE LEVELS IN EXCESS OF APPLICABLE STANDARDS OR A SUBSTANTIAL PERMANENT INCREASE IN AMBIENT NOISE LEVELS IN THE PROJECT VICINITY ABOVE LEVELS EXISTING WITHOUT THE PROJECT - TRAFFIC NOISE AT EXISTING RECEPTORS (LESS THAN SIGNIFICANT)

To describe future noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. Inputs to the model included traffic volumes provided by Abrams Associates. The FHWA model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly Leq values for free-flowing traffic conditions. To predict Ldn/CNEL values, it is necessary to determine the day/night distribution of traffic and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Tables 6 and 7 show the noise levels associated with traffic on the local roadway network under the existing/background and existing/background plus project traffic conditions. As indicated by Tables 6 and 7, the related noise level increases under development of the proposed project are predicted to range between 0.1 to 1.3 dB.

TABLE 6: EXISTING TRAFFIC NOISE LEVELS VS. EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (LDN, DB)			DISTANCE TO EXISTING + PROJECT TRAFFIC NOISE CONTOURS, FEET[1]		
		EXISTING	EXISTING + PROJECT	CHANGE (DB)	70 DB LDN	65 DB LDN	60 DB LDN
Morello Ave	North of SR-4	62.5	62.5	0.0	19	41	88
Morello Ave	North of Muir Rd	61.0	61.4	0.5	16	35	75
Morello Ave	Muir Rd to Center Ave	60.9	61.2	0.3	15	33	72
Morello Ave	West Project Entrance to Center Ave	N/A	57.6	N/A	9	19	41
Morello Ave	South of Center Ave	57.9	57.9	0.0	9	20	43
Center Ave	West of Morello Ave	54.6	54.7	0.1	6	12	27
Center Ave	Morello Ave to Vine Hill Way	52.9	53.0	0.1	4	9	20
Center Ave	East of Vine Hill Way	53.4	53.5	0.1	5	10	22
Muir Rd	West of Morello Way	57.1	57.2	0.1	8	18	39
Muir Rd	East of Morello Way	57.1	57.2	0.1	8	18	39
Vine Hill Way	South of Center Ave	52.2	52.2	0.0	4	8	18
Vine Hill Way	Center Ave to East Project Entrance	50.4	50.8	0.4	3	7	15
Vine Hill Way	North of Project Entrance	N/A	51.0	N/A	3	7	15

[1] *Distances to traffic noise contours are measured in feet from the centerlines of the roadways. Actual distances may vary due to shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.*

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM ABRAMS ASSOCIATES AND J.C. BRENNAN & ASSOCIATES, INC. 2013.

TABLE 7: BACKGROUND TRAFFIC NOISE LEVELS VS. BACKGROUND PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (LDN, DB)			DISTANCE TO BACKGROUND + PROJECT TRAFFIC NOISE CONTOURS, FEET[1]		
		BACKGROUND	BACKGROUND + PROJECT	CHANGE (DB)	70 DB LDN	65 DB LDN	60 DB LDN
Morello Ave	North of SR-4	62.6	62.6	0.0	19	41	89
Morello Ave	North of Muir Rd	61.4	61.5	0.1	16	35	76
Morello Ave	Muir Rd to Center Ave	61.0	61.2	0.2	16	34	72
Morello Ave	West Project Entrance to Center Ave	N/A	57.7	N/A	9	19	42
Morello Ave	South of Center Ave	57.9	58.0	0.0	9	20	44
Center Ave	West of Morello Ave	53.4	54.8	1.3	6	12	27
Center Ave	Morello Ave to Vine Hill Way	53.0	53.0	0.1	4	10	21
Center Ave	East of Vine Hill Way	53.5	53.6	0.1	5	10	22
Muir Rd	West of Morello Way	57.2	57.3	0.1	9	18	39
Muir Rd	East of Morello Way	57.2	57.3	0.1	8	18	39
Vine Hill Way	South of Center Ave	52.2	52.3	0.0	4	8	18
Vine Hill Way	Center Ave to East Project Entrance	50.5	50.9	0.4	3	7	15
Vine Hill Way	North of Project Entrance	N/A	50.7	N/A	3	7	14

[1] *Distances to traffic noise contours are measured in feet from the centerlines of the roadways. Actual distances may vary due to shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.*

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM ABRAMS ASSOCIATES AND J.C. BRENNAN & ASSOCIATES, INC. 2013.

IMPACT 2: POTENTIAL TO EXPOSE PERSONS TO, OR GENERATE NOISE LEVELS IN EXCESS OF APPLICABLE STANDARDS OR TO RESULT IN A SUBSTANTIAL TEMPORARY OR PERIODIC INCREASE IN AMBIENT NOISE LEVELS IN THE PROJECT VICINITY ABOVE LEVELS EXISTING WITHOUT PROJECT - CONSTRUCTION NOISE (SIGNIFICANT)

The new development, maintenance of roadways, installation of public utilities, and infrastructure improvements associated with the project will require construction activities. These activities include the use of heavy equipment and impact tools. Table 8 provides a list of the types of equipment which may be associated with construction activities and the associated noise levels.

TABLE 8: CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	PREDICTED NOISE LEVELS, LMAX DB				DISTANCES TO NOISE CONTOURS (FEET)	
	NOISE LEVEL AT 50'	NOISE LEVEL AT 100'	NOISE LEVEL AT 200'	NOISE LEVEL AT 400'	70 DB LMAX CONTOUR	65 DB LMAX CONTOUR
Backhoe	78	72	66	60	126	223
Compactor	83	77	71	65	223	397
Compressor (air)	78	72	66	60	126	223
Concrete Saw	90	84	78	72	500	889
Dozer	82	76	70	64	199	354
Dump Truck	76	70	64	58	100	177
Excavator	81	75	69	63	177	315
Generator	81	75	69	63	177	315
Jackhammer	89	83	77	71	446	792
Pneumatic Tools	85	79	73	67	281	500

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006. J.C. BRENNAN & ASSOCIATES, INC. 2013.

Activities involved in project construction would typically generate maximum noise levels ranging from 85 to 90 dB at a distance of 50 feet. The nearest residential receptors would be located 50 feet or more from construction activities.

Construction could result in periods of elevated ambient noise levels and the potential for annoyance. However, the City of Martinez Municipal Code exempts noise from construction activities during the daytime hours of 7:00 a.m. to 7:00 p.m. daily, except Saturday, Sunday, and State, Federal or Local Holidays, when the allowable time would be 9:00 a.m. to 5:00 p.m.

Because all construction activities will be subject to the requirements of the City of Martinez Municipal Code with respect to limits on construction noise, this would be a **less than significant** impact.

Impact 3: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (Potentially Significant)

The primary vibration-generating activities associated with the proposed project would occur during construction when activities such as grading, utilities placement, and roadway construction occur. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located approximately 50 feet or further from the project site. At this distance construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural. Table 9 shows the typical vibration levels produced by construction equipment.

Table 9: Vibration Levels for Varying Construction Equipment

Type of Equipment	*Peak Particle Velocity @ 25 feet (inches/second)*	*Peak Particle Velocity @ 50 feet (inches/second)*	*Peak Particle Velocity @ 100 feet (inches/second)*
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210 (<0.200 @ 26')	0.074	0.026

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines, May 2006

The Table 9 data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec p.p.v. threshold of damage to buildings and less than the 0.1 in/sec threshold of annoyance criteria at distances of 50 feet. Therefore, construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors. Therefore, this impact would be considered **less than significant.**

IMPACT 4: EXPOSURE OF PERSONS TO, OR GENERATION OF NOISE LEVELS IN EXCESS OF STANDARDS ESTABLISHED IN THE LOCAL GENERAL PLAN OR NOISE ORDINANCE – TRAFFIC NOISE AT NEW RECEPTORS (LESS THAN SIGNIFICANT)

The FHWA traffic noise prediction model was used to predict Cumulative + Project traffic noise levels at the proposed residential uses associated with the project. Table 10 shows the predicted traffic noise levels at the proposed residential uses adjacent to the major project-area roadways.

Appendix B provides the complete inputs and results to the FHWA traffic noise prediction model.

TABLE 10: CUMULATIVE + PROJECT TRANSPORTATION NOISE LEVELS AT PROPOSED RESIDENTIAL USES

Roadway	Receptor Description	Approximate Residential Setback, feet[1]	ADT	Predicted Traffic Noise Levels, Ldn			
				No Wall	6' Wall	7' Wall	8' Wall
Morello Ave.	Lot 1 Backyard / First Floor Façade	130'	15,060	56 dB	--	--	--
Center Ave.	Lots 35-47 Backyards / First Floor Façade	80'	2,710	52 dB	--	--	--
Vine Hill Way	Lots 24-34 Backyards / First Floor Façade	75'	1,710	50 dB	--	--	--

[1] *SETBACK DISTANCES ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS TO THE CENTER OF RESIDENTIAL BACKYARDS.*
-- MEETS THE CITY OF MARTINEZ EXTERIOR NOISE STANDARD WITHOUT MITIGATION.
SOURCE: FHWA-RD-77-108 WITH INPUTS FROM ABRAMS ASSOCIATES, AND J.C. BRENNAN & ASSOCIATES, INC. 2013.

The Table 10 data indicate that no additional noise control measures would be required to achieve compliance with the City of Martinez 60 dB Ldn exterior noise level standard for the proposed residential uses.

Interior Noise Impacts:

Modern construction typically provides a 25 dB exterior-to-interior noise level reduction with windows closed. Therefore, sensitive receptors exposed to exterior noise of 70 dB L_{dn}, or less, will typically comply with the City of Martinez 45 dB L_{dn} interior noise level standard. Additional noise reduction measures, such as acoustically rated windows are generally required for exterior noise levels exceeding 70 dB L_{dn}.

It should be noted that exterior noise levels are typically 2-3 dB higher at second floor locations. The proposed residential uses are predicted to be exposed to first floor exterior transportation noise levels ranging between 50 to 56 dB Ldn. Therefore, second floor facades are predicted to be exposed to exterior noise levels of up to 53-59 dB Ldn. Based upon a 25 dB exterior-to-interior noise level reduction, interior noise levels are predicted to range between 28 to 34 dB Ldn. Within windows open a 15 dB exterior-to-interior noise level reduction is typically achieve. Therefore, interior noise levels are

predicted to be 38-44 dB Ldn. These interior noise levels would comply with the City of Martinez 45 dB Ldn interior noise level standard and no interior noise mitigation would be required.

The proposed project is not predicted to be exposed to exterior or interior noise level exceeding the City's allowable standards. Therefore, this impact would be considered **less than significant.**

IMPACT 5: FOR PROJECTS LOCATED WITHIN AN AIRPORT LAND USE PLAN, WITHIN TWO MILES OF A PUBLIC AIRPORT OR PUBLIC USE AIRPORT FOR WHICH AN AIRPORT LAND USE PLAN HAS NOT BEEN ADOPTED, OR WITHIN THE VICINITY OF A PRIVATE AIRPORT, POTENTIAL TO EXPOSE PEOPLE RESIDING OR WORKING IN THE PROJECT AREA TO EXCESSIVE NOISE LEVELS (LESS THAN SIGNIFICANT)

The most recent noise contours for Buchannan field indicated that the project site is located outside of the 55 dB CNEL noise contours, as shown by Figure 3. Therefore, the proposed project would not result in the creation of new noise-sensitive land uses within the 55 dB CNEL Buchannan Field noise contour. This would comply with the Contra Costa County Airport Land Use Compatibility standard of 55 dB CNEL for aircraft noise and the City's 60 dB Ldn exterior noise level standard. Therefore, noise impacts relative to airports would be **less than significant**.

IMPACT 6: POTENTIAL TO EXPOSE OF PERSONS TO, OR GENERATE NOISE LEVELS IN EXCESS OF STANDARDS ESTABLISHED IN THE LOCAL GENERAL PLAN OR NOISE ORDINANCE, OR APPLICABLE STANDARDS OF OTHER AGENCIES OR TO RESULT IN A SUBSTANTIAL PERMANENT INCREASE IN AMBIENT NOISE LEVELS IN THE PROJECT VICINITY ABOVE LEVELS EXISTING WITHOUT THE PROJECT (LESS THAN CUMULATIVELY CONSIDERABLE)

The cumulative context for noise impacts associated with the Proposed Project consists of the existing and future noise sources that could affect the project or surrounding uses. Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. The total noise impact of the Proposed Project would be fairly small and would not be a substantial increase to the existing future noise environment.

TRAFFIC

Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the proposed project and other projects within the area. Tables 11 show cumulative traffic noise levels with and without the proposed project.

Under cumulative conditions, there would not be significant increases in noise levels compared to the no project conditions. However, the 60, 65 and 70 dB Ldn contours would extend farther under cumulative conditions and potentially impact additional sensitive receptors. As shown, the proposed project would contribute no more than 1.3 dB Ldn to noise levels on roadways fronting residential uses along the study area roadways. Additionally, the project would not cause new exceedances of the City of Martinez 60 dB Ldn exterior noise level standard. The traffic noise from the Proposed Project is not expected to produce noise levels that would exceed City standards. Increased project related traffic would increase traffic noise levels by less than the FICON criteria shown in Table 4, at existing sensitive receptors. Consequently, this would result in a **less than cumulatively considerable** contribution to cumulative noise levels.

TABLE 11: CUMULATIVE NO PROJECT VS. CUMULATIVE PLUS PROJECT

Roadway	Segment	Noise Levels (Ldn, dB)			Distance to Cumulative + Project Traffic Noise Contours, feet[1]		
		Cumulative No Project	Cumulative + Project	Change (dB)	70 dB Ldn	65 dB Ldn	60 dB Ldn
Morello Ave	North of SR-4	63.0	63.0	0.0	21	44	96
Morello Ave	North of Muir Rd	61.9	62.0	0.2	18	38	82
Morello Ave	Muir Rd to Center Ave	60.8	60.9	0.2	15	32	69
Morello Ave	West Project Entrance to Center Ave	N/A	58.1	N/A	10	21	45
Morello Ave	South of Center Ave	58.4	58.4	0.0	10	22	47
Center Ave	West of Morello Ave	55.1	55.2	0.1	6	13	29
Center Ave	Morello Ave to Vine Hill Way	53.4	53.5	0.0	5	10	22
Center Ave	East of Vine Hill Way	53.9	54.0	0.1	5	11	24
Muir Rd	West of Morello Way	57.6	57.7	0.1	9	20	42
Muir Rd	East of Morello Way	57.6	57.7	0.1	9	20	42
Vine Hill Way	South of Center Ave	52.7	52.7	0.0	4	9	20
Vine Hill Way	Center Ave to East Project Entrance	50.9	51.2	0.4	3	7	16
Vine Hill Way	North of Project Entrance	N/A	51.5	N/A	3	8	16

[1] *Distances to traffic noise contours are measured in feet from the centerlines of the roadways. Actual distances may vary due to shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.*

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM ABRAMS ASSOCIATES, INC. AND J.C. BRENNAN & ASSOCIATES, INC. 2013.

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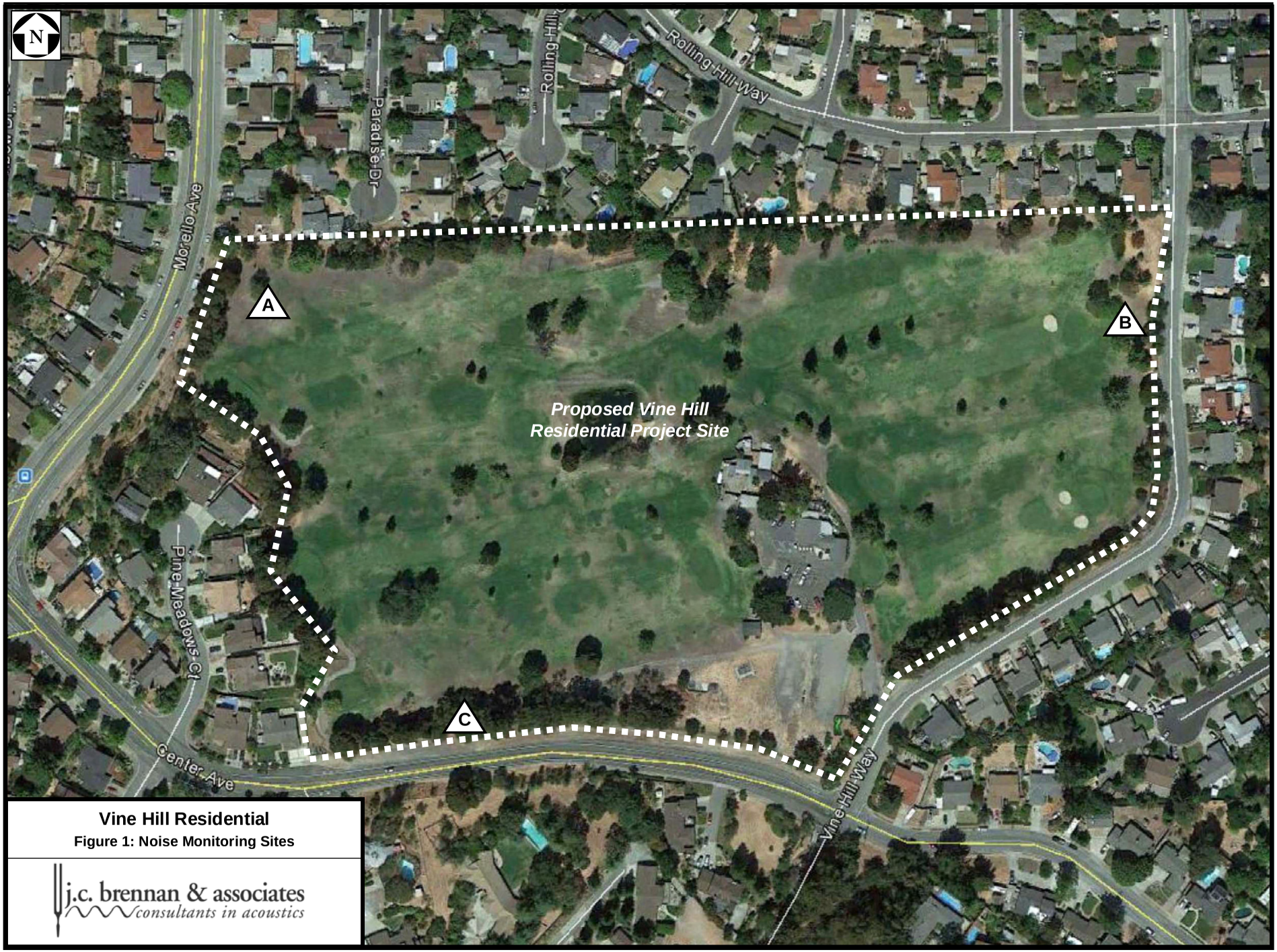

Vine Hill Residential

Figure 1: Noise Monitoring Sites

j.c. brennan & associates
consultants in acoustics

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Vine Hill Residential

Figure 2: Project Site Plan

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consultants in acoustics

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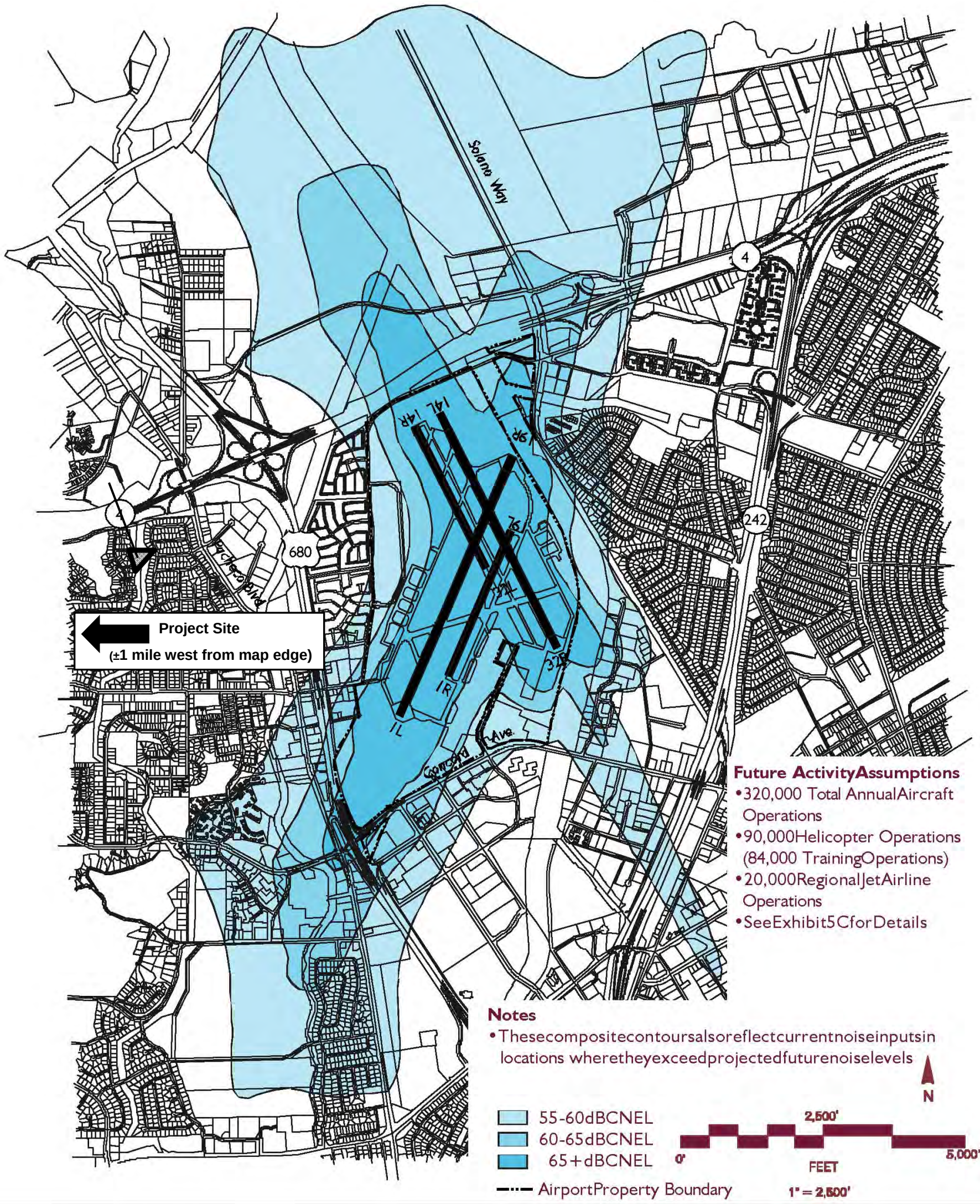

Figure 3: Buchanan Field Noise Contours

j.c. brennan & associates
consultants in acoustics

Source: Contra Costa County Airport Land Use Compatibility Plan. December 2000.

Figure Prepared: December 2013

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Appendix B-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2013-195 Palmilla Residential
Description: Cumulative Plus Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Location	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Morello Avenue	Lot 1 Backyard / First Floor Façade	15,060	87		13	1	0.5	25	130	0
1	Morello Avenue	Lot 1 Second Floor Façade	15,060	87		13	1	0.5	25	130	3
2	Center Avenue	Lots 35-47 Backyards / First Floor Façade	2,710	87		13	1	0.5	25	80	0
2	Center Avenue	Lots 35-47 Second Floor Facades	2,710	87		13	1	0.5	25	80	3
3	Vine Hill Way	Lots 24-34 Backyards / First Floor Façade	1,710	87		13	1	0.5	25	75	0
3	Vine Hill Way	Lots 24-34 Second Floor Facades	1,710	87		13	1	0.5	25	75	3

Appendix B-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2013-195 Palmilla Residential
Description: Cumulative Plus Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Location	Autos	Medium Trucks	Heavy Trucks	Total
1	Morello Avenue	Lot 1 Backyard / First Floor Façade	53.9	45.6	50.2	56
1	Morello Avenue	Lot 1 Second Floor Façade	56.9	48.6	53.2	59
2	Center Avenue	Lots 35-47 Backyards / First Floor Fac	49.6	41.3	45.9	52
2	Center Avenue	Lots 35-47 Second Floor Facades	52.6	44.3	48.9	55
3	Vine Hill Way	Lots 24-34 Backyards / First Floor Fac	48.1	39.7	44.4	50
3	Vine Hill Way	Lots 24-34 Second Floor Facades	51.1	42.7	47.4	53

Appendix B-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2013-195 Palmilla Residential
Description: Cumulative Plus Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Location	75	70	65	60	55
1	Morello Avenue	Lot 1 Backyard / First Floor Façade	7	15	32	69	149
1	Morello Avenue	Lot 1 Second Floor Façade	11	24	51	110	236
2	Center Avenue	Lots 35-47 Backyards / First Floor Fa	2	5	10	22	47
2	Center Avenue	Lots 35-47 Second Floor Facades	3	8	16	35	75
3	Vine Hill Way	Lots 24-34 Backyards / First Floor Fa	2	3	8	16	35
3	Vine Hill Way	Lots 24-34 Second Floor Facades	3	6	12	26	55

Appendix A-1
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2013-199 Vine Hill Residential
Description: Existing Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Morello Ave	North of SR-4	21,650	87		13	1.0	0.5	25	60	
2	Morello Ave	North of Muir Rd	15,220	87		13	1.0	0.5	25	60	
3	Morello Ave	Muir Rd to Center Ave	15,010	87		13	1.0	0.5	25	60	
4	Morello Ave	West Project Entrance to Center Ave	#VALUE!	87		#VALUE!	1.0	0.5	25	60	
5	Morello Ave	South of Center Ave	7,480	87		13	1.0	0.5	25	60	
6	Center Ave	West of Morello Ave	3,490	87		13	1.0	0.5	25	60	
7	Center Ave	Morello Ave to Vine Hill Way	2,370	87		13	1.0	0.5	25	60	
8	Center Ave	East of Vine Hill Way	2,670	87		13	1.0	0.5	25	60	
9	Muir Rd	West of Morello Way	6,230	87		13	1.0	0.5	25	60	
10	Muir Rd	East of Morello Way	6,230	87		13	1.0	0.5	25	60	
11	Vine Hill Way	South of Center Ave	2,010	87		13	1.0	0.5	25	60	
12	Vine Hill Way	Center Ave to East Project Entrance	1,340	87		13	1.0	0.5	25	60	
13	Vine Hill Way	North of Project Entrance	#VALUE!	87		#VALUE!	1.0	0.5	25	60	

Appendix A-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2013-199 Vine Hill Residential
Description: Existing Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Morello Ave	North of SR-4	60.5	52.2	56.8	62.5
2	Morello Ave	North of Muir Rd	59.0	50.7	55.3	61.0
3	Morello Ave	Muir Rd to Center Ave	58.9	50.6	55.2	60.9
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
5	Morello Ave	South of Center Ave	55.9	47.6	52.2	57.9
6	Center Ave	West of Morello Ave	52.6	44.3	48.9	54.6
7	Center Ave	Morello Ave to Vine Hill Way	50.9	42.6	47.2	52.9
8	Center Ave	East of Vine Hill Way	51.4	43.1	47.7	53.4
9	Muir Rd	West of Morello Way	55.1	46.8	51.4	57.1
10	Muir Rd	East of Morello Way	55.1	46.8	51.4	57.1
11	Vine Hill Way	South of Center Ave	50.2	41.9	46.5	52.2
12	Vine Hill Way	Center Ave to East Project Entrance	48.4	40.1	44.8	50.4
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Appendix A-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Noise Contour Output

Project #: 2013-199 Vine Hill Residential
Description: Existing Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Morello Ave	North of SR-4	9	19	41	88	190
2	Morello Ave	North of Muir Rd	7	15	32	70	150
3	Morello Ave	Muir Rd to Center Ave	7	15	32	69	149
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
5	Morello Ave	South of Center Ave	4	9	20	43	93
6	Center Ave	West of Morello Ave	3	6	12	26	56
7	Center Ave	Morello Ave to Vine Hill Way	2	4	9	20	43
8	Center Ave	East of Vine Hill Way	2	5	10	22	47
9	Muir Rd	West of Morello Way	4	8	18	38	83
10	Muir Rd	East of Morello Way	4	8	18	38	83
11	Vine Hill Way	South of Center Ave	2	4	8	18	39
12	Vine Hill Way	Center Ave to East Project Entrance	1	3	6	14	30
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Appendix A-4
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2013-199 Vine Hill Residential
Description: Existing + Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Morello Ave	North of SR-4	21,750	87		13	1.0	0.5	25	60	
2	Morello Ave	North of Muir Rd	16,920	87		13	1.0	0.5	25	60	
3	Morello Ave	Muir Rd to Center Ave	15,910	87		13	1.0	0.5	25	60	
4	Morello Ave	West Project Entrance to Center Ave	6,980	87		13	1.0	0.5	25	60	
5	Morello Ave	South of Center Ave	7,510	87		13	1.0	0.5	25	60	
6	Center Ave	West of Morello Ave	3,600	87		13	1.0	0.5	25	60	
7	Center Ave	Morello Ave to Vine Hill Way	2,400	87		13	1.0	0.5	25	60	
8	Center Ave	East of Vine Hill Way	2,750	87		13	1.0	0.5	25	60	
9	Muir Rd	West of Morello Way	6,390	87		13	1.0	0.5	25	60	
10	Muir Rd	East of Morello Way	6,360	87		13	1.0	0.5	25	60	
11	Vine Hill Way	South of Center Ave	2,030	87		13	1.0	0.5	25	60	
12	Vine Hill Way	Center Ave to East Project Entrance	1,470	87		13	1.0	0.5	25	60	
13	Vine Hill Way	North of Project Entrance	1,540	87		13	1.0	0.5	25	60	

Appendix A-5

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2013-199 Vine Hill Residential
Description: Existing + Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Morello Ave	North of SR-4	60.6	52.2	56.9	62.5
2	Morello Ave	North of Muir Rd	59.5	51.1	55.8	61.4
3	Morello Ave	Muir Rd to Center Ave	59.2	50.9	55.5	61.2
4	Morello Ave	West Project Entrance to Center Ave	55.6	47.3	51.9	57.6
5	Morello Ave	South of Center Ave	55.9	47.6	52.2	57.9
6	Center Ave	West of Morello Ave	52.7	44.4	49.0	54.7
7	Center Ave	Morello Ave to Vine Hill Way	51.0	42.7	47.3	53.0
8	Center Ave	East of Vine Hill Way	51.6	43.3	47.9	53.5
9	Muir Rd	West of Morello Way	55.2	46.9	51.5	57.2
10	Muir Rd	East of Morello Way	55.2	46.9	51.5	57.2
11	Vine Hill Way	South of Center Ave	50.3	41.9	46.6	52.2
12	Vine Hill Way	Center Ave to East Project Entrance	48.8	40.5	45.2	50.8
13	Vine Hill Way	North of Project Entrance	49.1	40.7	45.4	51.0

Appendix A-6

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Noise Contour Output

Project #: 2013-199 Vine Hill Residential
Description: Existing + Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Morello Ave	North of SR-4	9	19	41	88	190
2	Morello Ave	North of Muir Rd	7	16	35	75	161
3	Morello Ave	Muir Rd to Center Ave	7	15	33	72	155
4	Morello Ave	West Project Entrance to Center Ave	4	9	19	41	89
5	Morello Ave	South of Center Ave	4	9	20	43	94
6	Center Ave	West of Morello Ave	3	6	12	27	57
7	Center Ave	Morello Ave to Vine Hill Way	2	4	9	20	44
8	Center Ave	East of Vine Hill Way	2	5	10	22	48
9	Muir Rd	West of Morello Way	4	8	18	39	84
10	Muir Rd	East of Morello Way	4	8	18	39	84
11	Vine Hill Way	South of Center Ave	2	4	8	18	39
12	Vine Hill Way	Center Ave to East Project Entrance	1	3	7	15	32
13	Vine Hill Way	North of Project Entrance	2	3	7	15	33

Appendix A-7
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2013-199 Vine Hill Residential
Description: Background Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Morello Ave	North of SR-4	21,970	87		13	1.0	0.5	25	60	
2	Morello Ave	North of Muir Rd	16,780	87		13	1.0	0.5	25	60	
3	Morello Ave	Muir Rd to Center Ave	15,460	87		13	1.0	0.5	25	60	
4	Morello Ave	West Project Entrance to Center Ave	#VALUE!	87		#VALUE!	1.0	0.5	25	60	
5	Morello Ave	South of Center Ave	7,580	87		13	1.0	0.5	25	60	
6	Center Ave	West of Morello Ave	2,680	87		13	1.0	0.5	25	60	
7	Center Ave	Morello Ave to Vine Hill Way	2,410	87		13	1.0	0.5	25	60	
8	Center Ave	East of Vine Hill Way	2,700	87		13	1.0	0.5	25	60	
9	Muir Rd	West of Morello Way	6,330	87		13	1.0	0.5	25	60	
10	Muir Rd	East of Morello Way	6,330	87		13	1.0	0.5	25	60	
11	Vine Hill Way	South of Center Ave	2,030	87		13	1.0	0.5	25	60	
12	Vine Hill Way	Center Ave to East Project Entrance	1,350	87		13	1.0	0.5	25	60	
13	Vine Hill Way	North of Project Entrance	#VALUE!	87		#VALUE!	1.0	0.5	25	60	

Appendix A-8

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2013-199 Vine Hill Residential
Description: Background Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Morello Ave	North of SR-4	60.6	52.3	56.9	62.6
2	Morello Ave	North of Muir Rd	59.4	51.1	55.7	61.4
3	Morello Ave	Muir Rd to Center Ave	59.1	50.8	55.4	61.0
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
5	Morello Ave	South of Center Ave	56.0	47.7	52.3	57.9
6	Center Ave	West of Morello Ave	51.5	43.1	47.8	53.4
7	Center Ave	Morello Ave to Vine Hill Way	51.0	42.7	47.3	53.0
8	Center Ave	East of Vine Hill Way	51.5	43.2	47.8	53.5
9	Muir Rd	West of Morello Way	55.2	46.9	51.5	57.2
10	Muir Rd	East of Morello Way	55.2	46.9	51.5	57.2
11	Vine Hill Way	South of Center Ave	50.3	41.9	46.6	52.2
12	Vine Hill Way	Center Ave to East Project Entrance	48.5	40.2	44.8	50.5
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Appendix A-9

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Noise Contour Output

Project #: 2013-199 Vine Hill Residential
Description: Background Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Morello Ave	North of SR-4	9	19	41	89	192
2	Morello Ave	North of Muir Rd	7	16	35	74	160
3	Morello Ave	Muir Rd to Center Ave	7	15	33	70	152
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
5	Morello Ave	South of Center Ave	4	9	20	44	94
6	Center Ave	West of Morello Ave	2	5	10	22	47
7	Center Ave	Morello Ave to Vine Hill Way	2	4	9	20	44
8	Center Ave	East of Vine Hill Way	2	5	10	22	47
9	Muir Rd	West of Morello Way	4	8	18	39	84
10	Muir Rd	East of Morello Way	4	8	18	39	84
11	Vine Hill Way	South of Center Ave	2	4	8	18	39
12	Vine Hill Way	Center Ave to East Project Entrance	1	3	6	14	30
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Appendix A-10
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2013-199 Vine Hill Residential
Description: Background + Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Morello Ave	North of SR-4	22,070	87		13	1.0	0.5	25	60	
2	Morello Ave	North of Muir Rd	17,180	87		13	1.0	0.5	25	60	
3	Morello Ave	Muir Rd to Center Ave	16,150	87		13	1.0	0.5	25	60	
4	Morello Ave	West Project Entrance to Center Ave	7,090	87		13	1.0	0.5	25	60	
5	Morello Ave	South of Center Ave	7,610	87		13	1.0	0.5	25	60	
6	Center Ave	West of Morello Ave	3,650	87		13	1.0	0.5	25	60	
7	Center Ave	Morello Ave to Vine Hill Way	2,440	87		13	1.0	0.5	25	60	
8	Center Ave	East of Vine Hill Way	2,780	87		13	1.0	0.5	25	60	
9	Muir Rd	West of Morello Way	6,490	87		13	1.0	0.5	25	60	
10	Muir Rd	East of Morello Way	6,460	87		13	1.0	0.5	25	60	
11	Vine Hill Way	South of Center Ave	2,050	87		13	1.0	0.5	25	60	
12	Vine Hill Way	Center Ave to East Project Entrance	1,480	87		13	1.0	0.5	25	60	
13	Vine Hill Way	North of Project Entrance	1,430	87		13	1.0	0.5	25	60	

Appendix A-11

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2013-199 Vine Hill Residential
Description: Background + Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Morello Ave	North of SR-4	60.6	52.3	56.9	62.6
2	Morello Ave	North of Muir Rd	59.5	51.2	55.8	61.5
3	Morello Ave	Muir Rd to Center Ave	59.3	50.9	55.6	61.2
4	Morello Ave	West Project Entrance to Center Ave	55.7	47.4	52.0	57.7
5	Morello Ave	South of Center Ave	56.0	47.7	52.3	58.0
6	Center Ave	West of Morello Ave	52.8	44.5	49.1	54.8
7	Center Ave	Morello Ave to Vine Hill Way	51.1	42.7	47.4	53.0
8	Center Ave	East of Vine Hill Way	51.6	43.3	47.9	53.6
9	Muir Rd	West of Morello Way	55.3	47.0	51.6	57.3
10	Muir Rd	East of Morello Way	55.3	47.0	51.6	57.3
11	Vine Hill Way	South of Center Ave	50.3	42.0	46.6	52.3
12	Vine Hill Way	Center Ave to East Project Entrance	48.9	40.6	45.2	50.9
13	Vine Hill Way	North of Project Entrance	48.7	40.4	45.0	50.7

Appendix A-12

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Noise Contour Output

Project #: 2013-199 Vine Hill Residential
Description: Background + Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Morello Ave	North of SR-4	9	19	41	89	192
2	Morello Ave	North of Muir Rd	8	16	35	76	163
3	Morello Ave	Muir Rd to Center Ave	7	16	34	72	156
4	Morello Ave	West Project Entrance to Center Ave	4	9	19	42	90
5	Morello Ave	South of Center Ave	4	9	20	44	95
6	Center Ave	West of Morello Ave	3	6	12	27	58
7	Center Ave	Morello Ave to Vine Hill Way	2	4	10	21	44
8	Center Ave	East of Vine Hill Way	2	5	10	22	48
9	Muir Rd	West of Morello Way	4	9	18	39	85
10	Muir Rd	East of Morello Way	4	8	18	39	85
11	Vine Hill Way	South of Center Ave	2	4	8	18	39
12	Vine Hill Way	Center Ave to East Project Entrance	1	3	7	15	32
13	Vine Hill Way	North of Project Entrance	1	3	7	14	31

Appendix A-13
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2013-199 Vine Hill Residential
Description: Cumulative Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Morello Ave	North of SR-4	24,390	87		13	1.0	0.5	25	60	
2	Morello Ave	North of Muir Rd	18,630	87		13	1.0	0.5	25	60	
3	Morello Ave	Muir Rd to Center Ave	14,500	87		13	1.0	0.5	25	60	
4	Morello Ave	West Project Entrance to Center Ave	#VALUE!	87		#VALUE!	1.0	0.5	25	60	
5	Morello Ave	South of Center Ave	8,420	87		13	1.0	0.5	25	60	
6	Center Ave	West of Morello Ave	3,930	87		13	1.0	0.5	25	60	
7	Center Ave	Morello Ave to Vine Hill Way	2,680	87		13	1.0	0.5	25	60	
8	Center Ave	East of Vine Hill Way	2,990	87		13	1.0	0.5	25	60	
9	Muir Rd	West of Morello Way	7,030	87		13	1.0	0.5	25	60	
10	Muir Rd	East of Morello Way	7,030	87		13	1.0	0.5	25	60	
11	Vine Hill Way	South of Center Ave	2,250	87		13	1.0	0.5	25	60	
12	Vine Hill Way	Center Ave to East Project Entrance	1,490	87		13	1.0	0.5	25	60	
13	Vine Hill Way	North of Project Entrance	#VALUE!	87		#VALUE!	1.0	0.5	25	60	

Appendix A-14

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2013-199 Vine Hill Residential
Description: Cumulative Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Morello Ave	North of SR-4	61.0	52.7	57.4	63.0
2	Morello Ave	North of Muir Rd	59.9	51.6	56.2	61.9
3	Morello Ave	Muir Rd to Center Ave	58.8	50.5	55.1	60.8
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
5	Morello Ave	South of Center Ave	56.4	48.1	52.7	58.4
6	Center Ave	West of Morello Ave	53.1	44.8	49.4	55.1
7	Center Ave	Morello Ave to Vine Hill Way	51.5	43.1	47.8	53.4
8	Center Ave	East of Vine Hill Way	51.9	43.6	48.2	53.9
9	Muir Rd	West of Morello Way	55.6	47.3	52.0	57.6
10	Muir Rd	East of Morello Way	55.6	47.3	52.0	57.6
11	Vine Hill Way	South of Center Ave	50.7	42.4	47.0	52.7
12	Vine Hill Way	Center Ave to East Project Entrance	48.9	40.6	45.2	50.9
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Appendix A-15

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Noise Contour Output

Project #: 2013-199 Vine Hill Residential
Description: Cumulative Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Morello Ave	North of SR-4	10	21	44	95	206
2	Morello Ave	North of Muir Rd	8	17	37	80	172
3	Morello Ave	Muir Rd to Center Ave	7	15	31	67	145
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
5	Morello Ave	South of Center Ave	5	10	22	47	101
6	Center Ave	West of Morello Ave	3	6	13	28	61
7	Center Ave	Morello Ave to Vine Hill Way	2	5	10	22	47
8	Center Ave	East of Vine Hill Way	2	5	11	24	51
9	Muir Rd	West of Morello Way	4	9	19	42	90
10	Muir Rd	East of Morello Way	4	9	19	42	90
11	Vine Hill Way	South of Center Ave	2	4	9	19	42
12	Vine Hill Way	Center Ave to East Project Entrance	1	3	7	15	32
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Appendix A-16
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2013-199 Vine Hill Residential
Description: Cumulative + Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Morello Ave	North of SR-4	24,490	87		13	1.0	0.5	25	60	
2	Morello Ave	North of Muir Rd	19,300	87		13	1.0	0.5	25	60	
3	Morello Ave	Muir Rd to Center Ave	15,060	87		13	1.0	0.5	25	60	
4	Morello Ave	West Project Entrance to Center Ave	7,870	87		13	1.0	0.5	25	60	
5	Morello Ave	South of Center Ave	8,450	87		13	1.0	0.5	25	60	
6	Center Ave	West of Morello Ave	4,040	87		13	1.0	0.5	25	60	
7	Center Ave	Morello Ave to Vine Hill Way	2,710	87		13	1.0	0.5	25	60	
8	Center Ave	East of Vine Hill Way	3,070	87		13	1.0	0.5	25	60	
9	Muir Rd	West of Morello Way	7,190	87		13	1.0	0.5	25	60	
10	Muir Rd	East of Morello Way	7,160	87		13	1.0	0.5	25	60	
11	Vine Hill Way	South of Center Ave	2,270	87		13	1.0	0.5	25	60	
12	Vine Hill Way	Center Ave to East Project Entrance	1,620	87		13	1.0	0.5	25	60	
13	Vine Hill Way	North of Project Entrance	1,710	87		13	1.0	0.5	25	60	

Appendix A-17

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2013-199 Vine Hill Residential
Description: Cumulative + Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Morello Ave	North of SR-4	61.1	52.8	57.4	63.0
2	Morello Ave	North of Muir Rd	60.0	51.7	56.3	62.0
3	Morello Ave	Muir Rd to Center Ave	59.0	50.6	55.3	60.9
4	Morello Ave	West Project Entrance to Center Ave	56.1	47.8	52.4	58.1
5	Morello Ave	South of Center Ave	56.4	48.1	52.8	58.4
6	Center Ave	West of Morello Ave	53.2	44.9	49.5	55.2
7	Center Ave	Morello Ave to Vine Hill Way	51.5	43.2	47.8	53.5
8	Center Ave	East of Vine Hill Way	52.0	43.7	48.4	54.0
9	Muir Rd	West of Morello Way	55.7	47.4	52.0	57.7
10	Muir Rd	East of Morello Way	55.7	47.4	52.0	57.7
11	Vine Hill Way	South of Center Ave	50.7	42.4	47.0	52.7
12	Vine Hill Way	Center Ave to East Project Entrance	49.3	41.0	45.6	51.2
13	Vine Hill Way	North of Project Entrance	49.5	41.2	45.8	51.5

Appendix A-18

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Noise Contour Output

Project #: 2013-199 Vine Hill Residential
Description: Cumulative + Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Morello Ave	North of SR-4	10	21	44	96	206
2	Morello Ave	North of Muir Rd	8	18	38	82	176
3	Morello Ave	Muir Rd to Center Ave	7	15	32	69	149
4	Morello Ave	West Project Entrance to Center Ave	4	10	21	45	97
5	Morello Ave	South of Center Ave	5	10	22	47	101
6	Center Ave	West of Morello Ave	3	6	13	29	62
7	Center Ave	Morello Ave to Vine Hill Way	2	5	10	22	47
8	Center Ave	East of Vine Hill Way	2	5	11	24	52
9	Muir Rd	West of Morello Way	4	9	20	42	91
10	Muir Rd	East of Morello Way	4	9	20	42	91
11	Vine Hill Way	South of Center Ave	2	4	9	20	42
12	Vine Hill Way	Center Ave to East Project Entrance	2	3	7	16	34
13	Vine Hill Way	North of Project Entrance	2	3	8	16	35

Appendix L

Transportation Impact Analysis

Transportation Impact Analysis

VINE HILL RESIDENTIAL PROJECT

City of Martinez

Prepared by:
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Walnut Creek, CA 94596

Abrams Associates
TRAFFIC ENGINEERING, INC.

DECEMBER 8, 2017

Vine Hill Residential Project
in the
City of Martinez

TRANSPORTATION AND CIRCULATION

1) INTRODUCTION

This transportation impact analysis describes the existing and future conditions for transportation and circulation both with and without the proposed project. The study presents information on the regional and local roadway networks, pedestrian and transit conditions, and provides an analysis of the effects on transportation facilities associated with the project. This study also describes the regulatory setting; the criterion used for determining the significance of environmental impacts; and summarizes potential environmental impacts and appropriate mitigation measures when necessary. In addition, this analysis provides an assessment of the traffic operations at the site access. This study has been conducted in accordance with the requirements and methodologies set forth by the City of Martinez, Contra Costa County, Caltrans, and the applicable provisions of CEQA.

2) PROJECT DESCRIPTION

The proposed project is a single family residential development expected to include 92 single family homes. The project is located to the east of Morello Avenue and to the north of Center Street in the City of Martinez. Access to the site will be from two new intersections, one on Morello Avenue and one on Center Avenue. **Figure 1** shows the location of the project and the surrounding roadway network. **Figure 2** shows the proposed site plan for the project.

3) ENVIRONMENTAL SETTING

This section of the report describes the roadways, traffic conditions and other existing transportation characteristics in the vicinity of the project. The primary basis of the analysis is the peak hour level of service for the key study intersections. Throughout this report, these peak commute hours will be identified as the AM and PM peak hours.

3.1 Project Study Intersections

Based on the project's trip generation and the potential for traffic impacts a list of project study intersections was prepared. **Figure 1** shows the location of the project study intersections.

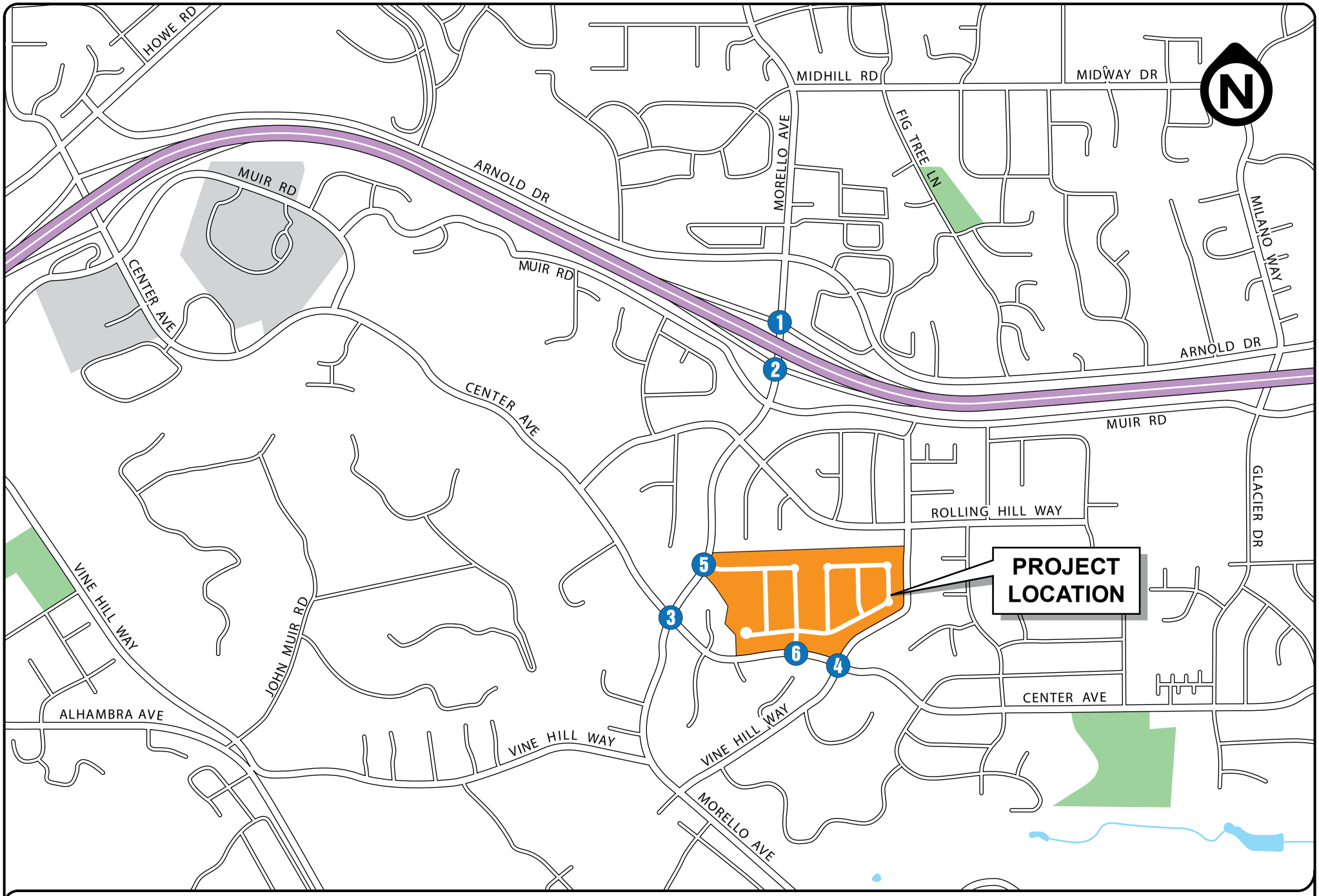

FIGURE 1 | PROJECT LOCATION
TRANSPORTATION IMPACT ANALYSIS
Vine Hill Residential Project
City of Martinez

Abrams Associates
TRAFFIC ENGINEERING, INC.

FIGURE 2 | SITE PLAN
TRANSPORTATION IMPACT ANALYSIS
Vine Hill Residential Project
City of Martinez

Abrams Associates
TRAFFIC ENGINEERING, INC.

There are six study intersections that have been included in the analysis. The two SR 4 ramp intersections are currently controlled by traffic signals while the intersections of Center Avenue with Morello Avenue and with Vine Hill Way both have all-way stop control.

Project Study Intersections

1. Morello Avenue and the State Route 4 Westbound Ramps
2. Morello Avenue and the State Route 4 Eastbound Ramps
3. Morello Avenue at Center Avenue
4. Vine Hill Way and Center Avenue
5. Morello Avenue and the Proposed Project Entrance ("A" Street)
6. Center Avenue and the Proposed Secondary Project Entrance ("G" Street)

3.2 Traffic Analysis Scenarios

The study intersections were evaluated for the following six scenarios:

- Scenario 1: *Existing Conditions* – Level of Service (LOS) based on existing peak hour volumes and existing intersection configurations.
- Scenario 2: *Existing Plus Project* – Existing traffic volumes plus trips from the proposed project.
- Scenario 3: *Baseline (No Project) Conditions* – The Baseline scenario is based on the existing volumes plus growth in background traffic (for three years) plus the traffic from all reasonably foreseeable developments that could substantially affect the volumes at the project study intersections.
- Scenario 4: *Baseline Plus Project Conditions* – This scenario is based on the Baseline traffic volumes plus the trips from the proposed project.
- Scenario 5: *Cumulative Conditions* – This scenario includes cumulative volumes based on the most recent release of the Countywide Travel Demand Model.
- Scenario 6: *Cumulative Plus Project Conditions* – This scenario includes cumulative volumes plus the trips from the proposed project

3.3 Existing Roadway Network

The following is a detailed description of the roadways that could be affected by the project:

- **State Route 4 (SR 4) –** SR 4 is the primary east-west corridor in Contra Costa County. It connects Interstate 80 in the city of Hercules to the west with SR 160 and the cities of Oakley and Brentwood to the east. SR 4 is currently a six-lane freeway in the vicinity of the proposed project.
- **Morello Avenue –** Morello Avenue is a north-south collector roadway that extends north from Taylor Boulevard to Pacheco Boulevard on the north. It provides the closest access to and underneath the SR 4 freeway for the proposed project.

- **Center Avenue –** Center Avenue is a two lane east-west collector street extending from Howe Road to terminate at Marsh Drive to the east. It serves primarily school and residential traffic from the adjacent neighborhoods.

- **Vine Hill Way –** Vine Hill Way is a two lane collector street extending north from Morello Avenue to Muir Road. It serves primarily residential traffic from the adjacent neighborhoods.

3.4 Intersection Analysis Methodology

Existing operational conditions at the seven (7) study intersections have been evaluated according to the requirements set forth by the City of Martinez. Analysis of traffic operations was conducted using the 2010 *Highway Capacity Manual* (*HCM*) Level of Service (LOS) methodology with Synchro software.[1] Level of service is an expression, in the form of a scale, of the relationship between the capacity of an intersection (or roadway segment) to accommodate the volume of traffic moving through it at any given time. The level of service scale describes traffic flow with six ratings ranging from A to F, with "A" indicating relatively free flow of traffic and "F" indicating stop-and-go traffic characterized by traffic jams.

As the amount of traffic moving through a given intersection or roadway segment increases, the traffic flow conditions that motorists experience rapidly deteriorate as the capacity of the intersection or roadway segment is reached. Under such conditions, there is general instability in the traffic flow, which means that relatively small incidents (e.g., momentary engine stall) can cause considerable fluctuations in speeds and delays that lead to traffic congestion. This near-capacity situation is labeled level of service (LOS) E. Beyond LOS E, the intersection or roadway segment capacity has been exceeded, and arriving traffic will exceed the ability of the intersection to accommodate it. **Table 1** summarizes the relationship between LOS, average control delay, and the volume to capacity ratio at signalized intersections. **Table 2** summarizes the relationship between LOS and delay at unsignalized intersections

For signalized intersections, The City of Martinez's LOS standards are based on the average delay for the entire intersection. The *HCM* methodology determines the capacity of each lane group approaching the intersection. The LOS is then based on average control delay (in seconds per vehicle) for the various movements within the intersection. A combined weighted average control delay and LOS are presented for the intersection. A summary of the HCM results and copies of the detailed HCM LOS calculations are included in the appendix to this report.

For unsignalized (all-way stop controlled and two-way stop controlled) intersections, the average control delay and LOS operating conditions are calculated by approach (e.g., northbound) and movement (e.g., northbound left-turn) for those movements that are subject to delay. Operating conditions for unsignalized intersections are presented for the worst approach.

[1] *2010 Highway Capacity Manual*, Transportation Research Board, Washington D.C., 2011

TABLE 1
SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description of Operations	Average Delay (sec/veh)	Volume to Capacity Ratio
A	Insignificant Delays: No approach phase is fully used and no vehicle waits longer than one red indication.	≤ 10	< 0.60
B	Minimal Delays: An occasional approach phase is fully used. Drivers begin to feel restricted.	> 10 to 20	> 0.61 to 0.70
C	Acceptable Delays: Major approach phase may become fully used. Most drivers feel somewhat restricted.	> 20 to 35	> 0.71 to 0.80
D	Tolerable Delays: Drivers may wait through no more than one red indication. Queues may develop but dissipate rapidly without excessive delays.	> 35 to 55	> 0.81 to 0.90
E	Significant Delays: Volumes approaching capacity. Vehicles may wait through several signal cycles and long vehicle queues from upstream.	> 55 to 80	> 0.91 to 1.00
F	Excessive Delays: Represents conditions at capacity, with extremely long delays. Queues may block upstream intersections.	> 80	> 1.00

SOURCES: 2010 *Highway Capacity Manual*, Transportation Research Board, 2011.

TABLE 2
UNSIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description of Operations	Average Delay (seconds/vehicle)
A	No delay for stop-controlled approaches.	0 to 10
B	Operations with minor delays.	> 10 to 15
C	Operations with moderate delays.	> 15 to 25
D	Operations with some delays.	> 25 to 35
E	Operations with high delays and long queues.	> 35 to 50
F	Operation with extreme congestion, with very high delays and long queues unacceptable to most drivers.	> 50

SOURCE: 2010 *Highway Capacity Manual*, Transportation Research Board, 2011.

3.5 Existing Intersection Capacity Conditions

The existing intersection geometry at each of the project study intersections can be seen in **Figure 3.** The traffic volumes at the study intersections for weekday AM and PM peak hours are presented in **Figure 4**. Traffic counts at all of the study intersections were conducted in November of 2013. **Table 3** summarizes the associated LOS computation results for the existing weekday AM and PM peak hour conditions. As shown in **Table 3**, all of the signalized study intersections currently have acceptable conditions (LOS B or better) during the weekday AM and PM peak hours.

3.6 Pedestrian and Bicycle Facilities

Bicycle paths, lanes and routes are typical examples of bicycle transportation facilities, which are defined by Caltrans as being in one of the following three classes:

Class I – Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.
Class II – Provides a restricted right-of-way designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross-flows by pedestrians and motorists permitted.
Class III – Provides a right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.

There are existing bike lanes on Morello Avenue and Center Avenue adjacent to the project.

TABLE 3
EXISTING INTERSECTION LEVEL OF SERVICE CONDITIONS

INTERSECTION		CONTROL	PEAK HOUR	EXISTING		EXISTING PLUS PROJECT	
				Delay	LOS	Delay	LOS
1	MORELLO AVENUE & SR-4 WB RAMPS	Traffic Signal	AM	12.4	B	12.7	B
			PM	13.8	B	14.0	B
2	MORELLO AVENUE & SR-4 EB RAMPS	Traffic Signal	AM	11.3	B	11.5	B
			PM	14.4	B	14.8	B
3	MORELLO AVENUE & CENTER AVENUE	All Way Stop	AM	13.1	B	13.3	B
			PM	13.8	B	14.2	B
4	VINE HILL WAY & CENTER AVENUE	All Way Stop	AM	8.3	A	8.3	A
			PM	8.2	A	8.2	A
5	MORELLO AVENUE & PROJECT ENTRANCE (A STREET)	Side Street Stop	AM	N/A	N/A	10.8	B
			PM	N/A	N/A	11.8	B
6	CENTER AVENUE & PROJECT ENTRANCE (G STREET)	Side Street Stop	AM	N/A	N/A	8.9	A
			PM	N/A	N/A	8.8	A

SOURCE: Abrams Associates, 2017

NOTES: HCM LOS results are presented in terms of average intersection delay in seconds per vehicle. For side street stop controlled intersections the results for the worst side street approach are presented.

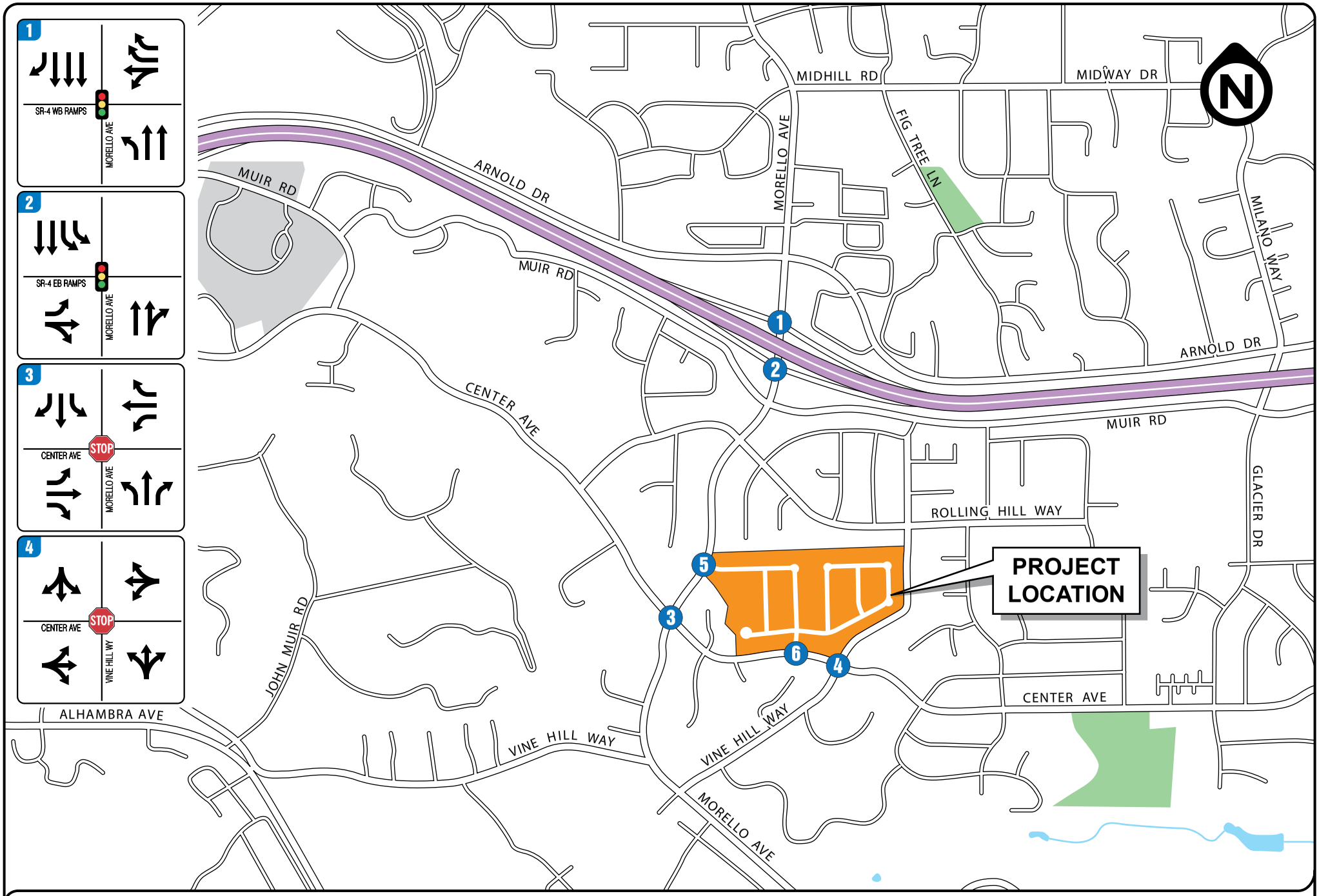

FIGURE 3 | EXISTING LANE CONFIGURATIONS
TRANSPORTATION IMPACT ANALYSIS
Vine Hill Residential Project
City of Martinez

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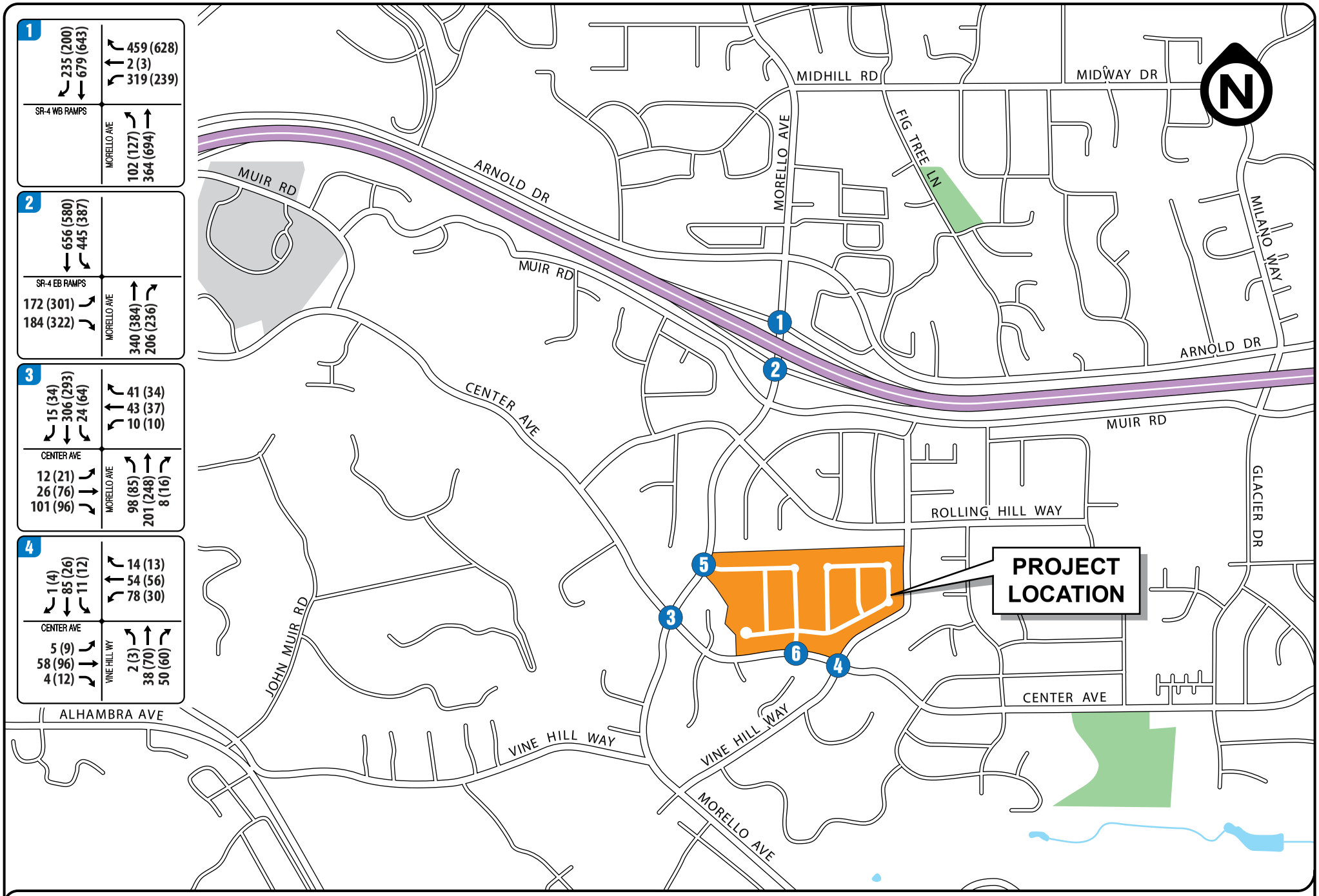

FIGURE 4 | EXISTING AM(PM) PEAK HOUR TRAFFIC VOLUMES
TRANSPORTATION IMPACT ANALYSIS
Vine Hill Residential Project
City of Martinez

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3.8 Transit Service

The County Connection currently operates approximately 31 fixed-route bus routes on weekdays throughout Central Contra Costa County but has limited service in the project area. The route that serves the project area is Route 28. This route runs from the North Concord BART station to the Downtown Martinez Amtrak station. This route has a frequency of 60 minutes during peak periods and 90 minutes during off peak periods. It runs from 5:45 am to 8:46 pm during the weekdays. Currently, the bus stops for Route 28 nearest to the proposed project is located at within walking distance on Morello Avenue, just north of Center Avenue.

4) REGULATORY CONTEXT

Existing policies, laws and regulations that apply to the proposed project are summarized below.

4.1 State

The California Department of Transportation (Caltrans) has jurisdiction over State highways. Therefore, Caltrans controls all construction, modification, and maintenance of State highways, such as SR 29. Any improvements to these roadways would require Caltrans' approval. The Guide for the Preparation of Traffic Impact Studies provides consistent guidance for Caltrans staff who review local development and land use change proposals. The Guide also informs local agencies about the information needed for Caltrans to analyze the traffic impacts to state highway facilities which include freeway segments, on- or off-ramps, and signalized intersections.

4.2 Local

City of Martinez General Plan - The Transportation and Circulation Element included in the City of Martinez General Plan was prepared pursuant to Section 65302(b) of the California Government Code. The Transportation and Circulation Element addresses the location and extent of existing and planned transportation routes, terminals, and other local public utilities and facilities. The General Plan identifies roadway and transit goals and policies that have been adopted to ensure that the transportation system of the City will have adequate capacity to serve planned growth. These goals and policies are intended to provide a plan and implementation measures for an integrated, multi-modal transportation system that will safely and efficiently meet the transportation needs of all economic and social segments of the City.

4.3 Significance Criteria

The goal of the City of Martinez is to maintain Level of Service (LOS) D during the peak hours according to the General Plan. For all signalized intersections a volume to capacity ratio (V/C) of 0.89 has been established for the downtown area and a V/C of 0.84 has been established for all other areas.

According to CEQA guidelines, a project would also have a significant impact if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths and mass transit.

- Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards, and travel demand measures, or other standards established by a county congestion management agency for designated roadways.
- Result in inadequate emergency vehicle access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.
- Result in an internal circulation system design that does not meet City standards.

5) IMPACTS AND MITIGATION MEASURES

5.1 Project Trip Generation

The proposed project will consist of include 92 single family homes. The trip generation calculations are shown in **Table 4**. They are based on the average trip generation rates for (Land Use Code 210) from the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 9th Edition.

TABLE 4
TRIP GENERATION CALCULATIONS

Land Use	*Size*	*ADT*	*AM Peak Hour*			*PM Peak Hour*		
			In	*Out*	*Total*	*In*	*Out*	*Total*
Single Family Dwellings	92 units	876	17	52	69	58	34	92

The total trip generation reflects all vehicle trips that would be counted at the two project entrances, both inbound and outbound. Since the project is residential there were no adjustments applied to account for pass-by or internal trips. Although there is a potential for transit use no reduction has been applied to the project trip generation. The project is forecast to generate a total of 69 vehicle trips during the AM peak hour and 92 trips during the PM peak hour.

For purposes of determining the reasonable worst-case impacts of traffic on the surrounding street network from a proposed project, the trips generated by this proposed development are estimated for the peak commute hours which represent the peak of "*adjacent street traffic*". This is the time period when the project traffic would generally contribute to the greatest amount of congestion.

5.2 Project Trip Distribution

The trip distribution assumptions have been based on the project's proximity to freeway interchanges, existing traffic count data including daily directional volume and peak-hour turning movements, the Contra Costa County travel demand model, and existing knowledge of the surrounding area such as commute patterns and the overall land use patterns in the area. **Figure 5** shows the project traffic that would be added at each of the study intersections.

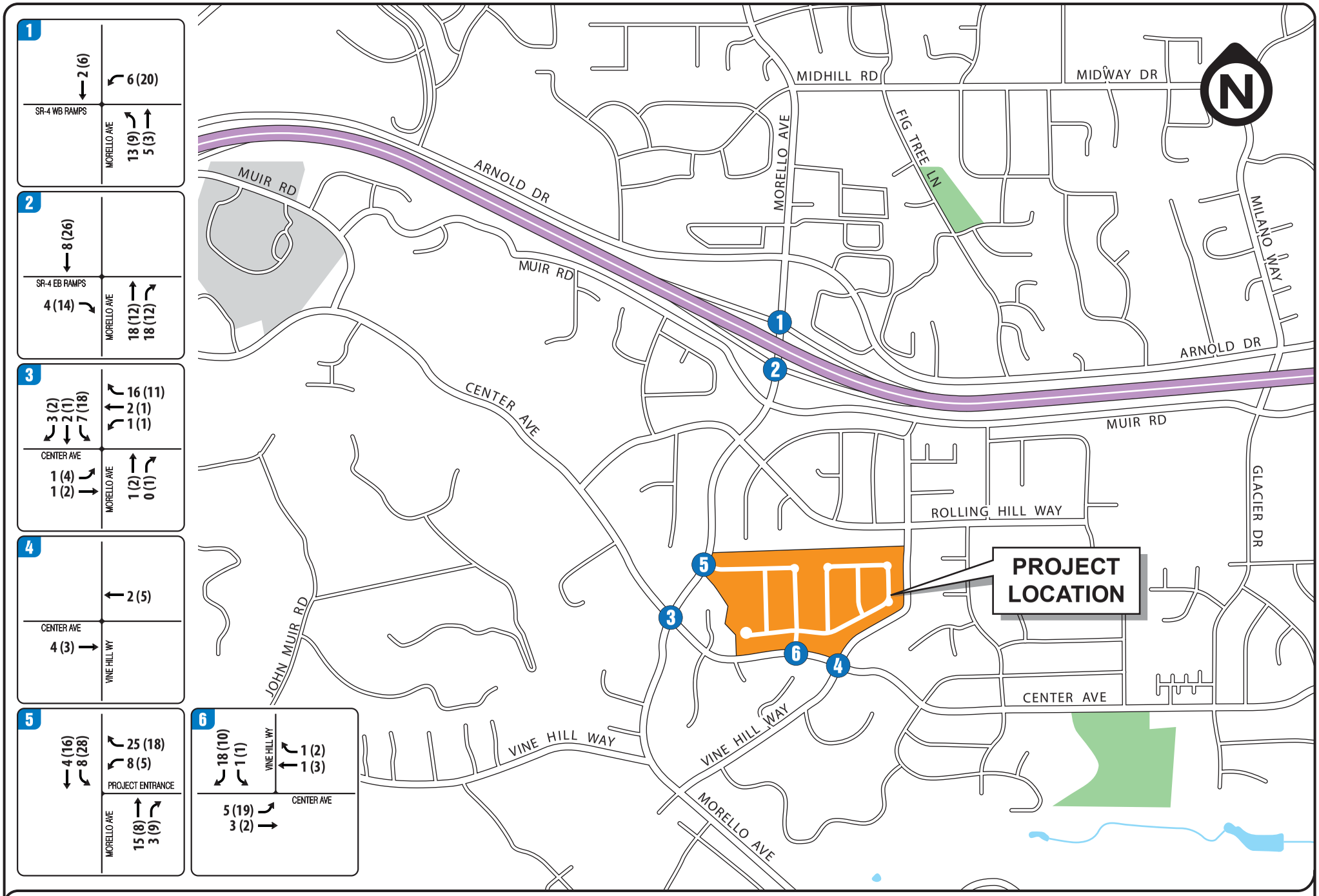

FIGURE 5 | PROJECT AM(PM) PEAK HOUR TRIPS
TRANSPORTATION IMPACT ANALYSIS
Vine Hill Residential Project
City of Martinez

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5.3 Existing Plus Project Traffic Capacity Conditions

This scenario evaluates the existing conditions with the addition of traffic from the proposed project. The capacity calculations for the Existing Plus Project scenario are shown previously in **Table 3**. Please note that the corresponding LOS analysis calculation sheets are presented in the Traffic Analysis Appendix. As shown in **Table 3**, all of the signalized study intersections would continue to have acceptable conditions (LOS D or better) during the weekday AM and PM peak hours. **Figure 6** presents the resulting existing plus project traffic volumes at each of the study intersections.

5.4 Baseline Traffic Capacity Conditions

The Baseline scenario evaluates the existing conditions with the addition of traffic from reasonably foreseeable projects in the area. This includes traffic from the recently completed Taco Bell and Dentist's Office project on Arnold Drive. In addition, the general baseline growth in traffic was developed based on the assumption that the soonest project completion date would be 2019. This scenario includes all reasonably foreseeable projects that would significantly affect the traffic volumes in the project study area. **Figure 7** presents the resulting baseline volumes at each of the project study intersections.

Table 5 summarizes the associated LOS computation results for the Baseline and Baseline Plus Project weekday AM and PM peak hour conditions. The corresponding LOS analysis calculation sheets are presented in the *Traffic Analysis Appendix*. As shown in **Table 5**, with addition of traffic from the proposed project all study intersections would continue have acceptable conditions (LOS D or better) during the weekday AM and PM peak hours.

5.5 Baseline *Plus Project* Intersection Capacity Conditions

The Baseline plus proposed project traffic forecasts were developed by adding project-related traffic to the baseline traffic volumes. **Figure 8** presents the Baseline Plus Project traffic volumes that were used in the analysis. As noted above, **Table 5** summarizes the LOS results for the Baseline Plus Project weekday AM and PM peak hour conditions (i.e. the existing roadway network). Please note that the corresponding LOS analysis calculation sheets are presented in the appendix. As shown in **Table 5**, all of the signalized study intersections would continue to have acceptable conditions (LOS D or better) during the weekday AM and PM peak hours.

5.6 Cumulative Year 2035 Traffic Capacity Conditions

The Cumulative Scenario, which represents 2035 conditions, corresponds to the build-out of the City of Martinez and Contra Costa County General Plans which include many significant land use changes. For the cumulative conditions, the intersection traffic volumes were based on the existing turning movements with the addition of traffic from all planned and approved projects plus the addition of growth estimated by the County's traffic model. **Figure 9** presents the future lane configurations used in the analysis. **Figure 10** presents the cumulative build-out traffic at the project study intersections (without the proposed project). As shown in **Table 6**, all of the signalized study intersections would continue to have acceptable conditions (LOS D or better) under this scenario during the weekday AM and PM peak.

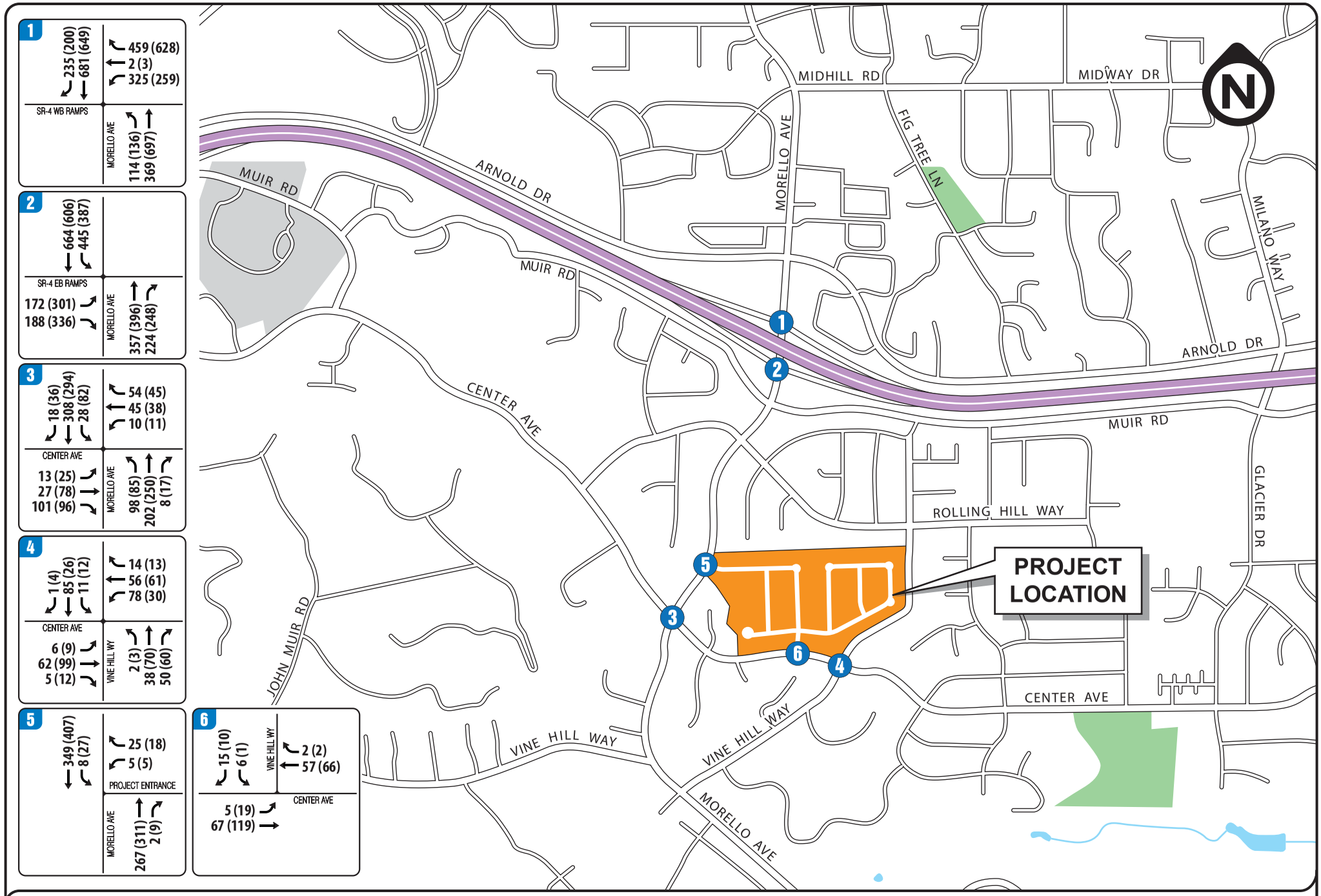

FIGURE 6 | EXISTING PLUS PROJECT AM(PM) PEAK HOUR TRAFFIC VOLUMES
TRANSPORTATION IMPACT ANALYSIS
Vine Hill Residential Project
City of Martinez

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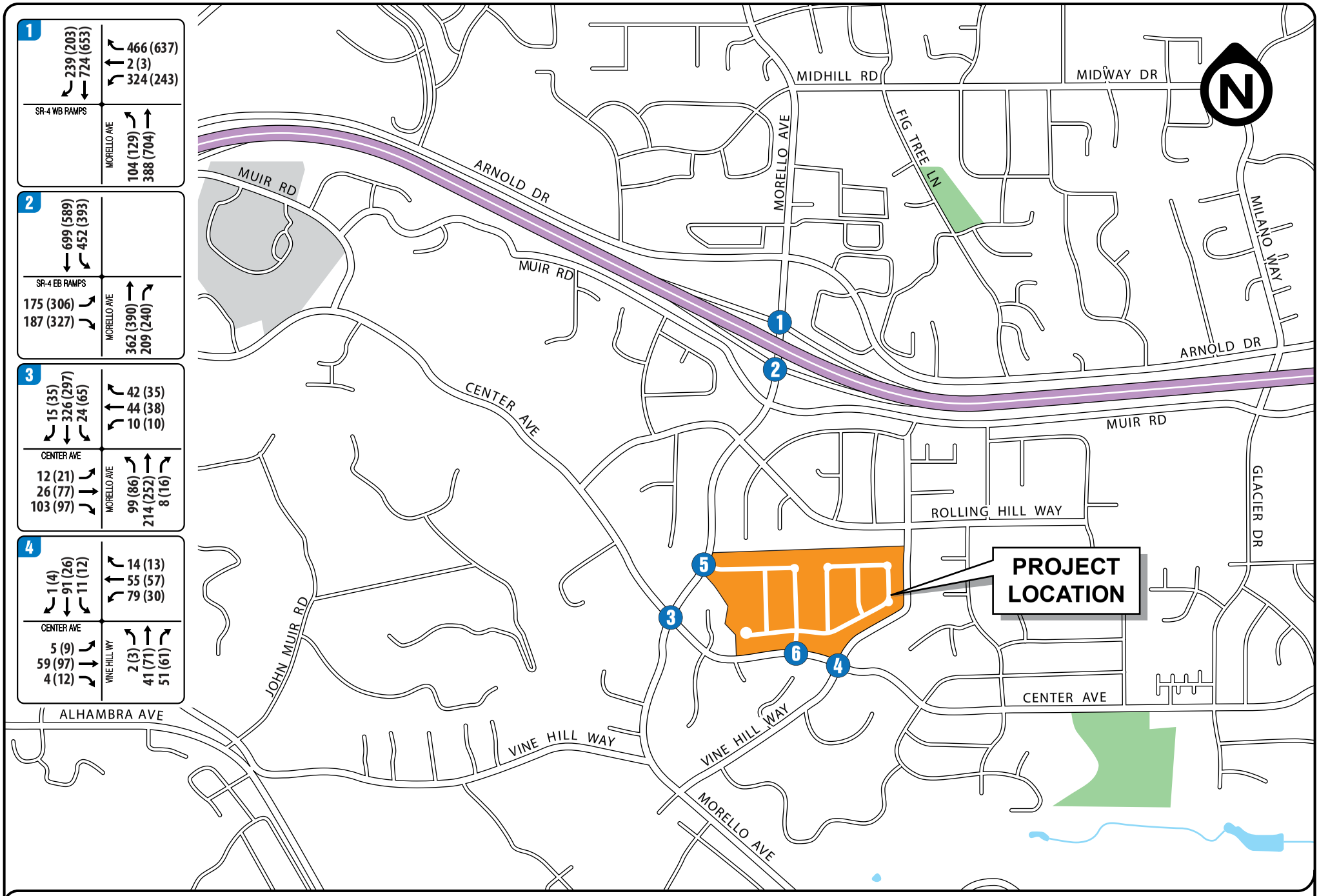

FIGURE 7 | BASELINE AM(PM) PEAK HOUR TRAFFIC VOLUMES
TRANSPORTATION IMPACT ANALYSIS
Vine Hill Residential Project
City of Martinez

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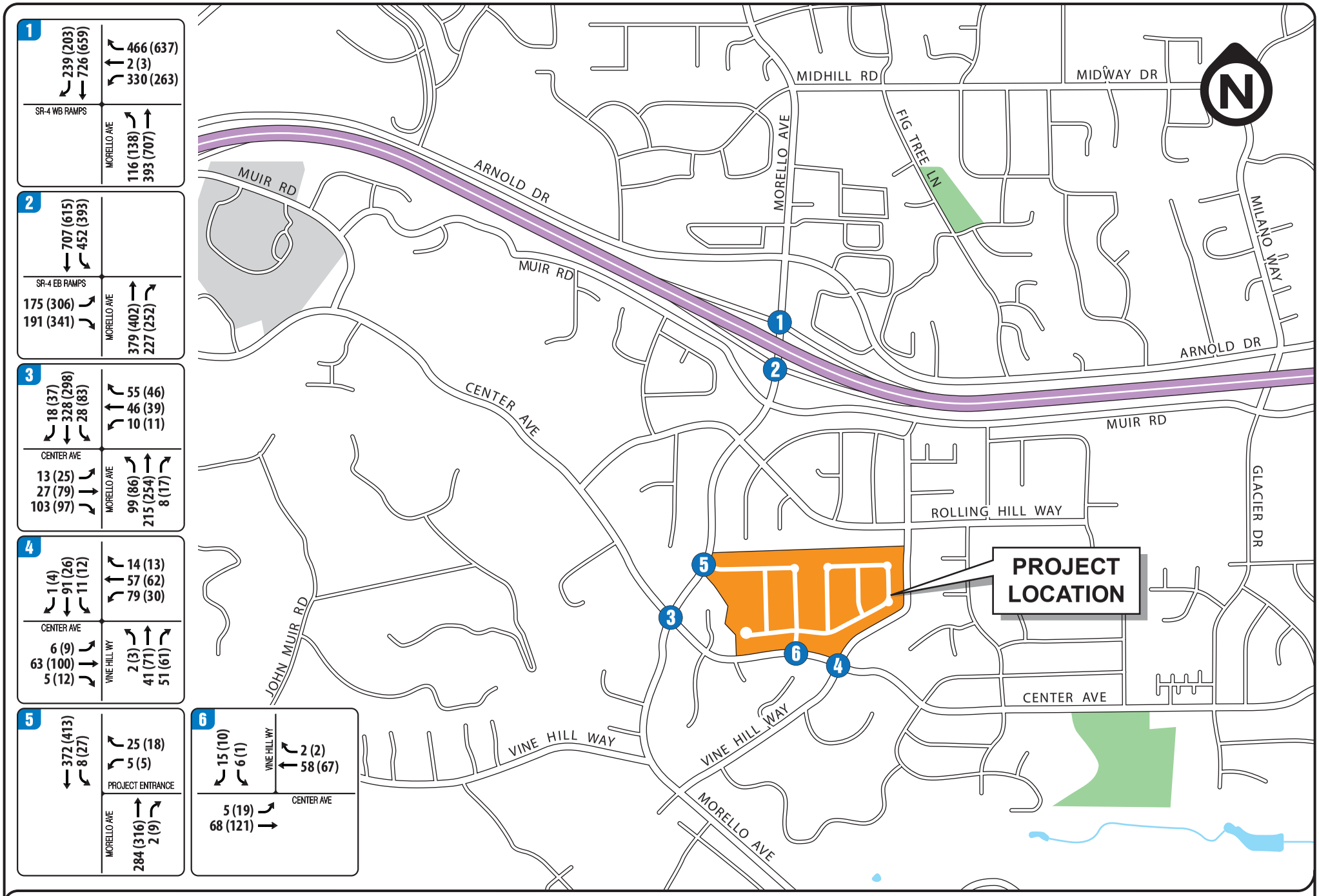

FIGURE 8 | BASELINE PLUS PROJECT AM(PM) PEAK HOUR TRAFFIC VOLUMES
TRANSPORTATION IMPACT ANALYSIS
Vine Hill Residential Project
City of Martinez

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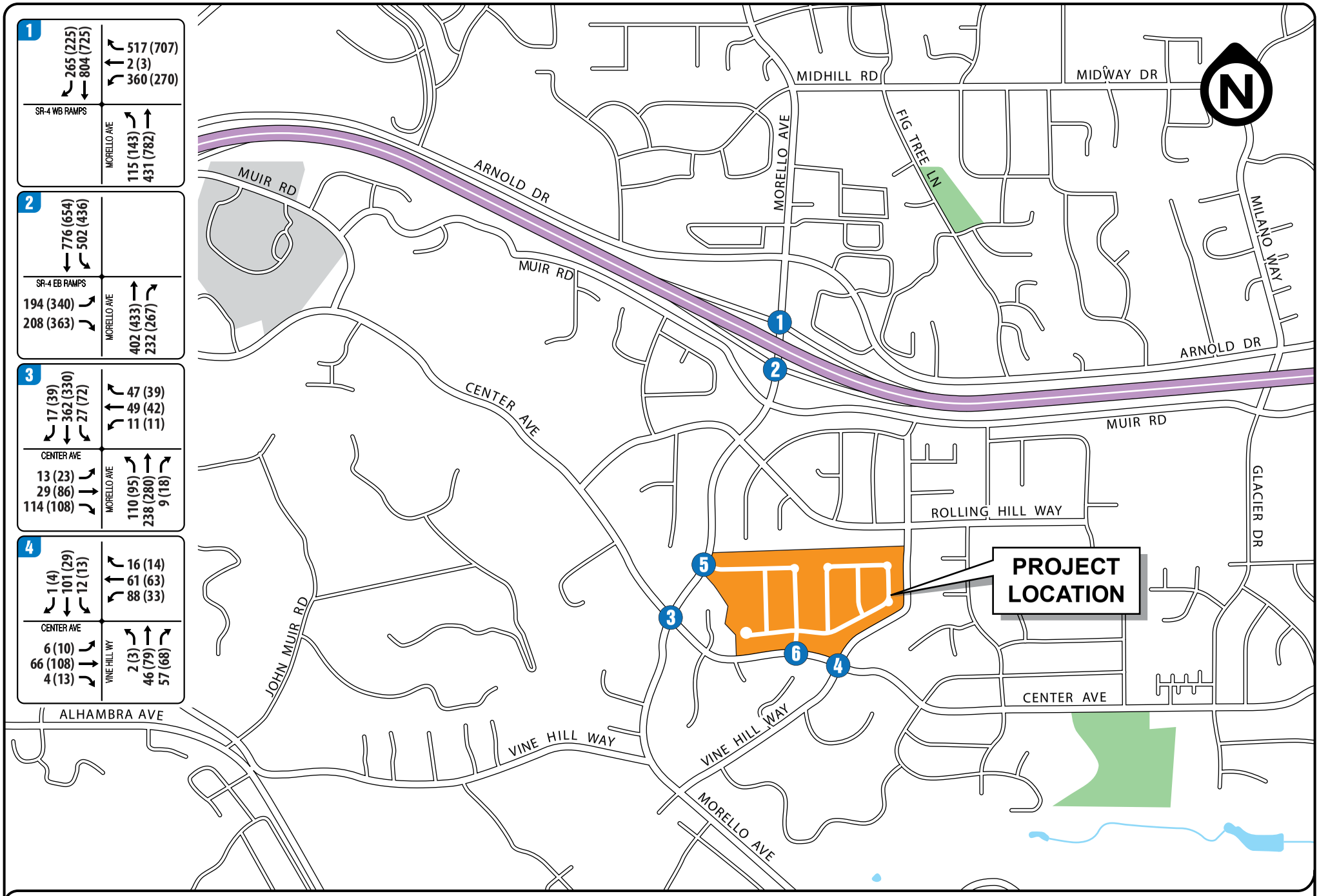

FIGURE 9 | CUMULATIVE AM(PM) PEAK HOUR TRAFFIC VOLUMES
TRANSPORTATION IMPACT ANALYSIS
Vine Hill Residential Project
City of Martinez

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TABLE 5
BASELINE PLUS PROJECT INTERSECTION LEVEL OF SERVICE CONDITIONS

	INTERSECTION	CONTROL	PEAK HOUR	BACKGROUND		BACKGROUND PLUS PROJECT	
				Delay	LOS	Delay	LOS
1	MORELLO AVENUE & SR-4 WB RAMPS	Traffic Signal	AM	12.7	B	13.1	B
			PM	13.9	B	14.3	B
2	MORELLO AVENUE & SR-4 EB RAMPS	Traffic Signal	AM	11.5	B	11.7	B
			PM	14.6	B	15.1	B
3	MORELLO AVENUE & CENTER AVENUE	All Way Stop	AM	13.9	B	14.2	B
			PM	14.1	B	14.4	B
4	VINE HILL WAY & CENTER AVENUE	All Way Stop	AM	8.4	A	8.4	A
			PM	8.2	A	8.2	A
5	MORELLO AVENUE & PROJECT ENTRANCE (A STREET)	Side Street Stop	AM	N/A	N/A	11.0	B
			PM	N/A	N/A	11.8	B
6	CENTER AVENUE & PROJECT ENTRANCE (G STREET)	Side Street Stop	AM	N/A	N/A	8.9	A
			PM	N/A	N/A	8.8	A

SOURCE: Abrams Associates, 2017

NOTES: HCM LOS results are presented in terms of average intersection delay in seconds per vehicle. For side street stop controlled intersections the results for the worst side street approach are presented.

5.7 Cumulative Plus Project Traffic Capacity Conditions

Figure 10 presents the cumulative build-out traffic volumes including the traffic from the proposed residential project. **Table 6** summarizes the LOS results for the Cumulative Plus Project (Year 2035) traffic conditions at each of the project study intersections. As shown on this table, all of the signalized study intersections would continue to have acceptable conditions during the weekday AM and PM peak commute hours.

5.8 Internal Circulation and Access

No site circulation or access issues have been identified that would cause a traffic safety problem or any unusual traffic congestion or delay. The volumes on the internal residential roadways (with homes fronting on them) would be light enough so that no significant conflicts would be expected with through traffic and vehicles backing out of the driveways and/or garages within the project.

At the proposed project entrances on Morello Avenue and Center Avenue there were no safety, capacity, or sight distance problems identified and the intersections would meet all required design standards as planned. In addition, with the addition of project traffic none of the warrants for a traffic signal or all way stop control would be met at either intersection. Our analysis indicates the two entrance intersections would continue to have safe operations in the future with the side street stop control and traffic signals or all-way stop control would not be required under cumulative plus project conditions.

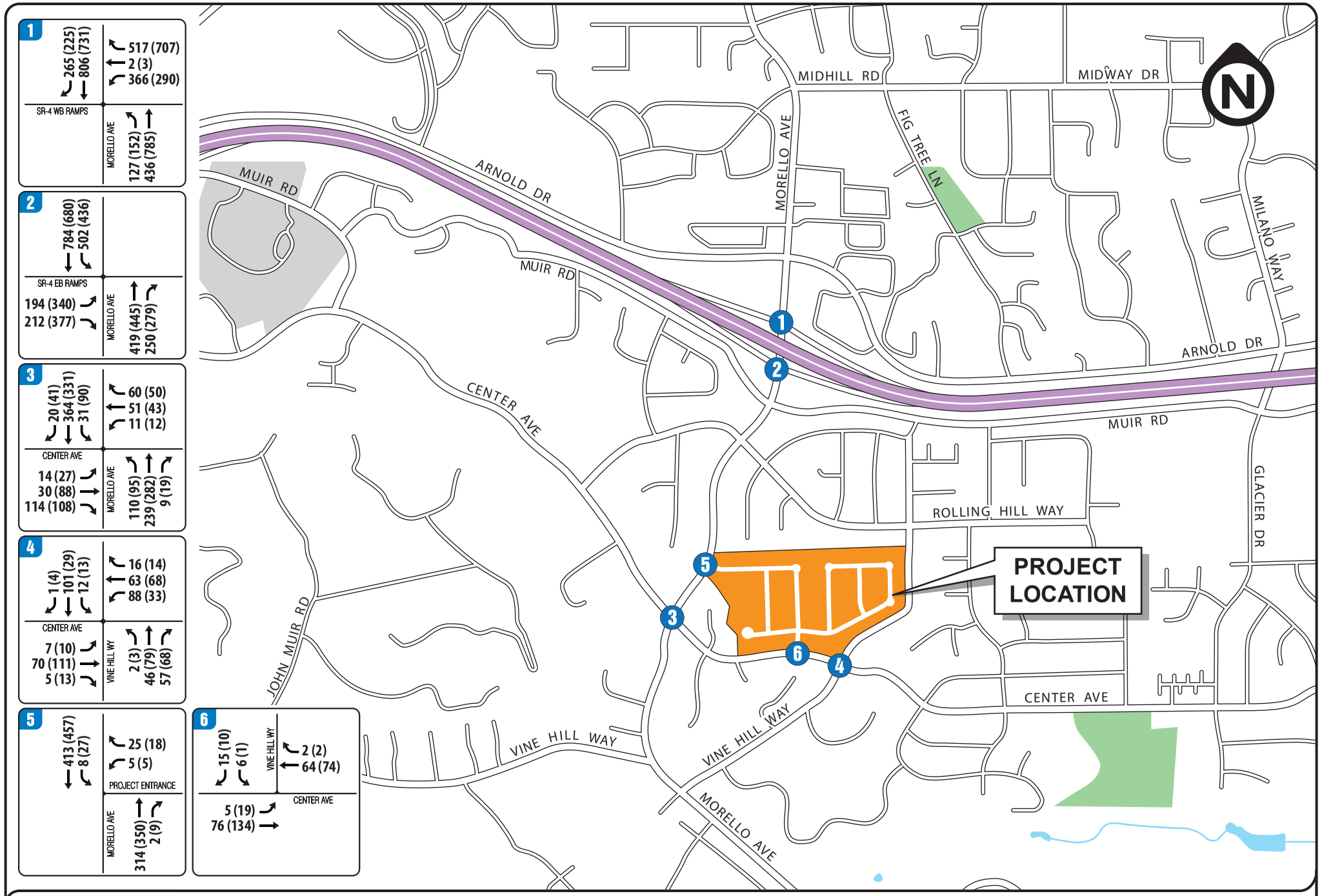

FIGURE 10 | CUMULATIVE PLUS PROJECT AM(PM) PEAK HOUR TRAFFIC VOLUMES
TRANSPORTATION IMPACT ANALYSIS
Vine Hill Residential Project
City of Martinez

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TABLE 6
CUMULATIVE INTERSECTION LEVEL OF SERVICE CONDITIONS

	INTERSECTION	CONTROL	PEAK HOUR	CUMULATIVE		CUMULATIVE PLUS PROJECT	
				Delay	LOS	Delay	LOS
1	MORELLO AVENUE & SR-4 WB RAMPS	Traffic Signal	AM	14.1	B	14.5	B
			PM	15.7	B	16.0	B
2	MORELLO AVENUE & SR-4 EB RAMPS	Traffic Signal	AM	12.7	B	13.0	B
			PM	16.5	B	17.1	B
3	MORELLO AVENUE & CENTER AVENUE	All Way Stop	AM	16.3	C	16.7	C
			PM	16.4	C	17.1	C
4	VINE HILL WAY & CENTER AVENUE	All Way Stop	AM	8.6	A	8.7	A
			PM	8.4	A	8.5	A
5	MORELLO AVENUE & PROJECT ENTRANCE (A STREET)	Side Street Stop	AM	N/A	N/A	11.4	B
			PM	N/A	N/A	12.4	B
6	CENTER AVENUE & PROJECT ENTRANCE (G STREET)	Side Street Stop	AM	N/A	N/A	8.9	A
			PM	N/A	N/A	8.9	A

SOURCE: Abrams Associates, 2017

NOTES: HCM LOS results are presented in terms of average intersection delay in seconds per vehicle. For side street stop controlled intersections the results for the worst side street approach are presented.

5.9 Parking Impacts

The proposed project would provide an adequate supply of off-street parking based on the City's requirements. The project is currently proposing to exceed the City's parking requirements and based on our review of the proposed parking plan there would be no significant impacts to the surrounding properties.

5.10 Pedestrian and Bicycle Impacts

In general, the proposed project would not generate a significant increase in traffic in the area (in comparison to the existing volumes) given the size of the proposed project (92 units). In addition, the proposed project would not significantly impact or change the design of any existing pedestrian facilities or create any new safety problems in the area.

The proposed project would also not significantly impact any existing bicycle facilities, including bike lanes, routes, or paths in the area. The project will add a small amount of both pedestrians and bicyclists who will utilize both existing and planned facilities connecting the project site with the community. In general, the proposed project would not generate any significant increases to pedestrian or bicycle traffic and would not significantly impact or change the design of any existing bicycle facilities.

5.11 Transit Impacts

The proposed project would not interfere with any existing bus routes and would not remove or relocate any existing bus stops. The proposed Project also would not conflict with any transit plans or goals of the City of Martinez and, based on the size of the project, it would be expected to generate only limited transit ridership. However, the project would be expected to provide a

minimal amount of additional ridership for local bus companies. Therefore, the impact of the proposed Project on existing transit operations or adopted plans related to transit would be less than significant.

5.12 Greenhouse Gas Emissions/Transportation Demand Management

In September 2010, the California Air Resources Board (ARB or Board) set passenger vehicle greenhouse gas (GHG) emission reduction targets for 2020 and 2035 for each of the 18 Metropolitan Planning Organization (MPO) regions in California under the Sustainable Communities and Climate Protection Act of 2008 (SB 375). The City of Martinez supports these goals by implementing policies that require new projects achieve a reduction in the number of peak hour drive-alone commute vehicle trips. This project transportation demand management program is intended to reduce the total vehicle miles traveled (VMT) by the project. Please note that reductions in VMT are generally considered to translate directly into reduced GHG's. [2]

Proposed Trip Reduction Strategies - The following is a list of some potential GHG reduction strategies being proposed by the project. Please note that some aspects of the project that are listed might not necessarily be considered "*strategies*" and are essentially components of the project. However, for the purposes of this review any aspect of the project that might be considered to have trip reducing qualities has been described. The following is a summary of strategies that are being proposed based on data on their potential effectiveness set forth by the California Air Pollution Control Officers Association (CAPCOA):

*Proximity to Bike Paths/Bike Lane*s– A Project that is designed around an existing or planned bicycle facility encourages alternative mode use. The project design should include a comparable network that connects the project uses to the existing offsite facilities. In this case the project will be located adjacent to a Class I path and will include frontage improvements along Newell Drive to facilitate ease of access to bicycle facilities.

Provide Pedestrian Network Improvements - Providing a pedestrian access network to link areas of the project site encourage people to walk instead of drive. This mode shift results in people driving less and thus a reduction in VMT. The project will provide a pedestrian access network that internally links all uses and connects to all existing or planned external streets and pedestrian facilities contiguous with the project site. The project will minimize barriers to pedestrian access and interconnectivity. Physical barriers such as walls, landscaping, and slopes that impede pedestrian circulation will be minimized.

Internal Ride-Share Matching Services – This project will deliver a ride-share education and awareness packet for all new tenants. Providing tenants with ride-share resources, such as carpoolworld.com serving the area and region, encourages the use of trip reducing tools.

Telecommuting Education and Awareness – This project will deliver a telecommuting education, awareness and equipment requirements packet for all new tenants. This will provide tenants with telecommuting resources, such as information on collaboration software. For example, services like GoToMeeting and Skype encourage the use of trip reducing technologies.

Increase Transit Accessibility - Locating a project near transit will facilitate the use of transit by people traveling to or from the Project site. The use of transit results in a mode shift and therefore reduced VMT. The project description should include, at a minimum, the following

[2] *Quantifying Greenhouse Gas Mitigation Measures*, California Air Pollution Control Officers Association, Sacramento, CA, August, 2010.

design features: A transit stop with high-quality, high-frequency bus service located within a 5-10 minute walk (or roughly ¼ mile from stop to edge of development), and/or a neighborhood designed for walking and cycling.

Attainment of Trip Reduction Goals - The quantification of trip reductions from mitigation measures such as those listed above are specified in a recent study by the California Air Pollution Control Officers Association (CAPCOA). The following list specifies the potential reductions in VMT that could be expected (according to the CAPCOA study) with the various mitigation measures described above.

Locate Project near Bike Path/Bike Lane – 0.625% reduction in VMT

Provide Pedestrian Network Improvements – Range of Effectiveness: 1 - 2% reduction in VMT

Telecommuting Education and Awareness – Not Quantified

Increase Transit Accessibility – Range of Effectiveness: 0.05 - 24.6% reduction in VMT

Through the implementation of the proposed trip reduction strategies listed above it can be concluded (based on the research conducted by CAPCOA) that the project vehicular traffic would be reduced by a minimum of about 2%. Based on an evaluation of the specific components of the proposed project the estimated reduction could be as high as 15%. It should be again noted this, by definition, would also translate into a 15% reduction in greenhouse gases.

5.13 Project-Specific Impacts

TR-1 Demolition and construction activities associated with the proposed project would result in an increase in traffic to and from the site and could lead to unsafe conditions near the project site.

The increase in traffic as a result of demolition and construction activities associated with the proposed project has been quantified assuming single phase construction period of 48 months. However, please note that for these custom homes the construction period could potentially last for up 5 years.

Heavy Equipment

Approximately four pieces of heavy equipment are estimated to be transported on and off the site each month throughout the demolition and construction of the proposed project. Heavy equipment transport to and from the site could cause traffic impacts in the vicinity of the project site during construction. However, each load would be required to obtain all necessary permits, which would include conditions. Prior to issuance of grading and building permits, the project applicant would be required to submit a Traffic Control Plan.

The requirements within the Traffic Control Plan include, but are not limited to, the following: truck drivers would be notified of and required to use the most direct route between the site and SR 4, as determined by the City Engineering Department; all site ingress and egress would occur only at the main driveways to the project site and construction activities may require temporary traffic controls as determined by the City

Engineer; specifically designated travel routes for large vehicles would be monitored and controlled by flaggers for large construction vehicle ingress and egress; and debris and mud these and other nearby streets caused by trucks would be monitored daily and may require instituting a street cleaning program. In addition, five loads of heavy equipment being hauled to and from the site each month would be short-term and temporary.

Employees

The weekday work is expected to begin around 7:00 AM and end around 4:00 PM. The construction worker arrival peak would occur between 6:30 AM and 7:30 AM, and the departure peak would occur between 4:00 PM and 5:00 PM. These peak hours are slightly before the citywide commute peaks. It should be noted that the number of trips generated during construction would not only be temporary, but would also be substantially less than the proposed project at buildout.

Based on past construction of similar projects, construction workers could require parking for up to 25 vehicles during the peak construction period. Additionally, deliveries, visits, and other activities may generate peak non-worker parking demand of 5 to 10 trucks and automobiles per day. Therefore, up to 35 vehicle parking spaces may be required during the peak construction period for the construction employees. Furthermore, the Traffic Control Plan requires construction employee parking be provided on the project site to eliminate conflicts with nearby residential areas. Because the construction of the project can be staggered so that employee parking demand is met by using on-site parking, the impacts of construction-related employee traffic and parking are considered less-than-significant.

Construction Material Import

The project would also require the importation of construction material, including raw materials for the building pads, the buildings, the parking area, and landscaping. Based on past construction of similar projects, importing this material is estimated to require substantial amounts of truck traffic. Under the provisions of the Traffic Control Plan, if importation and exportation of material becomes a traffic nuisance, then the City Engineer may limit the hours the activities can take place.

Traffic Control Plan

The Traffic Control Plan would indicate how parking for construction workers would be provided during construction and ensure a safe flow of traffic in the project area during construction. This analysis assumed construction of the entire project in one phase to identify the potential worst-case traffic effects.

Each phase will be subject to a Traffic Control Plan and oversight by the City Engineer and construction traffic is not forecast to exceed the post construction traffic conditions created by the proposed project. As a result, the potential construction traffic impacts have been adequately addressed through the project impact analysis. Therefore, the demolition and construction activities associated with the proposed project or its individual phases would not lead to noticeable congestion in the vicinity of the site or the perception of decreased traffic safety resulting in a ***less-than-significant*** impact.

Mitigation Measure(s)
None required.

TR-2 Impacts related to site access and circulation.

Based on a review of the proposed new site plan it was determined that the site circulation should function well and would not cause any safety or operational problems. The project site design has been required to conform to City design standards and is not expected to create any significant impacts to pedestrians, bicyclists or traffic operations. Therefore, impacts related to site access and circulation to the proposed project would be ***less-than-significant***.

Mitigation Measure(s)
None required.

TR-3 Impacts regarding emergency vehicle access on and surrounding the proposed project site.

Sufficient emergency access is determined by factors such as number of access points, roadway width, and proximity to fire stations. The land use plan for the proposed project would have two entrances to the project, one on Morello Avenue and another on Center Avenue.

All lane widths within the project would meet the minimum width that can accommodate an emergency vehicle; therefore, the width of the internal roadways would be adequate. Therefore, the development of the proposed project is expected to have ***less-than-significant*** impacts regarding emergency vehicle access.

Mitigation Measure(s)
None required.

TR-4 Impacts relating to the presence and availability of adequate parking.

The proposed project is expected to provide a minimum of two off-street parking spaces for each residential unit and would provide adequate on-street parking for guests to ensure consistency with the City requirements. Therefore, the proposed project is not expected to create parking impacts on the surrounding areas, and impacts related to adequate parking would be ***less-than-significant***.

Mitigation Measure(s)
None required.

5.13 Mitigations

Based on this analysis there would be no significant transportation impacts according to established standards and no off-site traffic or transportation mitigations would be required.