










# **ATTACHMENT B**

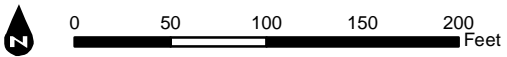
*Figures 1 through 16, Plus Index Map*







-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits






**FIGURE 1 - Puddles**  
Newland Sierra

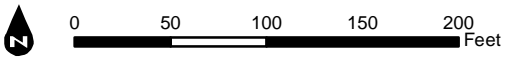




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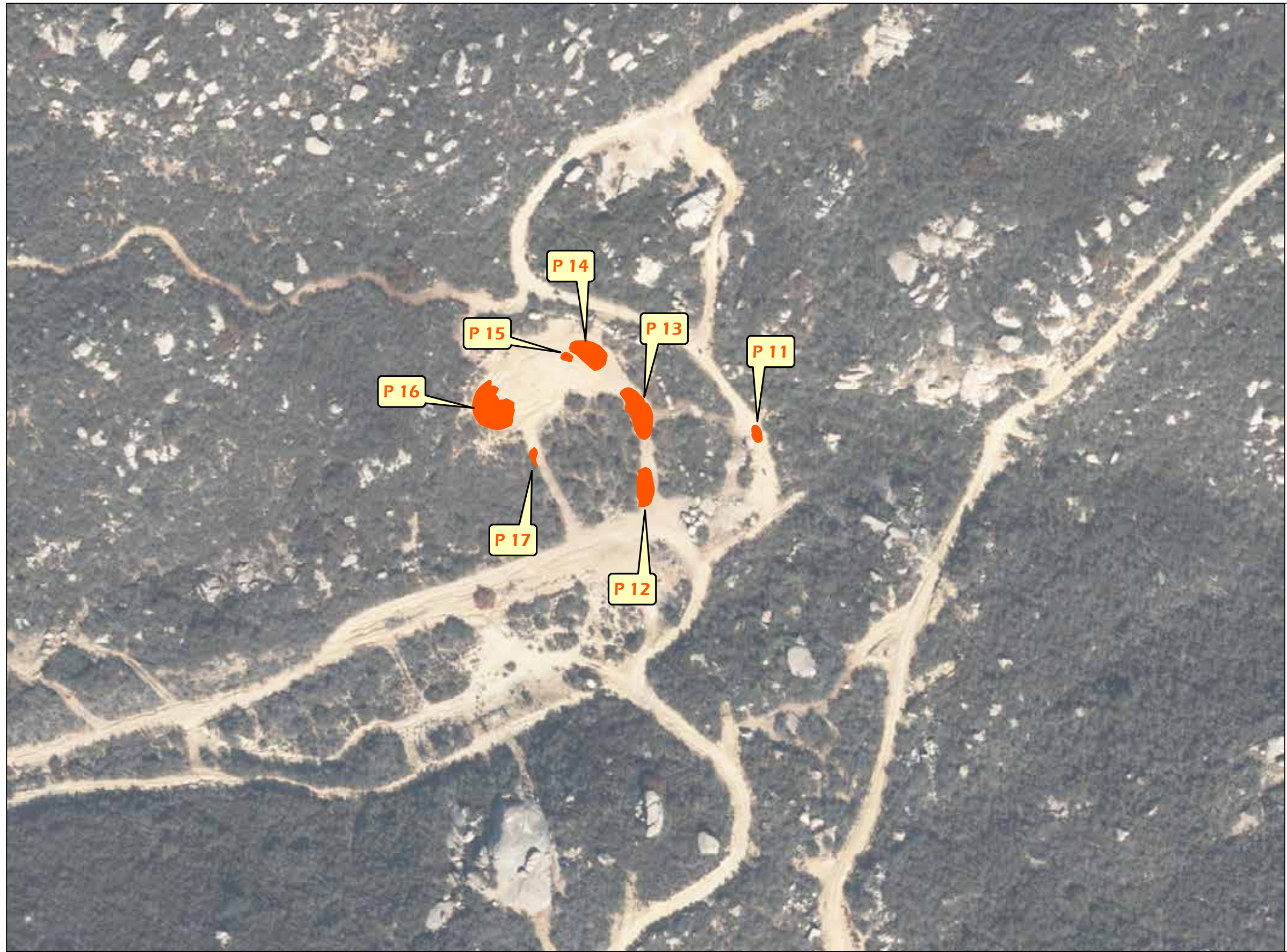
-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits






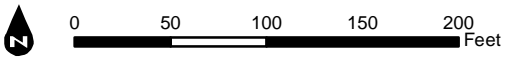
**FIGURE 2 - Puddles**  
Newland Sierra







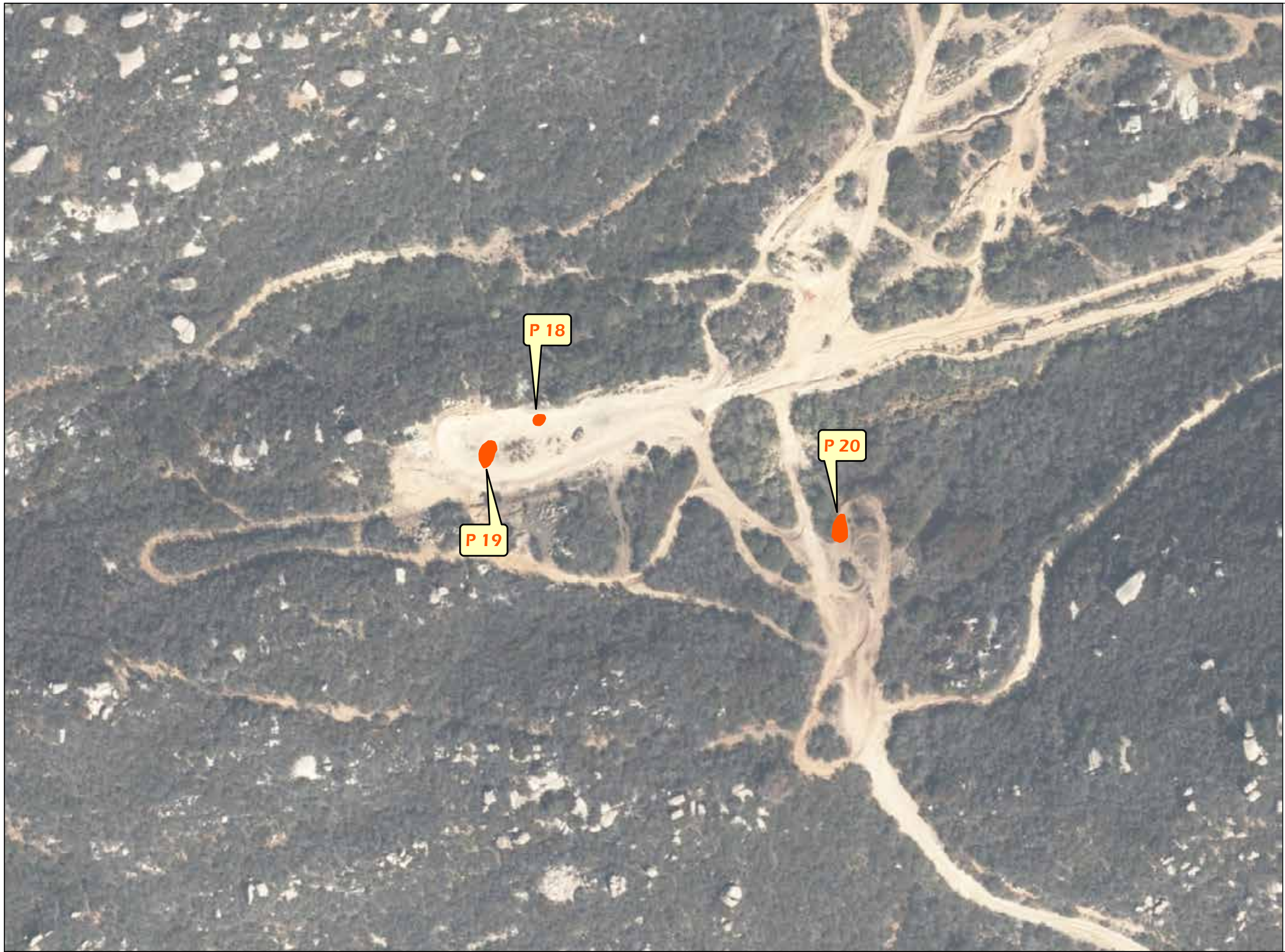
-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits






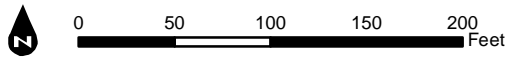
**FIGURE 3 - Puddles**  
Newland Sierra







-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits



**FIGURE 4 - Puddles**  
Newland Sierra












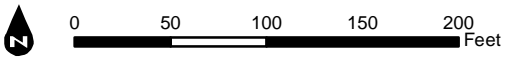
**FIGURE 5 - Puddles**  
Newland Sierra







-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits






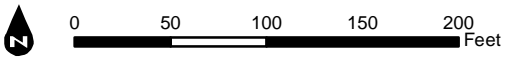
**FIGURE 6 - Puddles**  
Newland Sierra







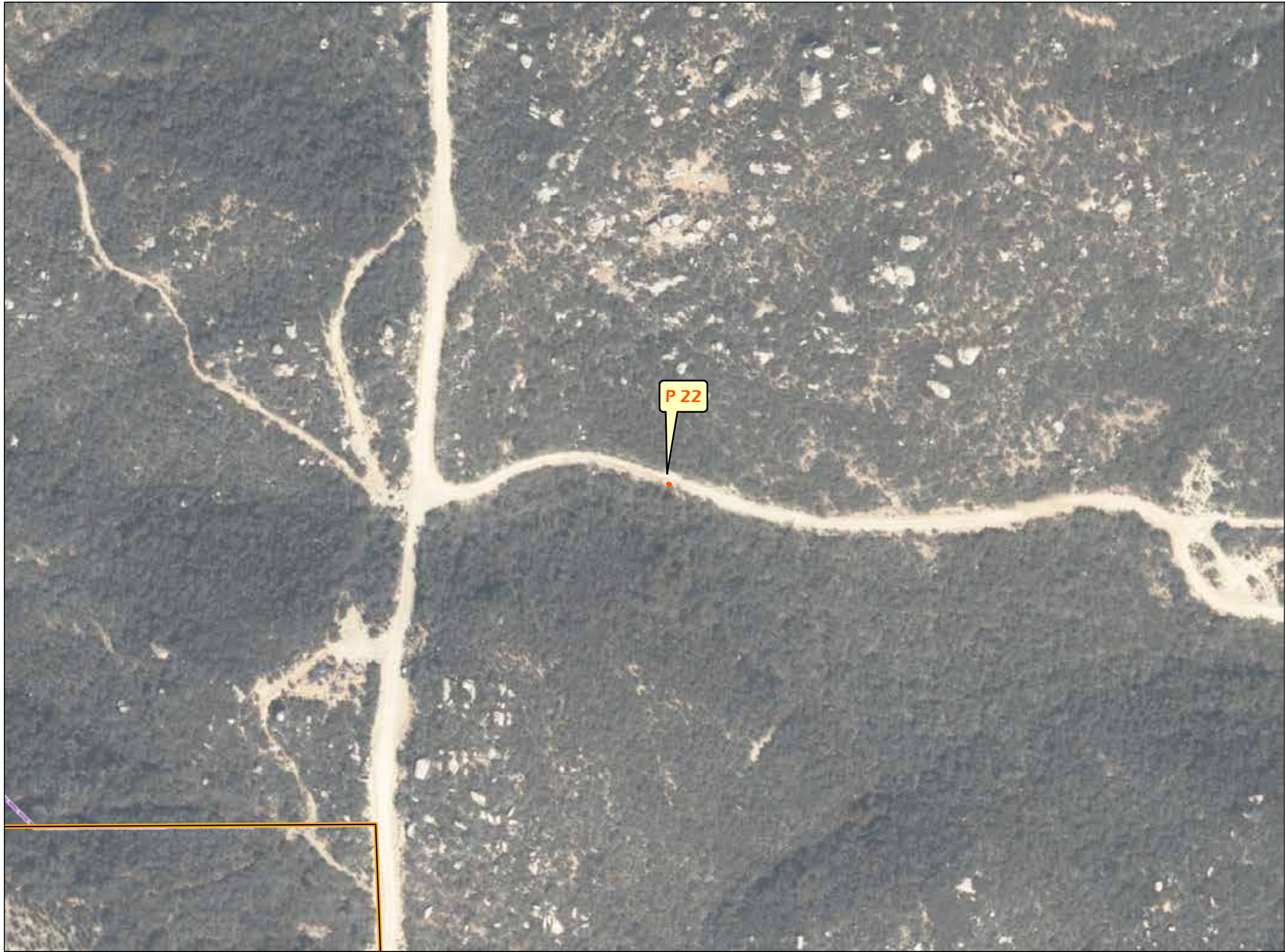
-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits






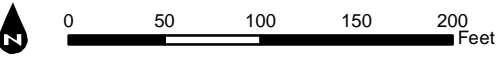
**FIGURE 7 - Puddles**  
Newland Sierra







-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits






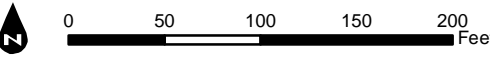
**FIGURE 8 - Puddles**  
Newland Sierra







-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits






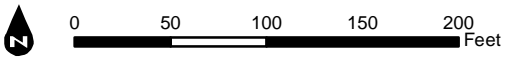
**FIGURE 9 - Puddles**  
Newland Sierra







-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits






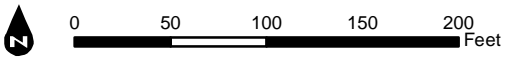
**FIGURE 10 - Puddles**  
Newland Sierra







-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits






**FIGURE 11 - Puddles**  
Newland Sierra

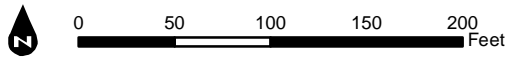








-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits






**FIGURE 12 - Puddles**  
Newland Sierra

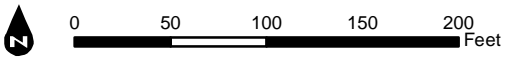




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-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits






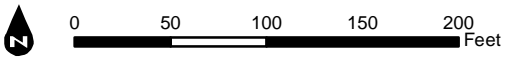
**FIGURE 13 - Puddles**  
Newland Sierra







-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits






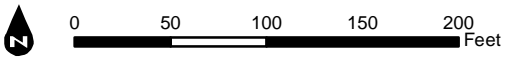
**FIGURE 14 - Puddles**  
Newland Sierra







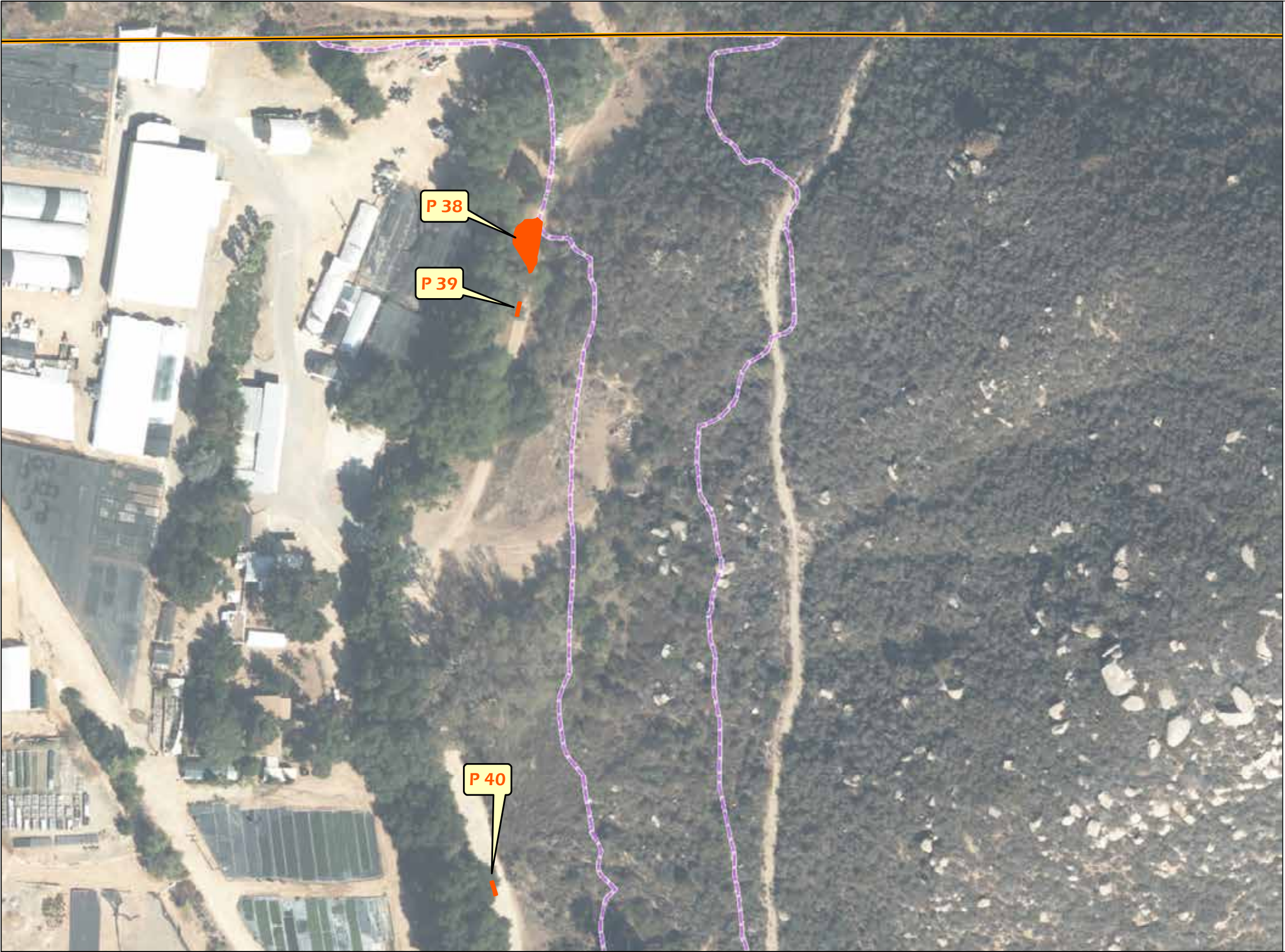
-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits




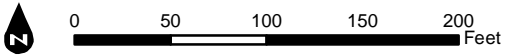
**FIGURE 15 - Puddles**  
Newland Sierra







-  Puddles (2017)
-  On-site Project Boundary
-  Development Limits



**FIGURE 16 - Puddles**  
Newland Sierra

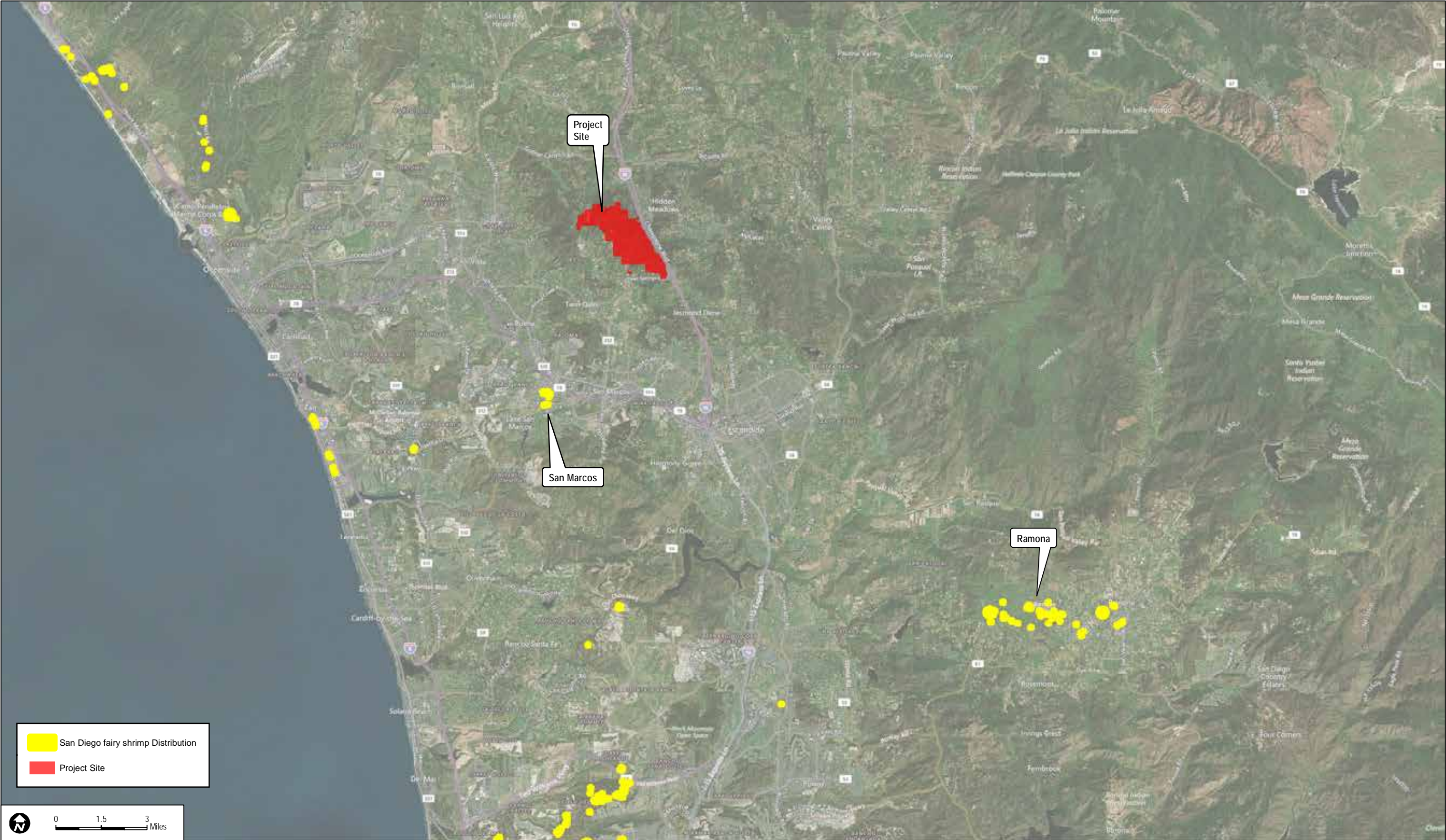










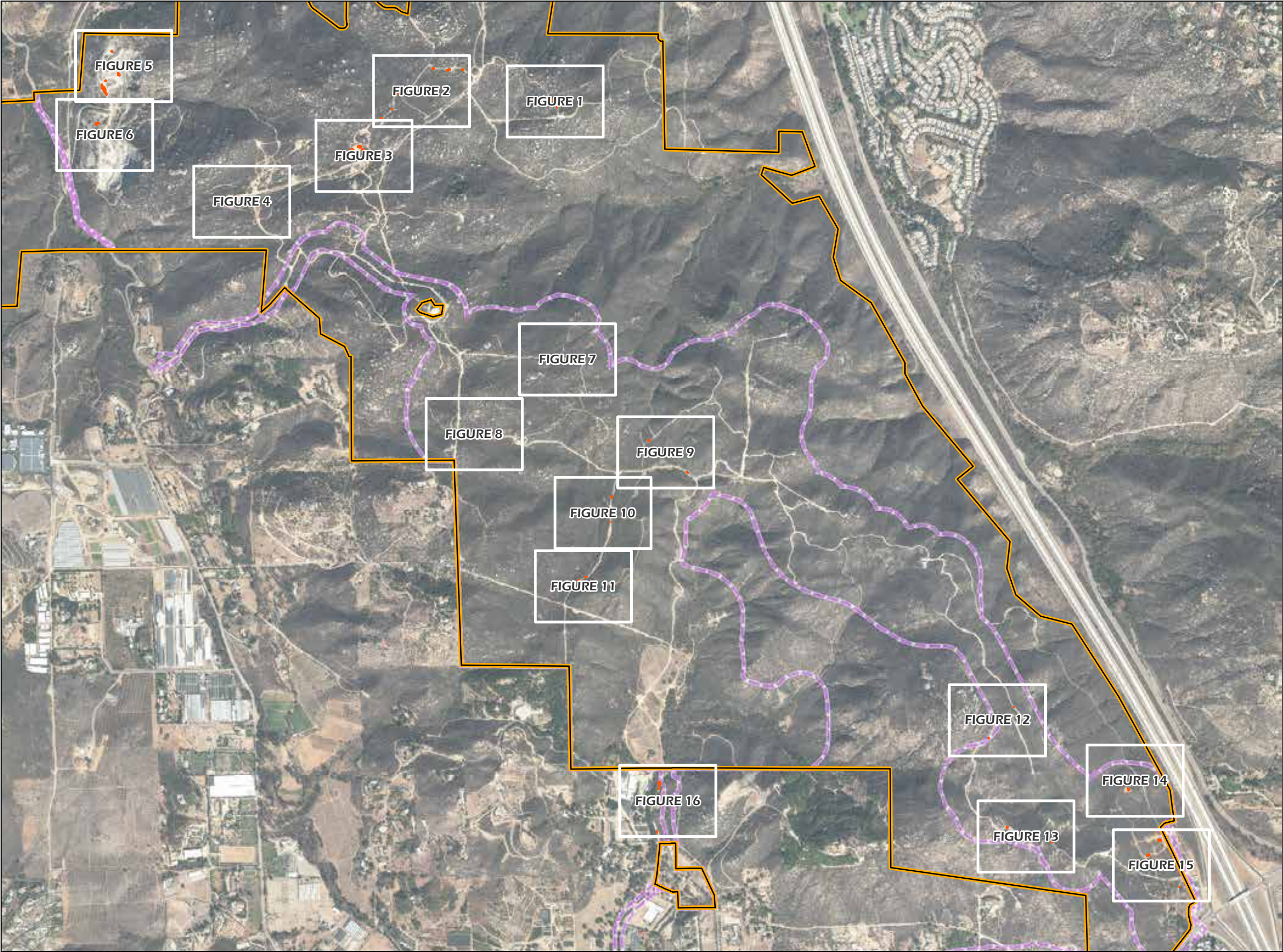





<b>DUDEK</b>	SOURCES: AERIAL-BING MAPPING SERVICE; SAN DIEGO FAIRY SHIMP-USFW	<b>FIGURE 18</b>
	San Diego Fairy Shrimp Potential on the Sierra Project Site	<b>San Diego Fairy Shrimp San Marcos and Ramona Locations Map</b>
7608-01		San Diego Fairy Shrimp Distribution

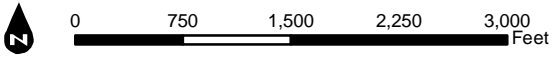








-  Puddles (2017)
-  On-site Project Boundary
-  Impact Limits







# **APPENDIX I**

## ***Data Station Forms***





# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newland Sierra City/County: San Marcos/San Diego Sampling Date: 05/10/13  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 1  
 Investigator(s): K. Muri, T. Liddicoat Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cieneba very rocky coarse sandy loam, 30 to 75 % slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input type="radio"/>	No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>			
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Remarks: Data pit within ephemeral creek channel bed beneath riparian canopy over					

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. <i>none in plot</i>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)			
2.				Total Number of Dominant Species Across All Strata: <u>4</u> (B)			
3.				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> % (A/B)			
4.							
Total Cover: <u>    </u> %							
<u>Sapling/Shrub Stratum</u>				<b>Prevalence Index worksheet:</b>			
1. <i>Toxicodendron diversilobum</i>	<u>1</u>	<u>Yes</u>		Total % Cover of:		Multiply by:	
2.				OBL species	<u>    </u> x 1 =	<u>0</u>	
3.				FACW species	<u>    </u> x 2 =	<u>0</u>	
4.				FAC species	<u>    </u> x 3 =	<u>0</u>	
5.				FACU species	<u>    </u> x 4 =	<u>0</u>	
Total Cover: <u>1</u> %				UPL species	<u>3</u> x 5 =	<u>15</u>	
<u>Herb Stratum</u>				Column Totals:	<u>3</u> (A)	<u>15</u> (B)	
1. <i>Bromus diandrus</i>	<u>1</u>	<u>Yes</u>	<u>Not Listed</u>	Prevalence Index = B/A = <u>5.00</u>			
2. <i>Bromus madritensis</i>	<u>1</u>	<u>Yes</u>	<u>Not Listed</u>				
3. <i>Anagallis arvensis</i>	<u>1</u>	<u>Yes</u>	<u>Not Listed</u>				
4.							
5.							
6.							
7.							
8.							
Total Cover: <u>3</u> %							
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b>			
1. <i>none in plot</i>				<input checked="" type="checkbox"/> Dominance Test is >50%			
2.				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>			
				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)			
				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.			
				<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>			
Total Cover: <u>    </u> %							
% Bare Ground in Herb Stratum <u>&gt;95%</u> % Cover of Biotic Crust <u>    </u> %							

Remarks: Mostly leaf litter from Oak trees (Quercus sp.)



# SOIL

Sampling Point: 1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	7.5 YR 5/4	100	None	-			Sand	
4-18	7.5 YR 5/4	100	None	-			Sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                           | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)                    | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                       | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                   | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> ) | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> )         | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)       | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)                | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                |   |

**Indicators for Problematic Hydric Soils:<sup>4</sup>**

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes ☐ No ☒

Remarks: \_\_\_\_\_

# HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- |   |  |
|---|--|
| <input type="checkbox"/> Surface Water (A1)                                       | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                                    | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)  | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )                  | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input checked="" type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> ) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input checked="" type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )    | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                                 | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)                | <input checked="" type="checkbox"/> Other (Explain in Remarks)         |
| <input type="checkbox"/> Water-Stained Leaves (B9)                                |  |

**Secondary Indicators (2 or more required)**

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

**Wetland Hydrology Present?** Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sandy ephemeral channel, approximately 6 feet wide with terracing (one terrace 1-foot above and second terrace 2 feet above). Data station within low flow channel and below OHWM of defined bed/bank.

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newland Sierra City/County: San Marcos/San Diego Sampling Date: 05/10/13  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 2  
 Investigator(s): K. Muri, T. Liddicoat Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): C - Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cieneba very rocky coarse sandy loam, 30 to 75 % slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input type="radio"/>	No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>			
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Remarks: Data pit within ephemeral creek channel bed beneath riparian canopy over					

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <i>none in plot</i>				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
2.				Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0.0</u> % (A/B)
4.					
Total Cover:	<u>    </u> %				
Sapling/Shrub Stratum				Prevalence Index worksheet:	
1. <i>none in plot</i>				Total % Cover of:	Multiply by:
2.				OBL species	x 1 = <u>0</u>
3.				FACW species	x 2 = <u>0</u>
4.				FAC species	x 3 = <u>0</u>
5.				FACU species	x 4 = <u>0</u>
Total Cover:	<u>    </u> %			UPL species	x 5 = <u>15</u>
Herb Stratum				Column Totals:	<u>3</u> (A) <u>15</u> (B)
1. <i>Bromus diandrus</i>	<u>1</u>	Yes	Not Listed	Prevalence Index = B/A = <u>5.00</u>	
2. <i>Foeniculum vulgare</i>	<u>1</u>	Yes	Not Listed		
3. <i>Stipa miliacea var. miliacea</i>	<u>1</u>	Yes	Not Listed		
4.					
5.					
6.					
7.					
8.					
Total Cover:	<u>3</u> %				
Woody Vine Stratum				Hydrophytic Vegetation Indicators:	
1. <i>none in plot</i>				<input checked="" type="checkbox"/> Dominance Test is >50%	
2.				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
% Bare Ground in Herb Stratum <u>75</u> %      % Cover of Biotic Crust <u>    </u> %					

Remarks: Bare ground, some leaf litter, rock 2-3-foot in diameter in drainage.



## SOIL

Sampling Point: 2**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	7.5 YR 4/4	100	None	-			Sand	roots present
6-12	10 YR 4/3	100	None	-			Sandy clay loam	roots present

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                           | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)                    | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                       | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                   | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> ) | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> )         | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)       | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)                | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                |   |

**Indicators for Problematic Hydric Soils:<sup>4</sup>**

- ☐
- 1 cm Muck (A9) (
- LRR C**
- )
- 
- ☐
- 2 cm Muck (A10) (
- LRR B**
- )
- 
- ☐
- Reduced Vertic (F18)
- 
- ☐
- Red Parent Material (TF2)
- 
- ☐
- Other (Explain in Remarks)

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes ☐ No ☒

Remarks: \_\_\_\_\_

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                            | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                         | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                               | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )       | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> ) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )    | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                      | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)     | <input checked="" type="checkbox"/> Other (Explain in Remarks)         |
| <input type="checkbox"/> Water-Stained Leaves (B9)                     |  |

**Secondary Indicators (2 or more required)**

- ☐
- Water Marks (B1) (
- Riverine**
- )
- 
- ☐
- Sediment Deposits (B2) (
- Riverine**
- )
- 
- ☐
- Drift Deposits (B3) (
- Riverine**
- )
- 
- ☒
- Drainage Patterns (B10)
- 
- ☐
- Dry-Season Water Table (C2)
- 
- ☐
- Thin Muck Surface (C7)
- 
- ☐
- Crayfish Burrows (C8)
- 
- ☐
- Saturation Visible on Aerial Imagery (C9)
- 
- ☐
- Shallow Aquitard (D3)
- 
- ☐
- FAC-Neutral Test (D5)

**Field Observations:**Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): \_\_\_\_\_**Wetland Hydrology Present?** Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sandy ephemeral channel, approximately 4 feet wide. Data station within channel bed and below OHWM of defined bed/bank.

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newland Sierra City/County: San Marcos/San Diego Sampling Date: 05/10/13  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 3  
 Investigator(s): K. Muri, T. Liddicoat Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): convex Slope (%): 25  
 Subregion (LRR): C - Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cieneba-Fallbrook rocky sandy loams, 9 to 30 % slopes, eroded NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input type="radio"/>	No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>			
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Remarks: Data pit within channel					

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <i>none in plot</i>				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
2.				Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0.0</u> % (A/B)
4.					
Total Cover:	<u>    </u> %				
Sapling/Shrub Stratum				Prevalence Index worksheet:	
1. <i>none in plot</i>				Total % Cover of:	Multiply by:
2.				OBL species	x 1 = <u>0</u>
3.				FACW species	x 2 = <u>0</u>
4.				FAC species	x 3 = <u>0</u>
5.				FACU species	x 4 = <u>0</u>
Total Cover:	<u>    </u> %			UPL species	x 5 = <u>10</u>
Herb Stratum				Column Totals:	<u>2</u> (A) <u>10</u> (B)
1. <i>Centaurea benedicta</i>	<u>1</u>	Yes	Not Listed	Prevalence Index = B/A = <u>5.00</u>	
2. <i>Anagallis arvensis</i>	<u>1</u>	Yes	Not Listed		
3.				Hydrophytic Vegetation Indicators:	
4.				<input checked="" type="checkbox"/> Dominance Test is >50%	
5.				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
6.				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
7.				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
8.					
Total Cover:	<u>2</u> %				
Woody Vine Stratum				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
1. <i>none in plot</i>				Hydrophytic Vegetation Present?	
2.				Yes <input type="radio"/> No <input checked="" type="radio"/>	
Total Cover:	<u>    </u> %				
% Bare Ground in Herb Stratum	<u>95</u> %	% Cover of Biotic Crust	<u>    </u> %		

Remarks: 1-foot wide ephemeral, primarily unvegetated, stream channel



## SOIL

Sampling Point: 3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-3	10 YR 3/2	100	None	-			Loamy sand	
3-14	10 YR 4/3	100	None	-			Loamy sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

**Indicators for Problematic Hydric Soils:<sup>4</sup>**

- ☐ 1 cm Muck (A9) (LRR C)
- ☐ 2 cm Muck (A10) (LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☐ No ☒

Remarks: a lot of leaf litter and organic debris in channel

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input checked="" type="checkbox"/> Other (Explain in Remarks)         |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

**Secondary Indicators (2 or more required)**

- ☐ Water Marks (B1) (Riverine)
- ☐ Sediment Deposits (B2) (Riverine)
- ☒ Drift Deposits (B3) (Riverine)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

**Field Observations:**Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): \_\_\_\_\_Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Data station within 1-foot wide unvegetated channel below OHWM of well-defined bed/bank. No evidence of flows despite onsite rains within the past 24 hours.

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newland Sierra City/County: San Marcos/San Diego Sampling Date: 07/17/13  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 4a  
 Investigator(s): V. Joshi, T. Liddicoat Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): shallow channel depression Local relief (concave, convex, none): concave Slope (%): 0-1  
 Subregion (LRR): C - Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cieneba rocky coarse sandy loam, 9 to 30 % slopes, eroded NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input type="radio"/>	No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>			
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Remarks: Data pit within shallow (approximately 1-foot deep) channel.					

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. <i>none in plot</i>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)			
2.				Total Number of Dominant Species Across All Strata: <u>2</u> (B)			
3.				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0 %</u> (A/B)			
4.							
Total Cover: <u>    </u> %							
<u>Sapling/Shrub Stratum</u>				<b>Prevalence Index worksheet:</b>			
1. <i>Baccharis salicifolia</i>	15	Yes	FAC	Total % Cover of:		Multiply by:	
2. <i>Tamarisk sp.</i>	5	No	FAC	OBL species	<u>    </u>	x 1 =	<u>0</u>
3. <i>Salix laevigata</i>	5	No	FACW	FACW species	<u>5</u>	x 2 =	<u>10</u>
4. <i>Quercus berberidifolia</i>	1	No	Not Listed	FAC species	<u>20</u>	x 3 =	<u>60</u>
5.				FACU species	<u>    </u>	x 4 =	<u>0</u>
Total Cover: <u>26 %</u>				UPL species	<u>21</u>	x 5 =	<u>105</u>
<u>Herb Stratum</u>				Column Totals:	<u>46</u>	(A)	<u>175</u> (B)
1. <i>Eleocharis macrostachya</i>	20	Yes	Not Listed	Prevalence Index = B/A = <u>3.80</u>			
2.				<b>Hydrophytic Vegetation Indicators:</b>			
3.				<input checked="" type="checkbox"/> Dominance Test is >50%			
4.				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>			
5.				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)			
6.				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
7.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.			
8.							
Total Cover: <u>20 %</u>							
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Present?</b>			
1. <i>none in plot</i>				Yes <input type="radio"/>			
2.				No <input checked="" type="radio"/>			
Total Cover: <u>    </u> %							
% Bare Ground in Herb Stratum <u>5 %</u>		% Cover of Biotic Crust <u>0 %</u>					

Remarks:



# SOIL

Sampling Point: 4a

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-6	10 YR 4/3	100	None	-		silty clay	
6-12	7.5 YR 4/3	100	None	-		sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                           | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)                    | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                       | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                   | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> ) | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> )         | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)       | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)                | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                |   |

**Indicators for Problematic Hydric Soils:<sup>4</sup>**

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes ☐ No ☒

Remarks: \_\_\_\_\_

# HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                            | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                         | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                               | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )       | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> ) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )    | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                      | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)     | <input type="checkbox"/> Other (Explain in Remarks)                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                     |  |

**Secondary Indicators (2 or more required)**

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

**Wetland Hydrology Present?** Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Data station within shallow (6-12 inches deep) channel.

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newland Sierra City/County: San Marcos/San Diego Sampling Date: 07/17/13  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 4b  
 Investigator(s): V. Joshi, T. Liddicoat Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): adjacent to channel Local relief (concave, convex, none): none Slope (%): 0-1  
 Subregion (LRR): C - Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cieneba rocky coarse sandy loam, 9 to 30 % slopes, eroded NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input type="radio"/>	No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>			
Wetland Hydrology Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>			
Remarks: Data pit adjacent to shallow (approximately 1-foot deep) channel.					

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. <i>none in plot</i>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)			
2.				Total Number of Dominant Species Across All Strata: <u>3</u> (B)			
3.				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3 %</u> (A/B)			
4.							
Total Cover: <u>    </u> %							
<u>Sapling/Shrub Stratum</u>				<b>Prevalence Index worksheet:</b>			
1. <i>Baccharis salicifolia</i>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	Total % Cover of:		Multiply by:	
2. <i>Isocoma menziesii</i>	<u>5</u>	<u>No</u>	<u>FAC</u>	OBL species	<u>    </u> x 1 =	<u>0</u>	
3. <i>Ceanothus tomentosus</i>	<u>5</u>	<u>No</u>	<u>Not Listed</u>	FACW species	<u>    </u> x 2 =	<u>0</u>	
4. <i>Cortaderia seloana</i>	<u>15</u>	<u>Yes</u>	<u>FACU</u>	FAC species	<u>15</u> x 3 =	<u>45</u>	
5.				FACU species	<u>45</u> x 4 =	<u>180</u>	
Total Cover: <u>35 %</u>				UPL species	<u>11</u> x 5 =	<u>55</u>	
<u>Herb Stratum</u>				Column Totals:	<u>71</u> (A)	<u>280</u> (B)	
1. <i>Eleocharis macrostachya</i>	<u>5</u>	<u>No</u>	<u>Not Listed</u>	Prevalence Index = B/A = <u>3.94</u>			
2. <i>Bromus hordeaceus</i>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b>			
3. <i>Pennisetum setaceum</i>	<u>1</u>	<u>No</u>	<u>Not Listed</u>	<input checked="" type="checkbox"/> Dominance Test is >50%			
4.				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>			
5.				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)			
6.				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
7.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.			
8.							
Total Cover: <u>36 %</u>				<b>Hydrophytic Vegetation Present?</b>			
<u>Woody Vine Stratum</u>				Yes <input type="radio"/>			
1. <i>none in plot</i>				No <input checked="" type="radio"/>			
2.							
Total Cover: <u>    </u> %							
% Bare Ground in Herb Stratum <u>    </u> %		% Cover of Biotic Crust <u>0 %</u>					

Remarks:



## SOIL

Sampling Point: 4b

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-2	7.5 YR 4/3	100	-	-			sandy clay lam	very tough to dig pit

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5) (**LRR C**)  
☐ 1 cm Muck (A9) (**LRR D**)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Mucky Mineral (S1)  
☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:<sup>4</sup>**

- ☐ 1 cm Muck (A9) (**LRR C**)  
☐ 2 cm Muck (A10) (**LRR B**)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☐ No ☒

Remarks: \_\_\_\_\_

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)  
☐ High Water Table (A2)  
☐ Saturation (A3)  
☐ Water Marks (B1) (**Nonriverine**)  
☐ Sediment Deposits (B2) (**Nonriverine**)  
☐ Drift Deposits (B3) (**Nonriverine**)  
☐ Surface Soil Cracks (B6)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Water-Stained Leaves (B9)  
☐ Salt Crust (B11)  
☐ Biotic Crust (B12)  
☐ Aquatic Invertebrates (B13)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres along Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Plowed Soils (C6)  
☐ Other (Explain in Remarks)

**Secondary Indicators (2 or more required)**

- ☐ Water Marks (B1) (**Riverine**)  
☐ Sediment Deposits (B2) (**Riverine**)  
☐ Drift Deposits (B3) (**Riverine**)  
☐ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Thin Muck Surface (C7)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

**Field Observations:**Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: Data station within flat upland area adjacent to channel

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newland Sierra City/County: San Marcos/San Diego Sampling Date: 07/17/13  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 5  
 Investigator(s): V. Joshi, T. Liddicoat Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): channel Local relief (concave, convex, none): convex Slope (%): 100  
 Subregion (LRR): C - Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cieneba rocky coarse sandy loam, 9 to 30 % slopes, eroded NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>		
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>		
Remarks: Data pit within bottom of channel beneath riparian canopy.				

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0 %</u> (A/B)																								
1. <i>Salix laevigata</i>	35	Yes	FACW																									
2. _____																												
3. _____																												
4. _____																												
Total Cover: <u>35 %</u>				<b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> <th></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td>x 1 =</td> <td><u>0</u></td> </tr> <tr> <td>FACW species</td> <td>x 2 =</td> <td><u>70</u></td> </tr> <tr> <td>FAC species</td> <td>x 3 =</td> <td><u>0</u></td> </tr> <tr> <td>FACU species</td> <td>x 4 =</td> <td><u>0</u></td> </tr> <tr> <td>UPL species</td> <td>x 5 =</td> <td><u>75</u></td> </tr> <tr> <td>Column Totals:</td> <td></td> <td><u>50</u> (A) <u>145</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A =</td> <td><u>2.90</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:		OBL species	x 1 =	<u>0</u>	FACW species	x 2 =	<u>70</u>	FAC species	x 3 =	<u>0</u>	FACU species	x 4 =	<u>0</u>	UPL species	x 5 =	<u>75</u>	Column Totals:		<u>50</u> (A) <u>145</u> (B)	Prevalence Index = B/A =		<u>2.90</u>
Total % Cover of:	Multiply by:																											
OBL species	x 1 =	<u>0</u>																										
FACW species	x 2 =	<u>70</u>																										
FAC species	x 3 =	<u>0</u>																										
FACU species	x 4 =	<u>0</u>																										
UPL species	x 5 =	<u>75</u>																										
Column Totals:		<u>50</u> (A) <u>145</u> (B)																										
Prevalence Index = B/A =		<u>2.90</u>																										
<b>Sapling/Shrub Stratum</b> 1. <i>Toxicodendron diversilobum</i> 10 Yes Not Listed 2. <i>Phoenix canariensis</i> 5 No Not Listed 3. _____ 4. _____ 5. _____ Total Cover: <u>15 %</u>																												
<b>Herb Stratum</b> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ Total Cover: <u>  %  </u>																												
<b>Woody Vine Stratum</b> 1. <i>none in plot</i> 2. _____ Total Cover: <u>  %  </u>																												
% Bare Ground in Herb Stratum <u>5 %</u> % Cover of Biotic Crust <u>0 %</u>																												

**Hydrophytic Vegetation Indicators:**  
☒ Dominance Test is >50%  
☒ Prevalence Index is ≤3.0<sup>1</sup>  
☐ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.  
  
**Hydrophytic Vegetation Present?** Yes ☒ No ☐

Remarks:



# SOIL

Sampling Point: 5

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-4	10 YR 4/3	100	-	-			sandy loam	
4-12	10 YR 3/1	100	-	-			sandy clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                           | <input type="checkbox"/> Sandy Redox (S5)                |
| <input type="checkbox"/> Histic Epipedon (A2)                    | <input type="checkbox"/> Stripped Matrix (S6)            |
| <input type="checkbox"/> Black Histic (A3)                       | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                   | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |
| <input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> ) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> )         | <input type="checkbox"/> Redox Dark Surface (F6)         |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)       | <input type="checkbox"/> Depleted Dark Surface (F7)      |
| <input type="checkbox"/> Thick Dark Surface (A12)                | <input type="checkbox"/> Redox Depressions (F8)          |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                | <input type="checkbox"/> Vernal Pools (F9)               |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                |  |

**Indicators for Problematic Hydric Soils:<sup>4</sup>**

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes ☒ No ☐

Remarks: Chroma 2 or less and a minimum 6 inches within the upper 10 inches of soil; thus a depleted matrix

# HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                            | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                         | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                               | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )       | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> ) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )    | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                      | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)     | <input checked="" type="checkbox"/> Other (Explain in Remarks)         |
| <input type="checkbox"/> Water-Stained Leaves (B9)                     |  |

**Secondary Indicators (2 or more required)**

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

**Wetland Hydrology Present?** Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Data station below OHWM of 3-foot wide channel with defined bed/bank.

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newland Sierra City/County: San Marcos/San Diego Sampling Date: 07/17/13  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 6a  
 Investigator(s): V. Joshi, T. Liddicoat Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 8  
 Subregion (LRR): C - Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	
Remarks: Data pit within stream-side terrace, approximately 6-feet from perennial stream flow.			

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0 %</u> (A/B)														
1. <i>Salix laevigata</i>	50	Yes	FACW															
2. <i>Alnus rhombifolia</i>	10	No	FACW															
3. <i>Washingtonia robusta</i>	1	No	Not Listed															
4. _____																		
Total Cover: <u>61 %</u>																		
<b>Sapling/Shrub Stratum</b>				<b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>63</u></td> <td>x 2 = <u>126</u></td> </tr> <tr> <td>FAC species</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>1</u></td> <td>x 4 = <u>4</u></td> </tr> <tr> <td>UPL species <u>24</u></td> <td>x 5 = <u>120</u></td> </tr> <tr> <td>Column Totals: <u>88</u> (A)</td> <td><u>250</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2.84</u>	Total % Cover of:	Multiply by:	OBL species	x 1 = <u>0</u>	FACW species <u>63</u>	x 2 = <u>126</u>	FAC species	x 3 = <u>0</u>	FACU species <u>1</u>	x 4 = <u>4</u>	UPL species <u>24</u>	x 5 = <u>120</u>	Column Totals: <u>88</u> (A)	<u>250</u> (B)
Total % Cover of:	Multiply by:																	
OBL species	x 1 = <u>0</u>																	
FACW species <u>63</u>	x 2 = <u>126</u>																	
FAC species	x 3 = <u>0</u>																	
FACU species <u>1</u>	x 4 = <u>4</u>																	
UPL species <u>24</u>	x 5 = <u>120</u>																	
Column Totals: <u>88</u> (A)	<u>250</u> (B)																	
1. <i>Washingtonia robusta</i>	2	Yes	Not Listed															
2. <i>Alnus rhombifolia</i>	1	No	Not Listed															
3. _____																		
4. _____																		
5. _____																		
Total Cover: <u>3 %</u>																		
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
1. <i>Ricinus communis</i>	1	No	FACU															
2. <i>Cyperus eragrostis</i>	3	Yes	FACW															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
Total Cover: <u>4 %</u>																		
<b>Woody Vine Stratum</b>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.														
1. <i>Hedera helix</i>	20	Yes	Not Listed															
2. _____																		
Total Cover: <u>20 %</u>																		
% Bare Ground in Herb Stratum <u>15 %</u>		% Cover of Biotic Crust <u>0 %</u>		<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>														

Remarks:



# SOIL

Sampling Point: 6a

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-8	7.5 YR 3/3	100	-	-			sandy loam	organic material throughout

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:<sup>4</sup>**

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes ☐ No ☒

Remarks: \_\_\_\_\_

# HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☒ Other (Explain in Remarks)

**Secondary Indicators (2 or more required)**

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ☒ No ☐

Depth (inches): 3

Water Table Present? Yes ☒ No ☐

Depth (inches): 8

Saturation Present? Yes ☒ No ☐  
(includes capillary fringe)

Depth (inches): 8

**Wetland Hydrology Present?** Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: \_\_\_\_\_

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newland Sierra City/County: San Marcos/San Diego Sampling Date: 07/17/13  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 6b  
 Investigator(s): V. Joshi, T. Liddicoat Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 8  
 Subregion (LRR): C - Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input type="radio"/>	No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>			
Wetland Hydrology Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>			
Remarks: Data pit within hillslope, approximately 30-feet upslope from perennial stream flow.					

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. <i>Salix laevigata</i>	40	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)			
2. <i>Alnus rhombifolia</i>	2	No	FACW	Total Number of Dominant Species Across All Strata: <u>4</u> (B)			
3. <i>Quercus agrifolia</i>	35	Yes	Not Listed	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25.0 %</u> (A/B)			
4. <i>Populus fremontii</i>	10	No	Not Listed				
Total Cover:	87 %						
Sapling/Shrub Stratum				Prevalence Index worksheet:			
1. <i>Quercus agrifolia</i>	10	Yes	Not Listed	Total % Cover of: _____ Multiply by: _____			
2. <i>Salix laevigata</i>	5	No	FACW	OBL species	<u>47</u>	x 1 =	<u>0</u>
3.				FACW species		x 2 =	<u>94</u>
4.				FAC species		x 3 =	<u>0</u>
5.				FACU species		x 4 =	<u>0</u>
Total Cover:	15 %			UPL species	<u>105</u>	x 5 =	<u>525</u>
				Column Totals:	<u>152</u>	(A)	<u>619</u> (B)
				Prevalence Index = B/A = <u>4.07</u>			
Herb Stratum				Hydrophytic Vegetation Indicators:			
1.				<input checked="" type="checkbox"/> Dominance Test is >50%			
2.				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>			
3.				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)			
4.				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
5.							
6.							
7.							
8.							
Total Cover:	%						
Woody Vine Stratum				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.			
1. <i>Hedera helix</i>	50	Yes	Not Listed				
2.							
Total Cover:	50 %			Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>			
% Bare Ground in Herb Stratum	0 %	% Cover of Biotic Crust	0 %				

Remarks:



## SOIL

Sampling Point: 6b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-12	10 YR 5/6	100	-	-			sandy loam	Decomposing Granite in soil

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5) (LRR C)  
☐ 1 cm Muck (A9) (LRR D)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Mucky Mineral (S1)  
☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:<sup>4</sup>

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☐ No ☒

Remarks:

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)  
☐ High Water Table (A2)  
☐ Saturation (A3)  
☐ Water Marks (B1) (Nonriverine)  
☐ Sediment Deposits (B2) (Nonriverine)  
☐ Drift Deposits (B3) (Nonriverine)  
☐ Surface Soil Cracks (B6)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Water-Stained Leaves (B9)  
☐ Salt Crust (B11)  
☐ Biotic Crust (B12)  
☐ Aquatic Invertebrates (B13)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres along Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Plowed Soils (C6)  
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)  
☐ Sediment Deposits (B2) (Riverine)  
☐ Drift Deposits (B3) (Riverine)  
☐ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Thin Muck Surface (C7)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newland Sierra City/County: San Marcos/San Diego Sampling Date: 03/31/15  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 7A  
 Investigator(s): Callie Ford Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: 33°12'56.90"N Long: 117°10'17.87"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Friant rocky fine sandy loam, 30-70% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input type="radio"/>	No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>			
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Remarks: Ongoing drought. Data station within drainage with willow canopy cover.					

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. <i>Salix laevigata</i>	75	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)			
2. _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)			
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0 %</u> (A/B)			
4. _____							
Total Cover: <u>75 %</u>							
Sapling/Shrub Stratum				Prevalence Index worksheet:			
1. <i>Baccharis salicifolia ssp. salicifolia</i>	20	Yes	FAC	Total % Cover of: _____ Multiply by: _____			
2. <i>Quercus agrifolia (sapling)</i>	5	No	Not Listed	OBL species	<u>75</u>	x 1 =	<u>0</u>
3. <i>Ricinus communis</i>	5	No	FACU	FACW species	<u>20</u>	x 2 =	<u>150</u>
4. <i>Schinus molle (sapling)</i>	1	No	FACU	FAC species	<u>7</u>	x 3 =	<u>60</u>
5. _____				FACU species	<u>62</u>	x 4 =	<u>28</u>
Total Cover: <u>31 %</u>				UPL species	<u>164</u>	x 5 =	<u>310</u>
				Column Totals:	<u>164</u>	(A)	<u>548</u> (B)
				Prevalence Index = B/A = <u>3.34</u>			
Herb Stratum				Hydrophytic Vegetation Indicators:			
1. <i>Bromus diandrus</i>	10	No	Not Listed	<input checked="" type="checkbox"/> Dominance Test is >50%			
2. <i>Pennisetum setaceum</i>	20	Yes	Not Listed	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>			
3. <i>Sonchus oleraceus</i>	1	No	FACU	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)			
4. <i>Brassica nigra</i>	1	No	Not Listed	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
5. <i>Stipa miliacea</i>	20	Yes	Not Listed				
6. <i>Euphorbia peplus</i>	1	No	Not Listed				
7. _____							
8. _____							
Total Cover: <u>53 %</u>							
Woody Vine Stratum				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.			
1. <i>Vitis sp.</i>	5	No	Not Listed				
2. _____							
Total Cover: <u>5 %</u>							
% Bare Ground in Herb Stratum <u>&gt;95%</u>			% Cover of Biotic Crust _____ %	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>			

Remarks:



## SOIL

Sampling Point: 7A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-16	10 YR 4/3	100	None	-			Sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

Indicators for Problematic Hydric Soils:<sup>4</sup>

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☐ No ☒

Remarks:

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks)                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)  
☐ Sediment Deposits (B2) (Riverine)  
☒ Drift Deposits (B3) (Riverine)  
☒ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Thin Muck Surface (C7)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒

Depth (inches): \_\_\_\_\_

Water Table Present? Yes ☐ No ☒

Depth (inches): \_\_\_\_\_

Saturation Present? Yes ☐ No ☒  
(includes capillary fringe)

Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newland Sierra City/County: San Marcos/San Diego Sampling Date: 03/31/15  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 7B  
 Investigator(s): Callie Ford Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): top of slope Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: 33°12'56.90"N Long: 117°10'17.40"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Friant rocky fine sandy loam, 30-70% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input type="radio"/>	No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>			
Wetland Hydrology Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>			
Remarks: Ongoing drought. Data station outside of drainage.					

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <i>None in plot</i>				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
2.				Total Number of Dominant Species Across All Strata:	<u>0</u> (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> % (A/B)
4.					
Total Cover: <u>0</u> %					
Sapling/Shrub Stratum				Prevalence Index worksheet:	
1. <i>Ricinus communis</i>	<u>1</u>	No	FACU	Total % Cover of:	Multiply by:
2.				OBL species	x 1 = <u>0</u>
3.				FACW species	x 2 = <u>0</u>
4.				FAC species	x 3 = <u>0</u>
5.				FACU species	x 4 = <u>4</u>
Total Cover: <u>1</u> %				UPL species	x 5 = <u>40</u>
				Column Totals:	<u>9</u> (A) <u>44</u> (B)
				Prevalence Index = B/A = <u>4.89</u>	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. <i>Bromus diandrus</i>	<u>1</u>	No	Not Listed	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <i>Brassica nigra</i>	<u>3</u>	No	Not Listed	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. <i>Malva parviflora</i>	<u>3</u>	No	Not Listed	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. <i>Euphorbia albomarginata</i>	<u>1</u>	No	Not Listed	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5.					
6.					
7.					
8.					
Total Cover: <u>8</u> %				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
Woody Vine Stratum				Hydrophytic Vegetation Present?	
1. <i>None in plot</i>				Yes <input type="radio"/>	No <input checked="" type="radio"/>
2.					
Total Cover: <u>0</u> %					
% Bare Ground in Herb Stratum	<u>&gt;90%</u>	% Cover of Biotic Crust			

Remarks:

## SOIL

Sampling Point: 7B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-8	10 YR 3/3	100	None	-			Sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

Indicators for Problematic Hydric Soils:<sup>4</sup>

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☐ No ☒

Remarks:

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks)                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)  
☐ Sediment Deposits (B2) (Riverine)  
☐ Drift Deposits (B3) (Riverine)  
☐ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Thin Muck Surface (C7)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒

Depth (inches): \_\_\_\_\_

Water Table Present? Yes ☐ No ☒

Depth (inches): \_\_\_\_\_

Saturation Present? Yes ☐ No ☒  
(includes capillary fringe)

Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



# **APPENDIX J**

## ***Conceptual Restoration Plan***



**CONCEPTUAL ON-SITE AND OFF-SITE MITIGATION  
RESTORATION PLAN**

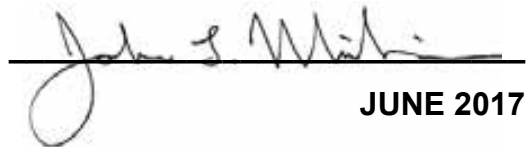
**for the  
NEWLAND SIERRA PROJECT  
San Diego County, California**

**Prepared for the County of San Diego  
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**County Approved Preparer: John L. Minchin, RLA #2225**

  
**JUNE 2017**





# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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# **Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project**

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## **1 PROJECT INTRODUCTION/DESCRIPTION/EXISTING CONDITIONS/MITIGATION REQUIREMENTS**

This section provides a project introduction, a description of the proposed project development, a summary of existing site conditions, an outline of the project impacts and mitigation requirements, as well as an overview of the proposed mitigation program.

### **1.1 Introduction**

This report addresses on-site and off-site mitigation/restoration strategies for permanent and temporary impacts to native habitat within the project open space areas associated with the development of the Newland/Sierra Project, located in the County of San Diego, California. The Newland/Sierra Project is a proposed residential development within an approximate 1,983- acre parcel. A portion of the site would be devoted to the residential development with associated roadway improvements to extend and connect to existing roadways; however, approximately 61% of the property would be protected in perpetuity as biological open space. Areas within the open space that would be temporarily impacted by project grading and construction would be revegetated and restored after completion of project construction. Temporary impacts associated with off-site roadways improvements will also be restored/revegetated within the locations where the temporary impacts occur. In addition, some of the old roadways within the property boundaries, that will be abandoned and that occur adjacent to the temporary disturbance areas, or lie adjacent to other proposed mitigation/revegetation treatments, will also be restored and revegetated as part of this effort. The details of the on-site and off-site mitigation restoration/revegetation program are outlined herein.

The purpose of this report is to provide a summary of the biological resources existing within the project site, summarize the anticipated permanent and temporary impacts to biological resources that would be incurred by the development and to outline on-site and off-site upland habitat restoration and revegetation strategies. This report also addresses additional off-site mitigation measures for impacts to wetlands and other resources, as well as preservation strategies to help mitigate for project impacts. This report is intended to outline mitigation requirements suitable for review under the California Environmental Quality Act (CEQA), per County of San Diego requirements, state and federal Endangered Species Acts, as well as other applicable resource agencies that would be involved in the permitting process.

Mitigation for project-related impacts will be provided through on-site and off-site habitat mitigation, including establishment and restoration, on-site preservation and land dedication, as well as off-site mitigation through parcel acquisition. This plan addresses the on-site and off-site upland mitigation strategies for temporary impacts associated with the proposed project, totaling



# **Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project**

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approximately 28.1 acres, which includes both on-site and off-site resources, which will be temporarily impacted by the proposed project. Of the total 28.1 acres, 14.1 acres of temporary impacts are to sensitive upland habitats, 0.7 acres are to riparian habitat and 13.3 acres of impacts are to non-native communities and land covers. Approximately 9.57 acres of existing habitat areas (i.e., temporarily impacted areas and disturbed habitat areas) will be revegetated onsite to upland habitat. Approximately 5.8 acres of temporarily disturbed native habitat areas off-site will also be restored/revegetated to in-kind habitat. All permanent wetland mitigation and oak woodland mitigation requirements will be compensated for off-site through mitigation parcel acquisition. The acquisition of the 212-acre off-site mitigation parcel located in Ramona, referred to herein as the Ramona Parcel, is discussed in further detail in the biological technical report for the proposed project (Dudek 2017).

The on-site and off-site permanent and temporary impact mitigation program outlined herein is designed to restore and establish upland habitats, which will be suitable for use and occupation by a variety of native plant and wildlife species. Wetland and oak woodland habitats, as well as the remainder of the compensation need to offset upland impacts will be handled in association with the off-site Ramona Parcel.

This conceptual mitigation/restoration plan must be reviewed and approved/permitted by the County of San Diego (County), and the applicable resource agencies prior to implementation.

## **1.2 Project Description**

The proposed Newland Sierra project is composed of a total 1,986.7 acres, with 1,209.1 acres of on-site open space proposed for preservation, 407.7 acres proposed for development, and 369.9 acres of area would be devoted to fuel management zones. The proposed development would include seven neighborhoods (also referred to as planning areas for planning purposes) with a total of 2,135 residential units. The proposed project would include a variety of housing types, some of which would be designed with grade-adaptive architecture, to meet the varied needs of the anticipated residents. Grade-adaptive architecture has resulted in minimized site grading impacts by incorporating one or more steps in the ground floor that conform to the underlying slope of the site.).

The project design has been influenced by prominent landforms, watershed patterns, boulder outcroppings, and other important biological resources known to occur within the property. The proposed project is designed to be consistent with accepted preserve design principles including wildlife movement and connectivity. The project also includes a large block of on-site open space connections within the northern and northwestern portions of the site, with off-site regional linkages to the west toward the San Marcos Mountains and to the north along Gopher Canyon towards the San Luis Rey River.

# **Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project**

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A Community-wide linear park and trail network is proposed, which will connect with the neighborhood parks and provide both Community, as well as open space trails. This trail network includes approximately 17 total linear miles of trails. The linear greenbelts may contain drainage conveyance creeks and/or bio-swales to provide water quality treatment. Park amenities, open space for active recreation, neighborhood-scale parks and pocket parks, are proposed.

The landscape character of the development will include the natural terrain and boulder outcroppings. Low-water-use, native, and naturalizing plant materials will make up the ornamental landscape plant palette. Low-fuel-volume plant materials will be included in compliance with the Fire Protection Plan. In addition, professionally-managed vineyards will be planted on selective high visibility slopes. Fuel management zones have been identified within the project area as “Limited Building Zone Easements” and range in size from 200 to 250 feet in width.

The project site would have two main access road connections along Deer Springs Road, at Mesa Rock Road and at Sarver Lane, with an additional access point at Camino Mayor, off Twin Oaks Valley Road to the north (Figure 3). On-site roadways would be constructed within and between the different planning areas where development would occur, and would consist of main roadways with a pavement width of 34 feet that provide primary connections between the developed planning areas. Residential streets that are approximately 36 to 40 feet wide and generally traverse within a planning area would also be included, and private paseo roads that typically end at smaller clusters of residential units within a planning area are also planned. Additionally, the project includes bike lanes, an extensive trail system consisting of roadside pathways within the linear greenbelts, and multi-use trails.

## **1.3 Responsible Parties**

### **Applicant /Permittee**

Newland Sierra, LLC  
4790 Eastgate Mall, Suite 150  
San Diego, California 92121

### **Habitat Restoration Specialist/ Biological Consultant**

Dudek  
605 Third Street  
Encinitas, California 92024

# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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## Restoration Contractor

To be selected. (Criteria for the Restoration Contractor is included in Section 2.3.4)

## 1.4 Project Location

The Newland Sierra Project (proposed project) is located within the unincorporated portion of the County of San Diego within the Bonsall Community Plan area and North County Metropolitan Sub-regional Plan area. The North County Metropolitan Sub-regional Plan area is comprised of many non-contiguous "island" areas interspersed among the cities of Escondido, San Diego, San Marcos, Vista, and Oceanside, with the easterly portion adjacent to Valley Center. The North County Metropolitan Sub-regional Plan area includes the communities of Hidden Meadows and Twin Oaks Valley. The majority of the project site is located in the community of Twin Oaks Valley. The project site is directly west of Interstate 15 (I-15), north of State Route 78 (SR-78), and south of State Route 79 (SR-79) (Figures 1 and 2). The cities of Escondido and San Marcos are approximately 1 mile south of the site.

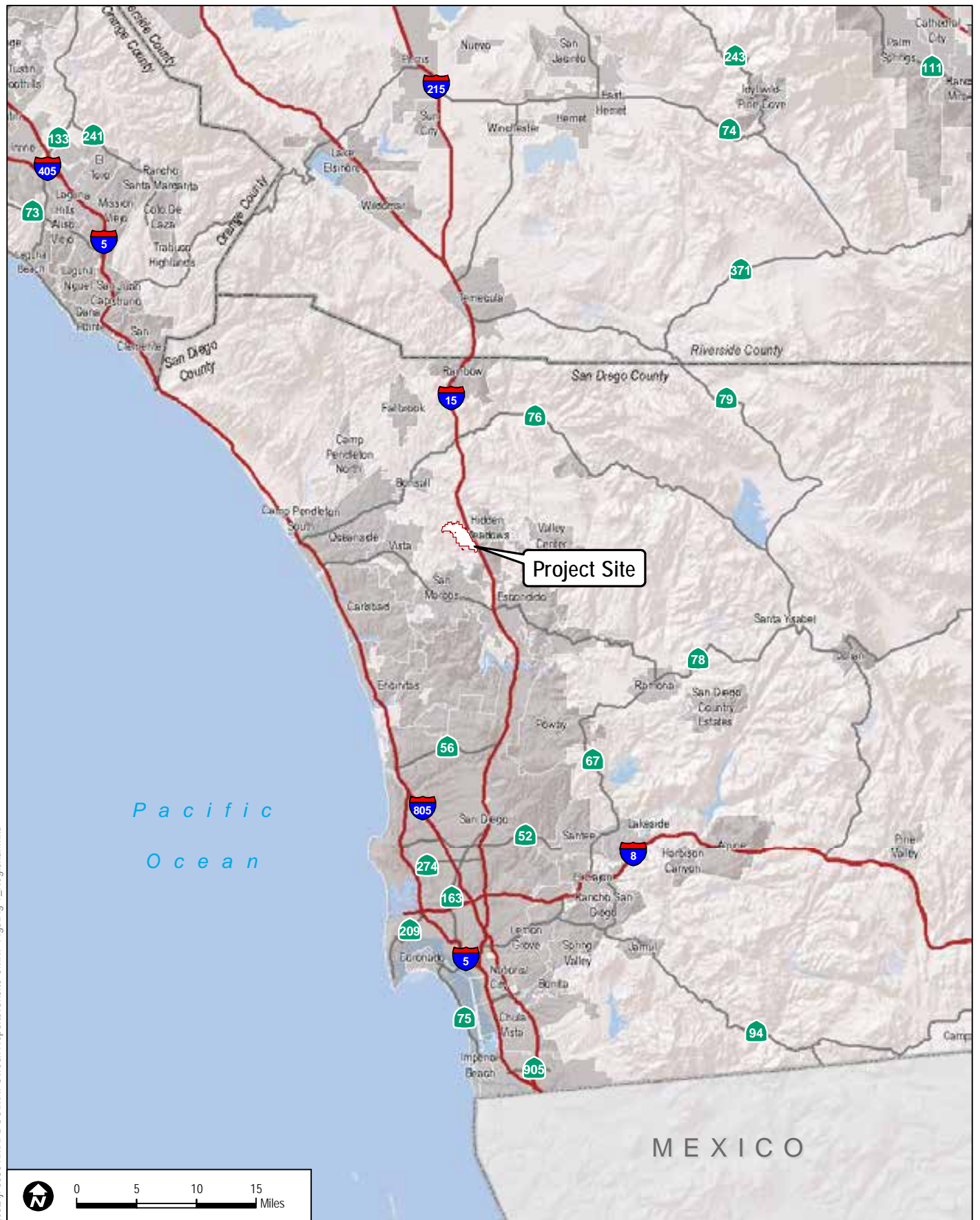
The project site consists of approximately 1,986.7 acres of land and is bounded by I-15 on the east, Deer Springs Road on the south, and North Twin Oaks Valley Road on the west, with a small portion of the northwestern edge of the site traversed by Twin Oaks Valley Road. Gopher Canyon Road is located approximately 1.5 miles north of the site's northern boundary, and approximately 2.5 miles north of proposed site development.

The proposed project lies in the San Marcos U.S. Geological Survey (USGS) 7.5-minute quadrangle, Township 11 West, Range 2 and 3 West, and Sections 11, 12, 13, 14, 15, 18, 19, 23, 24, 25, 30, 35, and 36. The latitude and longitude of the approximate center of the site is 33°12'47" N and -117°09'07" W.

## 1.5 Current Environmental Setting and Site Conditions

The description of the existing site conditions are summarized herein and are described in greater detail in the *Biological Resources Report for the Newland Sierra Project* (Dudek 2017a).





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**FIGURE 1**  
**Regional Map**

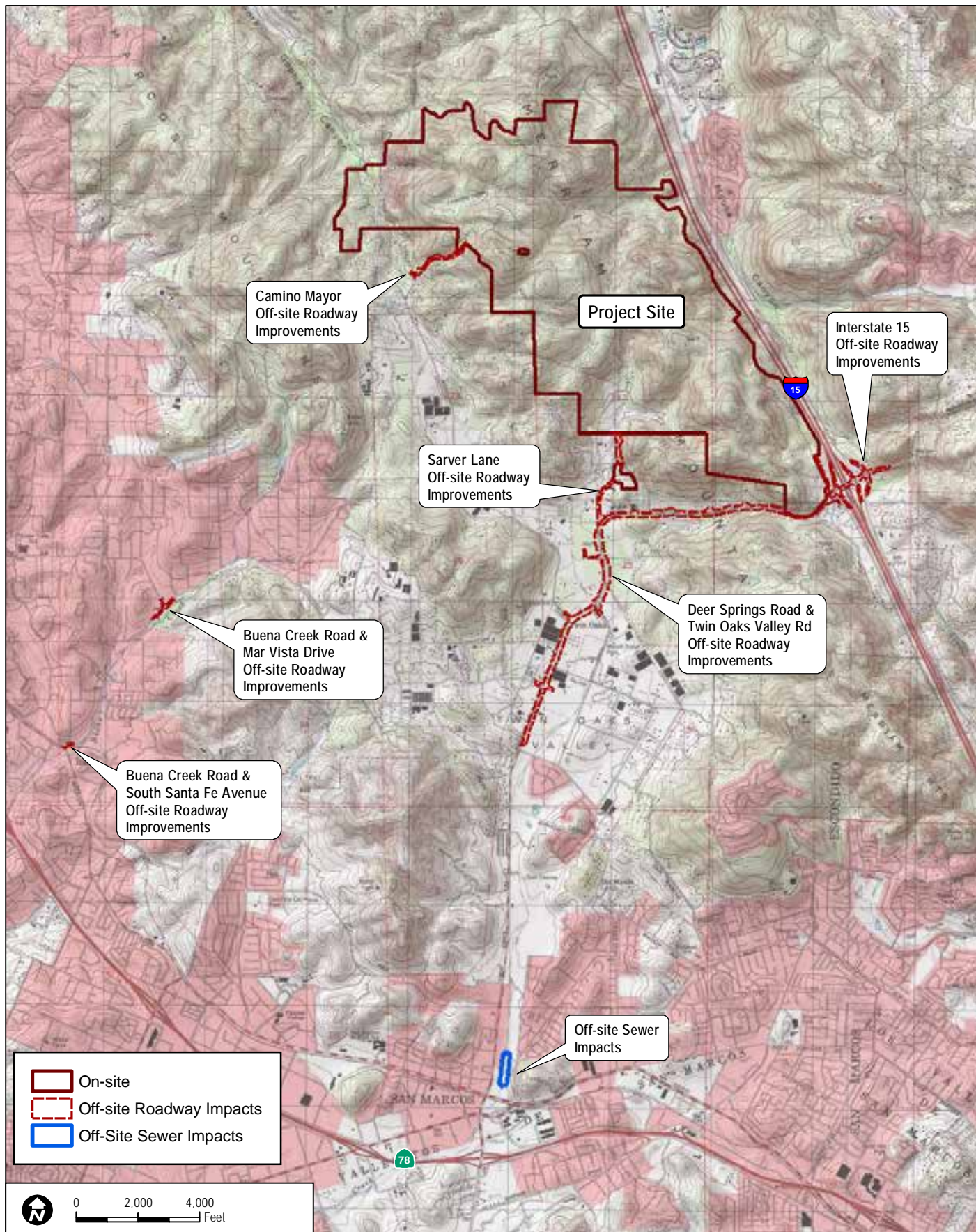
Conceptual Onsite and Offsite Mitigation Restoration Plan for the Newland Sierra Project

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**FIGURE 2**  
**Vicinity Map**



## **Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project**

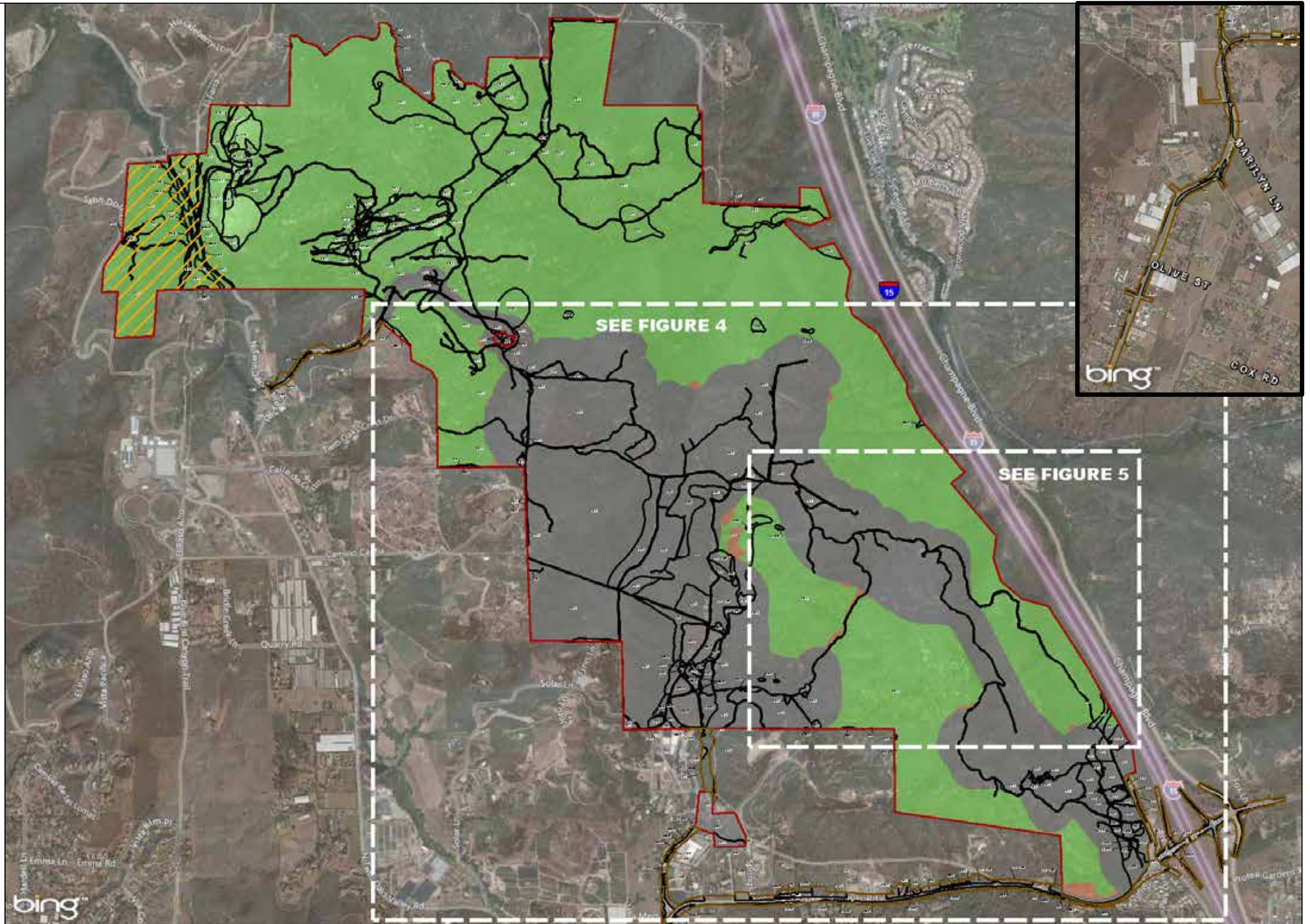
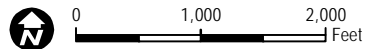
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- Project Site**
- On-site
  - Off-site
  - Permanent Impact
  - Preserve
  - Temporary Impact in Preserve
- Vegetation Communities**
- AGR, Agricultural
  - CLOW, Coast live oak woodland
  - CSS, Diegan coastal sage scrub
  - CSS-CHP, Coastal sage - chaparral transition
  - CSSB, Coastal sage scrub - Baccharis dominated
  - DEV, Urban/developed
  - DH, Disturbed habitat
  - DW, Disturbed Wetland
  - E-AGR, Extensive agriculture
  - EUC, Eucalyptus woodland
  - FWM, Freshwater marsh
  - I-AGR, Intensive agriculture
  - IA, Intensive agriculture
  - MFS, Mulefat scrub
  - NNG, Non-native grassland
  - NNW, Non-native Woodland
  - ORC, Orchard and vineyards
  - ORF, Southern coast live oak riparian forest
  - SMX, Southern mixed chaparral
  - SOC, Scrub oak chaparral
  - SWS, Southern willow scrub
  - SWS/TS, Southern willow scrub/tamarisk scrub
  - dBSC, Flat-topped buckwheat - disturbed
  - dCLOW, Coast Live Oak Woodland - disturbed
  - dCSS, Diegan coastal sage scrub - disturbed
  - dCSSB, Coastal sage scrub - Baccharis dominated - disturbed
  - dSMX, Southern mixed chaparral - disturbed
  - Las Posas Soil Series



DUDEK

SOURCE: Bing 2014

Conceptual Onsite and Offsite Mitigation Restoration Plan for the Newland Sierra Project

**FIGURE 3**  
**Overall Biological Resources Vegetation Map**

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**Conceptual On-Site and Off-Site Mitigation Restoration Plan  
for the Newland Sierra Project**

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# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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## 1.5.1 Topography and Soils

The undeveloped Newland Sierra site contains natural features of scenic and biological value including rugged topography and rock outcroppings. Much of the vegetation covering the existing site is in a mature stage and has developed based upon solar exposure, existing soil conditions and topography. Elevations on site range widely, from approximately 660 feet above mean sea level (AMSL) along North Twin Oaks Valley Road, traversing the northwestern portion of the site, to 1,750 feet AMSL directly northeast of Twin Oaks Crest Drive. The perimeter of the project site has an overall gentle sloping topography. Within the project site, the topography is more varied. Overall, there are approximately five locations where elevations are above 1,500 feet AMSL (one in the southern portion of the site and four are in the north-central portion of the site). Topography generally increases toward the center of the site, forming a number of ridgelines, with prominent rock outcroppings. In some locations the gentle sloping perimeter gradually rises to higher elevations, and in other areas the slopes are more acute.

Eighteen soils types in ten soil series occur on site, including 78 acres of Los Posas soils. Las Posas soils often support endemic plants that have either evolved to do well on these nutrient-poor soils or can out-compete other plants and thrive on such soils. The Las Posas soils series is the only soil type mapped on site that is known to support mafic conditions, and these soils are thought to occur in the northwestern and southeastern corners of the project site. In the northwest, the soil occurs to the west of and immediately adjacent to Twin Oaks Valley Road. In the southeast, this soil was thought to occur in two small locations directly adjacent to and north of Mesa Rock Road along I-15. However, no mafic soil indicators, or mafic endemic plant species, were observed at the two southeastern locations. Therefore, this area is not considered to support mafic conditions or soils.

To date, only one special-status plant species typically associated with mafic conditions, Ramona horkelia (*Horkelia truncata*), has been identified on site. This species was observed in an area mapped with Cienega very rocky coarse sandy loam. However, the description of the Cienega series states that small areas of Fallbrook, Vista, and Las Posas soils are included with this soil type (Bowman 1979). Therefore, it is likely that areas where the Ramona horkelia exist are on small inclusions of Las Posas soil. The mitigation program for impacts to Ramona horkelia is described in this plan in Section 2. There are additional special-status plant species that occur within the site, however Ramona horkelia is the only one associated with mafic soils.

## 1.5.2 Habitat Vegetation Types/ Vegetation Communities

Twenty-two vegetation communities and non-native communities, or land cover types, were mapped by Dudek within the proposed project site. Native vegetation communities within the

## Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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project site include coast live oak woodland, Diegan coastal sage scrub (including disturbed), coastal sage scrub Baccharis dominated (including disturbed), coastal sage scrub-chaparral transition, flat-topped buckwheat scrub (disturbed), granitic southern mixed chaparral (including disturbed), mafic southern mixed chaparral, scrub oak chaparral, freshwater marsh, mulefat scrub, southern coast live oak riparian forest, southern willow scrub, and southern willow scrub/tamarisk scrub. Four non-native vegetation communities including disturbed wetlands, eucalyptus woodland, non-native woodland and non-native grassland, occur within the project site. Five land cover types (non-vegetated areas) occur within the project area including intensive and extensive agriculture, orchards and vineyards, urban/developed, and disturbed habitat. The on-site vegetation communities and land cover types listed above are described further below, their acreages are presented in Table 1, and their spatial distributions throughout the site, as well as within the proximity of the proposed mitigation restoration areas, are shown on Figures 3 and 4.

The site is largely dominated by undisturbed chaparral, which covers 89% of the project site. Pockets of coastal sage scrub habitat are scattered throughout the chaparral and cover approximately 4% of the project site. In general, riparian habitats are minimal on-site (i.e., mulefat scrub, oak riparian forest, southern willow scrub, and southern willow scrub/tamarisk scrub) and are located along North Twin Oaks Valley Road in the northwestern portion of the project. There are also some scattered locations within the old airstrip area in the north, some located directly north of the junction of Gist Road and Sarver Lane, some located adjacent to I-15, with a few additional scattered locations throughout the site. The project site is composed of approximately 3% developed land and disturbed habitat. Disturbed habitat on site is mainly associated with the old quarry located in the northwestern section of the project site and also includes numerous dirt roads and off-road vehicle trails which traverse the site, with major disturbances in the vicinity of the old airstrip. Developed areas are primarily located in the southern portion of the project site and include paved roads and private residences.

**Table 1**  
**On-Site Vegetation Communities and Land Cover Types**

General Vegetation Community/Land Cover Type	Code <sup>1</sup>	Acres
<i>Coastal Scrub</i>		
Diegan coastal sage scrub (including disturbed) *	32500	68.2
Coastal sage scrub – Baccharis dominated (including disturbed)	32530	2.0
Flat-topped buckwheat – disturbed*	32800	1.7
Coastal sage – chaparral transition*	37G00	7.8
<i>Subtotal</i>		79.7
<i>Chaparral</i>		
Granitic southern mixed chaparral* (including disturbed)	37121	1,700.7
Mafic southern mixed chaparral*	37122	58.8

# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

**Table 1**  
**On-Site Vegetation Communities and Land Cover Types**

General Vegetation Community/Land Cover Type	Code <sup>1</sup>	Acres
Scrub oak chaparral*	37900	44.3
<i>Subtotal</i>		1,803.8
<i>Woodland</i>		
Coast live oak woodland *	71160	9.1
<i>Riparian</i>		
Freshwater marsh*	52400	0.1
Southern coast live oak riparian forest*	61310	5.2
Mulefat scrub*	63310	0.2
Southern willow scrub*	63320	2.5
Southern willow scrub/tamarisk scrub*	63320/63810	0.3
<i>Subtotal</i>		8.3
<i>Non-native Communities and Land Covers</i>		
Eucalyptus woodland	79100	0.5
Intensive agriculture	18200	<0.0
Orchard and vineyards	18100	2.0
Urban/developed	12000	9.2
Disturbed habitat	11300	57.0
Non-native grassland*	42200	16.1
<i>Subtotal</i>		84.8
<b>Total <sup>2</sup></b>		<b>1,985.6</b>

**Notes:**

<sup>1</sup> Holland (1986) as modified by Oberbauer et al. (2008)

<sup>2</sup> May not total due to rounding

\* Considered special-status by the County of San Diego (2010a).

Detailed descriptions of the habitat types and vegetation communities are provided in the *Biological Resources Report for the Newland Sierra Project* (Dudek 2017a).

The current vegetation communities/ land covers within the proposed mitigation/ revegetation locations consist primarily of disturbed habitat associated with existing dirt roads and off-road vehicle trails (Disturbed Habitat, Holland Code 11300) and previous land use, surrounded by existing mature southern mixed chaparral and Diegan coastal sage scrub. The disturbed habitat is a result of repeated vehicular disturbance, and is largely un-vegetated. The Southern Mixed Chaparral (SMX) is dominated by chamise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos* spp.), ceanothus (*Ceanothus* spp.), and toyon (*Heteromeles arbutifolia*). The Diegan Coastal Sage Scrub (DCSS) is mostly disturbed but still supports native shrub components, such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*) and coyote bush (*Baccharis pilularis*). Disturbed SMX and disturbed



## Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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DCSS contain a dense layer of non-native weeds and annuals, such as wild oats and bromes, and other non-native invasive species such as tree tobacco (*Nicotiana glauca*), Pampas grass (*Cortaderia selloana*) and black mustard (*Brassica nigra*).

### 1.5.3 Flora

A total of 230 vascular plant species, consisting of 159 native species (69%), and 71 non-native species (31%), were recorded on site during the 2013 Dudek site surveys (Appendix A).

### 1.5.4 Fauna

The project area supports habitat for common upland and riparian species. Chaparral, coastal scrub, woodland, riparian, and non-native habitats (e.g., eucalyptus and non-native grassland) within the project area provide foraging and nesting habitat for migratory and resident bird species and other wildlife species. Riparian streams or puddles within the rock quarry may provide refuge for amphibian species. Rock outcroppings, chaparral, coastal scrub, and woodlands within the project area provide cover and foraging opportunities for wildlife species, including reptiles and mammals.

A list of the wildlife species observed within and adjacent to the project area during focused burrowing owl surveys, jurisdictional delineations, raptor surveys, rare plant surveys, riparian bird surveys, and vegetation mapping is provided in the biological resources report. There were 132 wildlife species observed on the project site. Species richness in the project area is moderate due to the property size and amount of undeveloped native land. Species richness is generally increased with the presence of more habitat types and ecotones, but the project site is primarily one habitat type (89% is chaparral). Although species richness is moderate, the number of species and the wildlife population levels (i.e., number of individuals) is typical for undeveloped areas in this region, particularly those areas that support the habitat types on site.

### 1.5.5 County List A and B Plant Species

Plants categorized as County List A species are plants that are rare, threatened, or endangered in California and elsewhere. Plants categorized as County List B are rare, threatened, or endangered in California, but more common elsewhere (County of San Diego 2010a). County List A and B species that have been observed in the project area, or have moderate potential to occur based on their life history, are described as follows and included in Table 1-6 of the Biological Resources Technical Report (Dudek 2017a).

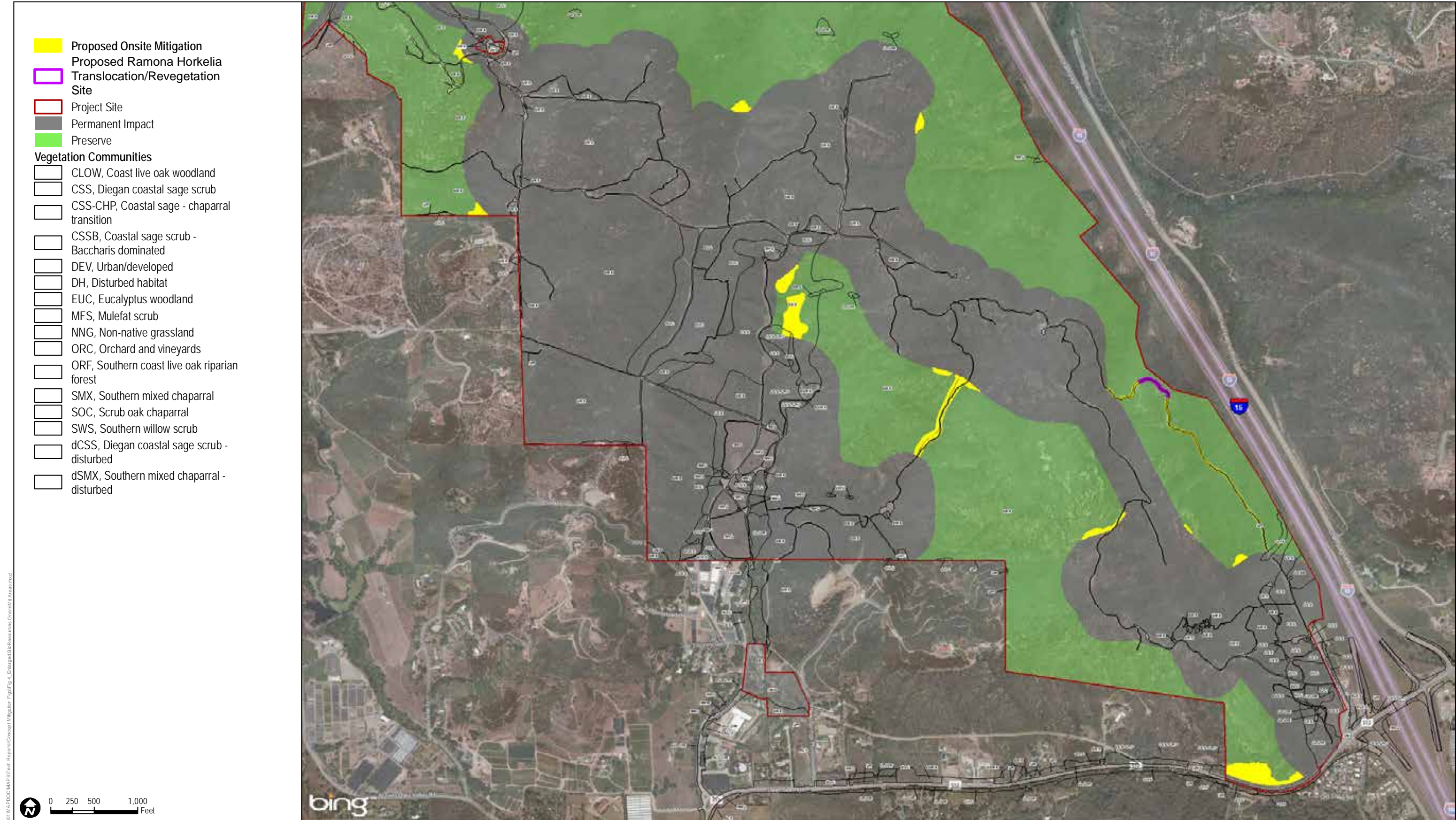


FIGURE 4

Enlargement of Biological Resources Vegetation Communities and Proposed Mitigation Areas Reference Map

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## Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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### **Rainbow Manzanita (*Arctostaphylos rainbowensis*), List A**

Rainbow manzanita is a CRPR 1B.1 species (CNPS 2014) and a County List A species (County of San Diego 2010a). This evergreen shrub occurs within chaparral at elevations between 740 to 1,770 feet. This species blooms from December to March (CNPS 2014). Rainbow manzanita was not detected during the 2013 focused surveys, however according to County records, a handful of shrubs have been recorded on a chaparral slopes of the Merriam Mountains, west of Interstate 15 near Windsong Lane, south of Mesa Rock Road (CDFW 2015), which is south of all other reported sites. No impacts to this species is anticipated (Dudek 201a).

### **Summer Holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), List A**

Summer holly is a CRPR 1B.2 (CNPS 2014) and County List A species (County of San Diego 2010a). This evergreen shrub blooms from April to June. It occurs in chaparral and cismontane woodlands at elevations of 100 – 1,800 feet (CNPS 2014). There are numerous individuals of summer holly detected throughout the site within southern mixed chaparral and two occurrences in scrub oak chaparral (Figures 3 & 4). Impacts to this species will be mitigated with preservation and management of habitat that supports this species (Dudek 2017a).

### **Ramona Horkelia (*Horkelia truncata*), List A**

Ramona Horkelia is a CRPR 1B.3 and County List A species. This perennial herb blooms from May to June. It occurs in chaparral and cismontane woodlands on clay soils at elevations of 1,312 – 4,265 feet (CNPS 2014). Three locations, two (2) evidenced by single individuals and a third population of approximately 60 individuals, were detected on site within disturbed habitat areas along dirt roadways, located within southern mixed chaparral habitat (Figure 5), generally in a north-easterly orientation. This species was found along existing dirt roadways, in disturbed locations, with most occurrences found on exposed open slopes or in rock crevasses. Impacts to the 62 individual Ramona horkelia plants will be mitigated for through salvaging, relocation and associated revegetation activities, as part of this on-site mitigation program, see Section 2.

### **Munz's Sage (*Salvia munzii*), List B**

Munz's sage is a CRPR 2.3 and County List B species. This perennial evergreen shrub typically blooms from February to April. It occurs in chaparral and coastal scrub habitat types, at elevations of 394 – 3,494 feet (CNPS 2014). One population, consisting of four individuals, was detected in southern mixed chaparral. No impacts to this species are anticipated (Dudek 2017a).

## Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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### 1.5.6 County List C and D Plant Species; Other

Plants categorized as County List C species are plants that may be rare, but more information is needed to determine their true rarity status. Plants categorized as County List D, are of limited distribution and are uncommon, but are not presently rare or endangered (County of San Diego 2010a). County List C and D species that have been observed on-site, or have moderate potential to occur on-site, are described in the Biological Resources Technical Report, Table 1-6.

#### **Chaparral Rein Orchid (*Piperia cooperi*), List D**

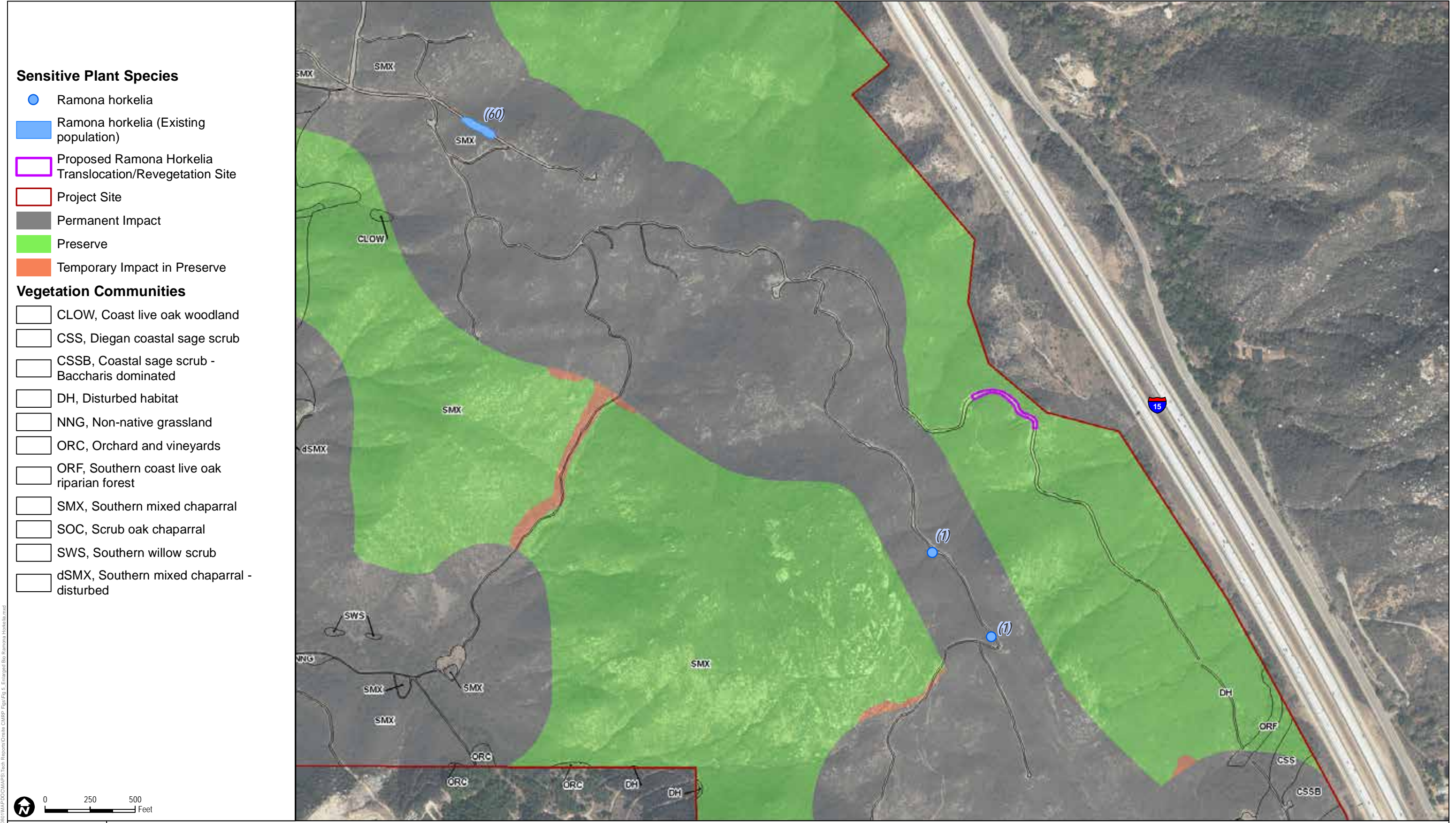
Chaparral rein orchid is a CNPS 4.2 and County List D species. This perennial herb blooms from March to June. It occurs in chaparral, cismontane woodland, and valley and foothill grasslands at elevations of 50 – 5,200 feet (CNPS 2014). This species had one occurrence (5 individuals) in the east-central portion of the site within southern mixed chaparral, but likely occurs throughout other suitable habitat types. Impacts to this species were not considered significant (Dudek 2017a).

#### **Engelmann Oak (*Quercus engelmannii*), List D**

Engelmann oak is a CNPS 4.2 and County List D species. This deciduous tree blooms from March to June. It occurs in chaparral, cismontane, woodland, riparian woodland, and valley and foothill grasslands at elevations of 394 – 4,265 feet. During 2013 surveys, this species had one occurrence in the northwestern corner and several occurrences throughout the north-central portion of the site within southern mixed chaparral (approximately 29 individuals). Several additional individuals occur in coast live oak woodlands in the southeastern corner of the site (includes PSBS 2007 observations) (Figure 3). Impacts to this species were not considered significant (Dudek 2017a).

#### **Ashy Spike-moss (*Selaginella cinerascens*), List D**

Ashy spike-moss is a CNPS 4.1 and County List D species. This perennial rhizomatous herb occurs in chaparral and coastal scrub at elevations of 66 – 2,100 feet. This species has two occurrences in the north-central portion and one occurrence in central portion of the site. All occurred within southern mixed chaparral. Impacts to this species were not considered significant (Dudek 2017a).



**FIGURE 5**  
**Enlargement of Biological Resources Vegetation Communities with Existing Ramona Horkelia Populations**

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**Conceptual On-Site and Off-Site Mitigation Restoration Plan  
for the Newland Sierra Project**

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# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

## 1.6 Description of Impacts and Mitigation Requirements

A full description of the project impacts is presented in the *Biological Resources Report for the Newland Sierra Project* (Dudek 2017a). A summary of the permanent on-site impacts, as well as the permanent off-site project impacts, mitigation and open space requirements are provided herein in Table 2. A summary of the temporary on-site and off-site project impacts, and mitigation requirements is provided herein in Table 3. In order to meet the overall mitigation requirements for project impacts, a combination of on-site and off-site mitigation and revegetation will be provided through habitat restoration, enhancement and preservation. In addition, off-site mitigation through habitat acquisition and associated preservation will also be provided. The majority of the on-site mitigation will be in the form of upland habitat restoration and enhancement, coupled with open space habitat preservation. Temporary impacts to native habitats will be addressed through on-site and off-site restoration/revegetation. The entirety of the remaining off-site mitigation credit requirements (i.e., mitigation deficit) for permanent impacts will be provided through the off-site acquisition of the Ramona Parcel, which is approximately 212 acres in size.

**Table 2**  
**Summary of Permanent Impacts, Mitigation, and Open Space for**  
**Vegetation Communities and Jurisdictional Areas (Acres)**

Habitat Types/Vegetation Communities	On-Site Existing Acreage	Total On-Site Impacts <sup>1</sup>	Total Off-Site Impacts <sup>2</sup>	Mitigation Ratio	Mitigation Required	On-Site Open Space <sup>3</sup>	Off-Site Mitigation Area	Mitigation Excess/ (Deficit)
<i>Coastal Scrub</i>								
Diegan coastal sage scrub (including disturbed)*	68.2	45.6	0.5	2:1	92.2	22.6	106.4	36.8
Coastal sage scrub – Baccharis dominated (including disturbed)	2.0	1.5	—	2:1	3.0	0.5	—	(2.5)
Flat-topped buckwheat – disturbed*	1.7	0	—	2:1	0	1.7	—	1.7
Coastal sage – chaparral transition*	7.8	7.4	1.7	2:1	18.2	0.4	—	(17.8)
<i>Subtotal</i>	<i>79.7</i>	<i>54.5</i>	<i>2.2</i>	<i>N/A</i>	<i>113</i>	<i>25.2</i>	<i>106.4</i>	<i>18.2</i>
<i>Chaparral</i>								
Chamise chaparral <sup>4*</sup>	—	—	—	—	—	—	19.7	19.7
Granitic southern mixed chaparral (including disturbed)*	1,700.7	626.9	6.3	0.5:1	316.6	1,073.8	—	757.2
Mafic southern mixed chaparral*	58.8	0.8	—	3:1	2.4	58.0	—	55.6

# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

**Table 2**  
**Summary of Permanent Impacts, Mitigation, and Open Space for**  
**Vegetation Communities and Jurisdictional Areas (Acres)**

Habitat Types/Vegetation Communities	On-Site Existing Acreage	Total On-Site Impacts <sup>1</sup>	Total Off-Site Impacts <sup>2</sup>	Mitigation Ratio	Mitigation Required	On-Site Open Space <sup>3</sup>	Off-Site Mitigation Area	Mitigation Excess/ (Deficit)
Scrub oak chaparral*	44.3	39.2	—	0.5:1	19.6	5.1	—	(14.5)
<i>Subtotal</i>	<i>1,803.8</i>	<i>666.9</i>	<i>6.3</i>	<i>N/A</i>	<i>338.6</i>	<i>1,136.9</i>	<i>19.7</i>	<i>818.0</i>
<i>Woodland</i>								
Coast live oak woodland*	9.1	6.5	2.8	3:1	27.9	2.6	—	(25.3)
Engelmann Oak Woodland - Open <sup>4</sup> *	—	—	—	N/A	—	—	29.0	29.0
<i>Subtotal</i>	<i>9.1</i>	<i>6.5</i>	<i>2.8</i>	<i>N/A</i>	<i>26.1</i>	<i>2.6</i>	<i>29.0</i>	<i>3.7</i>
<i>Riparian</i>								
Freshwater marsh*	0.1	—	—	3:1	—	0.1	—	0.1
Southern coast live oak riparian forest*	5.2	1.9	0.8	3:1	8.1	3.3	—	(4.8)
Mulefat scrub*	0.2	0.1	0.03	3:1	0.4	0.1	—	(0.3)
Southern sycamore-alder riparian woodland <sup>4</sup> *	—	—	—	—	—	—	7.9	7.9
Southern willow scrub*	2.5	0.1	0.5	3:1	1.8	2.4	—	0.6
Southern willow scrub/tamarisk scrub*	0.3	—	—	3:1	—	0.3	—	0.3
Arundo-dominated riparian	—	—	0.1	3:1	0.3	—	—	(0.3)
<i>Subtotal</i>	<i>8.3</i>	<i>2.1</i>	<i>1.4</i>	<i>N/A</i>	<i>10.6</i>	<i>6.2</i>	<i>7.9</i>	<i>3.5</i>
<i>Grassland</i>								
Valley needlegrass grassland <sup>4</sup> *	—	—	—	—	—	—	8.5	8.5
Non-native grassland*	16.1	15.3	2.6	0.5:1	9.0	0.8	33.8	25.7
<i>Subtotal</i>	<i>16.1</i>	<i>15.3</i>	<i>2.6</i>	<i>N/A</i>	<i>9.0</i>	<i>0.8</i>	<i>42.3</i>	<i>34.2</i>
<i>Non-native Communities and Land Covers</i>								
Agriculture	—	—	2.0	None	—	—	—	(2.0)
Eucalyptus woodland	0.5	—	2.0	None	—	0.5	3.2	1.7
Intensive agriculture	<0.0	<0.0	1.4	None	—	—	—	(1.4)
Extensive agriculture	—	—	4.5	None	—	—	—	(4.5)
Orchard and vineyards	2.0	1.0	1.9	None	—	1.0	—	(1.9)
Urban/developed	9.2	9.2	40.8	None	—	—	0.1	(49.9)
Disturbed habitat	57.0	21.0	5.1	None	—	36.0	3.3	13.2
Non-native woodland	—	—	0.2	None	—	—	—	(0.2)
<i>Subtotal</i>	<i>68.7</i>	<i>31.2</i>	<i>57.9</i>	<i>—</i>	<i>0</i>	<i>37.5</i>	<i>6.6</i>	<i>(35.5)</i>
<b>Total<sup>1</sup></b>	<b>1,985.6</b>	<b>776.6</b>	<b>71.7</b>	<b>N/A</b>	<b>497.3</b>	<b>1,209.1</b>	<b>211.8</b>	<b>923.6</b>



# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

**Table 2**  
**Summary of Permanent Impacts, Mitigation, and Open Space for**  
**Vegetation Communities and Jurisdictional Areas (Acres)**

Habitat Types/Vegetation Communities	On-Site Existing Acreage	Total On-Site Impacts <sup>1</sup>	Total Off-Site Impacts <sup>2</sup>	Mitigation Ratio	Mitigation Required	On-Site Open Space <sup>3</sup>	Off-Site Mitigation Area	Mitigation Excess/ (Deficit)
<i>Other</i>								
RPO wetland buffer <sup>5</sup>	30.2	8.7	3.9	N/A	N/A	N/A	—	N/A
Oak Root Zone <sup>5</sup>	32.9	11.2	8.4	3:1	58.8	21.7	16.8	-2.1
Non-wetland waters (ephemeral and intermittent) <sup>5</sup>	5.33	1.41	0.16	1:1	1.59	3.92	—	N/A

<sup>1</sup> Totals may not add due to rounding.

<sup>2</sup> This includes impacts for Deer Springs Road Option B and all other off-site impacts.

<sup>3</sup> The open space acreage includes the on-site temporary impacts since they will be restored and conserved in permanent open space.

<sup>4</sup> These communities occur in the off-site Ramona mitigation site and are described in Appendix J.

<sup>5</sup> These features are overlays to the vegetation community layer and are not counted toward the total existing acreage.

\* Considered special-status by the County (2010b).

3:1 for riparian areas includes a 1:1 creation and 2:1 enhancement requirement.

**Table 3**  
**On-Site and Off-Site Temporary Direct Impacts to Vegetation Communities and Land**  
**Cover Types By Location**

General Vegetation Community/ Land Cover Type	On-Site <sup>1</sup>	Camino Mayor	Mesa Rock Road	Sarver Lane	Buena Creek/Mar Vista	Buena Creek/South Santa Fe	Deer Springs	Total Temporary Impacts <sup>3</sup>
<i>Sensitive Upland Habitats</i>								
<i>Coastal Scrub</i>								
Diegan coastal sage scrub (including disturbed)*	2.6	—	0.2	—	—	—	—	2.8
Coastal sage – chaparral transition*	0.1	—	—	—	—	—	0.6	0.7
<i>Chaparral</i>								
Granitic southern mixed chaparral* (including disturbed)	6.3	1.0	—	0.6	—	—	0.7	8.6
Scrub oak chaparral	<0.1	—	—	—	—	—	—	<0.1
<i>Woodland</i>								
Coast live oak woodland (including disturbed)*	—	—	—	0.4	<0.01	—	1.1	1.5
<i>Grassland</i>								
Non-native grassland*	—	—	—	<0.01	—	—	0.5	0.5
<i>Subtotal Upland</i>	9	1.0	0.2	1.0	<0.01	0	2.9	14.1

# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

**Table 3**  
**On-Site and Off-Site Temporary Direct Impacts to Vegetation Communities and Land**  
**Cover Types By Location**

General Vegetation Community/ Land Cover Type	On- Site <sup>1</sup>	Camino Mayor	Mesa Rock Road	Sarver Lane	Buena Creek/Mar Vista	Buena Creek/South Santa Fe	Deer Springs	Total Temporary Impacts <sup>3</sup>
<i>Habitats</i>								
<i>Riparian Habitats</i>								
Southern willow scrub*	—	<0.01	—	—	—	—	<0.04	<0.05
Mulefat scrub	—	<0.01	—	—	—	—	<0.01	<0.05
Disturbed wetland	—	—	—	—	—	—	0.1	0.1
Oak riparian forest	—	—	—	—	—	—	0.5	0.5
<i>Subtotal Riparian Habitats</i>	—	<0.01	—	—	—	—	0.65	0.7
<i>Non-native Communities and Land Covers</i>								
Agriculture	—	—	—	—	—	0.6	0.6	1.2
Intensive agriculture	—	—	—	0.3	—	—	0.6	0.9
Extensive agriculture	—	—	—	<0.1	—	—	1.7	1.8
Eucalyptus woodland	—	—	—	—	0.3	—	0.4	0.7
Orchard and vineyards	—	0.1	—	—	—	—	0.8	0.9
Urban/developed	—	0.2	0.3	0.4	0.3	<0.1	5.1	6.4
Disturbed habitat	0.2	0.2	—	0.1	0.1	—	0.7	1.3
Non-native woodland	—	—	—	0.1	—	—	—	0.1
<i>Subtotal Non-native Communities and Land Covers</i>	0.2	0.5	0.3	1.0	0.7	0.6	9.9	13.3
<b>Total <sup>2</sup></b>	<b>9.2</b>	<b>1.5</b>	<b>0.5</b>	<b>2.0</b>	<b>0.7</b>	<b>0.6</b>	<b>13.6</b>	<b>28.1</b>

\* Vegetation community is considered special-status by the County and requires mitigation (County of San Diego 2010a).

<sup>1</sup> Includes onsite temporary impacts associated with Deer Springs Road Option B.

<sup>2</sup> Totals may not add due to rounding.

<sup>3</sup> Total does not include the I-15 Interchange temporary disturbance areas, as it is assumed that this area will be revegetated separately by CalTrans. All offsite temporary disturbance areas shown on Table 2, amounting to 18.9 acres will be restored/revegetated at those locations to the appropriate native habitat types.

## 1.7 Proposed Compensatory Mitigation/Revegetation

This conceptual mitigation and revegetation plan provides guidelines for the mitigation and revegetation of various upland and riparian habitats for on-site and off-site areas, as well as mitigation for the sensitive plant species Ramona horkelia, associated with the development of the Newland Sierra project. Mitigation for impacts to wetlands and oak woodland habitat will occur off-site at the Ramona Parcel. Mitigation for project impacts will occur both on-site within available areas, as well as off site at the location of the temporary impacts, and through the

## Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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acquisition of the Ramona Parcel. Compensation for the remaining mitigation deficit will be provided at the Ramona Parcel location. The on-site and off-site temporary impact mitigation restoration/revegetation areas will be located directly within the temporary disturbance areas. These areas will be restored to the applicable habitat they lie adjacent to after disturbance has taken place. In addition, select disturbed habitat areas throughout the on-site project open space area will be revegetated to native habitat, and will provide approximately 9.57 acres of combined upland mitigation acreage credit. On-site open space preservation will occur in large contiguous blocks of undeveloped land within the Project site (Figure 6). The acreage of on-site and off-site open space preservation is identified in Table 2. Mitigation in the form of on-site upland restoration/revegetation is shown in Table 4. Off-Site temporary disturbance/revegetation areas amount to 5.8 acres and will correspond with the areas shown within the Biological Resources report, *Biological Resources Report for the Newland Sierra Project* (Dudek 2017a), and as shown on Figures 9 through 11. It should be pointed out that the revegetation of the permanent slopes along the roadways and bordering the project lots within fuel management zones is not accounted for in these acreage numbers and will be addressed separately as part of the on-site and off-site landscape plan preparation.

**Table 4**  
**On-Site Upland Mitigation/Revegetation Summary**

On-Site Upland Mitigation		
<i>Mitigation Type and Treatment</i>	<i>Current Habitat Type</i>	<i>Mitigation / Revegetation Acreage On Site</i>
Uplands CSS Restoration (CSS)	CSS	2.75
Uplands CSS Establishment in DH (CSS)	DH	0.78
Uplands So. Mixed Chap Restoration (SMX)	SMX	5.87
Uplands So. Mixed Chap Establishment in DH (SMX)	DH	0.17
<b>Total Uplands Mitigation/Revegetation</b>		<b>9.57</b>
On-Site Upland Preservation		
Additional Upland Habitat Preservation	Existing Upland Habitat Preservation (no revegetation)	1,193.13
Oak Woodland Habitat Preservation	Existing Oak Woodland & Oak Riparian Forest Preservation (no revegetation)	5.94
<b>Total Uplands Preservation</b>		<b>1,199.07**</b>
<b>Total Uplands Mitigation/Revegetation and Preservation</b>		<b>1,208.64**</b>
Rare Plant Mitigation		
<i>Rare Plant Species</i>	<i>Total Number of Plants</i>	<i>Mitigation</i>
Ramona Horkelia ( <i>Horkelia truncata</i> )*	62	Salvaged and relocated on site to old road revegetation area
<b>Total Plants</b>	<b>62</b>	



# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

\* **Note:** Seed from Ramona horkelia shall also be collected prior to salvaging and shall be cleaned/processed and stored at a native seed supplier for later seeding in the second year following salvaged plant relocation. An additional 20 container plants shall also be propagated from a portion of the seed, and grown/sored at a native plant nursery to serve as dead plant replacements during the five-year mitigation maintenance period.

\*\* **Note:** Total does not included 0.45 ac. that was subtracted out from this total for the sewer access road that does not receive revegetation treatment. The total hardline preserve area is actually 1209.1 ac.

**Table 5**  
**Off-Site Temporary Impact Restoration/Revegetation Summary**

<b>Off-Site Temporary Upland/ Woodland /Grassland Restoration/Revegetation</b>		
<i>Mitigation Type and Treatment</i>	<i>Current Habitat Type</i>	<i>Mitigation / Revegetation Acreage Off-Site</i>
Upland - CSS Restoration (CSS)	CSS, dCSS, CSS/CHAP	0.8
Upland - So. Mixed Chap Restoration (SMX)	SMX	2.3
Woodland - Coast Live Oak Woodland Restoration	CLOW, dCLOW	1.5
Grassland - Non-Native Grassland Restoration	NNG	0.5
<b>Total Off-Site Temporary Upland/Woodland/Grassland Restoration/Revegetation</b>		<b>5.1</b>
<b>Off-Site Temporary Wetland &amp; Riparian Restoration/Revegetation</b>		
Wetland - Southern Willow Scrub, Mulefat Scrub & Disturbed Wetland	SWS/MFS/DW	0.2
Riparian - Oak Riparian Forest	ORF	0.5
<b>Total Off-Site Temporary Wetland &amp; Riparian Restoration/Revegetation</b>		<b>0.7</b>
<b>Total Off-Site Temporary Impact Restoration/Revegetation</b>		<b>5.8</b>

## 1.7.1 Wetland and Riparian Habitat Mitigation

The proposed Newland Sierra project will impact wetland and riparian habitat, both inside and outside of the project boundaries. Wetland and riparian resources within the study area have been categorized as either County of San Diego, Resource Protection Ordinance (RPO) wetlands, or as other jurisdictional waters outside of County jurisdiction. A detailed analysis of wetland resources and impacts incurred by the proposed project are provided in the *Biological Resources Report for the Newland Sierra Project* (Dudek 2017a). On-site and off-site impacts to these resources will result from the proposed development and infrastructure improvements. In addition, impacts will occur off-site due to the road widening improvements along Deer Springs Road, off-site sewer improvements, as well as other roadway improvements. Impacts to wetlands and riparian habitat will require compensatory mitigation at a 3:1 mitigation ratio, per County guidelines.

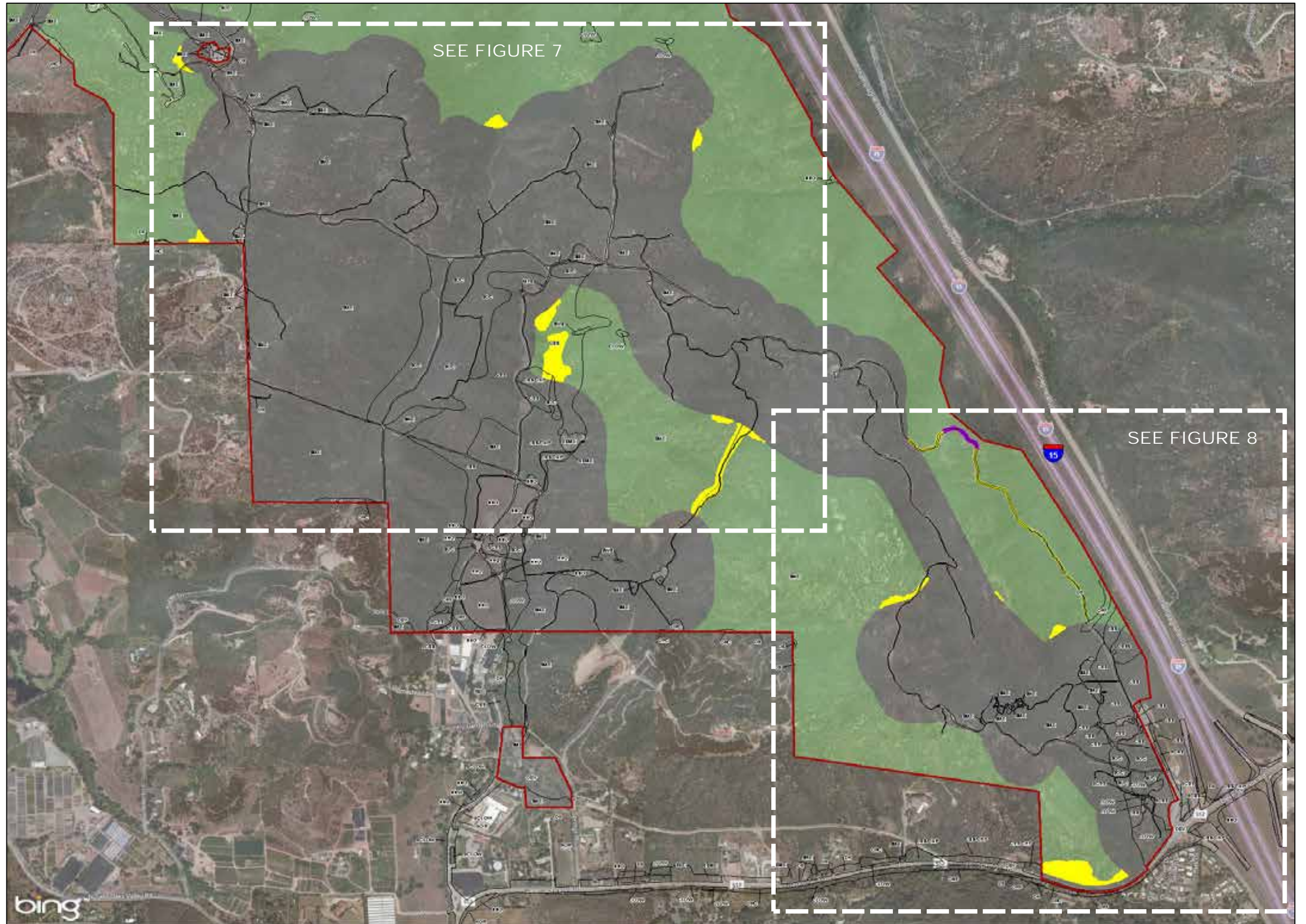
Permanent impacts to wetlands and riparian habitat will be mitigated for through on-site and off-site preservation of in-kind habitat as shown in Table 2. Temporary impacts to 0.7 acre of riparian habitat will be restored to pre-project conditions within the areas of disturbance.

Document Path: Z:\Projects\760801\MA-PDOC\MapDocs\Tech Reports\Onsite CMRP\_Fig6\_Fig 6\_Overall Onsite Mitigation Area.mxd

- Proposed Onsite Mitigation
- Proposed Ramona Horkelia Translocation/Revegetation Site
- Project Site
- Permanent Impact
- Preserve

Vegetation Communities

- CLOW, Coast live oak woodland
- CSS, Diegan coastal sage scrub
- CSS-CHP, Coastal sage - chaparral transition
- CSSB, Coastal sage scrub - Baccharis dominated
- DEV, Urban/developed
- DH, Disturbed habitat
- EUC, Eucalyptus woodland
- MFS, Mulefat scrub
- NNG, Non-native grassland
- ORC, Orchard and vineyards
- ORF, Southern coast live oak riparian forest
- SMX, Southern mixed chaparral
- SOC, Scrub oak chaparral
- SWS, Southern willow scrub
- dCSS, Diegan coastal sage scrub - disturbed
- dSMX, Southern mixed chaparral - disturbed





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## Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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### 1.7.2 Upland Mitigation

As show in Table 2, permanent impacts to sensitive upland habitat will be mitigated through both on-site preservation and the acquisition of the Ramona Parcel. Temporary impacts to sensitive upland habitats will also be mitigated for through on-site and off-site restoration. In addition, in order to support the relocation of Ramona horkelia, an existing abandoned dirt road will be revegetated with native upland habitat and salvaged Ramona horkelia will be translocated to that location.

### 1.7.3 Coast Live Oak Woodland Mitigation

Mitigation for permanent impacts to coast live oak woodland habitat will be compensated for through the on-site preservation of 2.6 acres of coast live oak woodland and oak riparian forest habitat, as well as through the additional off-site acquisition of 29 acres of Engelmann oak woodland habitat at the Ramona Parcel . Temporary impacts to this habitat will be mitigated for at the locations where the impacts occur.

### 1.7.4 Rare Plant Mitigation

Per Mitigation Measure MM-9 the following mitigation requirements for impacts to Ramona horkelia (*Horkelia truncata*) area required:

**Horkelia Relocation Plan:** For any direct loss of Ramona horkelia, the applicant shall prepare and implement a Relocation Plan prior to the issuance of grading permits. The plan shall provide for replacement of individual plants to be removed at a minimum 1:1 ratio, within suitable receptor sites(s) where no future construction-related disturbance will occur. The plan shall specify at minimum the following: (1) the location of the receptors site(s) in protected open space areas within the Project site; (2) appropriate methods for replacement (e.g., harvesting seeds, salvaging and transplantation of impacted plants, and/or nursery propagation); (3) receptor site preparation methods; (4) schedule and action plan for maintaining and monitoring the receptor site(s); (5) list of performance criteria and standards for successful mitigation; (6) measures to protect the receptor site(s) (e.g., trespass and erosion control, weeding); and (7) cost of implementing the plan.

**Documentation:** The applicant shall prepare the final Horkelia Mitigation Plan and submit it for review with the applicable review fees and deposits (Note: This is considered a Revegetation Plan submittal).

## Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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**Timing:** Prior to the approval of the first associated map and prior to the approval of the first associated plan or issuance of the first associated permit, the Horkelia Mitigation Plan shall be approved.

**Monitoring:** The PDS shall review the Plan for conformance with this condition and the applicable elements of the most current version of the County of San Diego *Report Format and Content Requirements for Revegetation Plans*. Upon approval of the Plan, security for success of the Plan will be collected and shall provide a confirmation letter-acknowledging acceptance of securities.

**Impacts to Ramona Horkelia and Mitigation Implementation:** Approximately sixty two (62) individuals of Ramona horkelia, a County List A species with a CRPR 1B.3, would be directly impacted by the proposed project (100% of the previously detected on-site individuals) and will be mitigated for on-site. The mitigation will take place in association with the upland restoration effort, in proximity to the location where the existing populations are located in the southeasterly portion of the project. A portion of an old deserted roadway will be utilized for this effort, as depicted further herein in Figure 5. The mitigation will occur within the old abandoned roadway and will be revegetated accordingly with the translocated Ramona horkelia and an appropriate seed mix. The adjacent abandoned roadways to the north and south of this location, which will also be revegetated with compatible upland CSS species through seeding, are outlined further herein.

The 62 individual Ramona horkelia plants, from three existing locations/populations in the south eastern portion of the development, will be salvaged and translocated to the new proposed on-site location, as part of this mitigation effort. The final exact site specific location for plant translocation will be determined at a later date, as part of the preparation of the final revegetation construction documents (i.e., plans, details and specifications), however, they will be located in the approximate area as depicted on Figure 5. Site selection for the appropriate receptor site for the salvaged individuals was chosen based upon similar soil, drainage and slope aspect/ solar orientation characteristics, in order to provide conditions similar to the current growing conditions of the existing Ramona horkelia populations. A combination of seed salvaging, additional container plant propagation and container planting, individual plant salvaging and translocation, coupled with direct seeding, will take place at the appropriate time of year to help achieve the successful Ramona horkelia establishment.

# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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## 2 GOALS OF THE COMPENSATORY MITIGATION PROJECT

The goal of this mitigation program is to provide compensatory mitigation for impacts to native habitat and sensitive species resources considered significant and requiring mitigation. The mitigation program includes a combination of establishment, restoration, enhancement, and preservation. Specifically for the on-site and off-site mitigation described in this plan, the program includes restoration of temporarily disturbed areas within the open space area designated for preservation, as well as revegetation of areas temporarily impacted by road construction and improvements (Figure 6). The mitigation program also includes compensation for impacts to the special-status species Ramona horkelia (*Horkelia truncata*). The primary goal of mitigation for Ramona horkelia is to compensate for the quantity of plants being impacted by the project, as a component of the on-site mitigation program.

### 2.1 Type of Habitat or Species to be Mitigated On-Site and Off-Site

Upland Diegan coastal sage scrub (DCSS) and southern mixed chaparral (SMX) habitats are the primary vegetation communities to be mitigated for and revegetated/restored both on-site and off-site. Additional mitigation credit to satisfy the remainder of the upland, riparian and wetland mitigation requirements will be being handled off-site through the separate habitat acquisition at the Ramona Parcel.

In addition, mitigation for impacts to Ramona horkelia will be provided by salvaging and relocating the Ramona horkelia individuals that would be impacted by the project to the location specified on-site. Mitigation for this species will also include additional seeding and container planting, as a component of the revegetation of an abandoned roadway within the southeastern portion of the project open space. This mitigation location is in proximity to the location of the southerly two occurrences of this species. This location was chosen for compatibility with similar soils type, topographic orientation, solar exposure and growing conditions for this species.

In addition, mitigation for acreage impacts to oak woodland habitat will be handled through on-site preservation of oak woodland and oak riparian forest habitat, as well as the separate off-site habitat acquisition of the Ramona Parcel.

Impacts and mitigation requirements are shown in Tables 2 and 3. The details of the implementation of this mitigation/revegetation program are described further herein.



# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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## 2.2 Functions and Values

One of the goals of the on-site and off-site mitigation/revegetation program is to improve the functions and values of the existing upland habitat areas being restored, so that they can function as viable native habitat to support native plant and wildlife species.

## 2.3 Responsibilities

### 2.3.1 Project Owner

Newland Sierra LLC, is the owner and applicant/permittee for this project, and will be responsible for the successful implementation of this Mitigation Program. Overall project management will be provided by Newland Sierra LLC and, as designated, by the Habitat Restoration Specialist/Project Biologist, Dudek. Newland Sierra LLC shall be financially responsible for implementation and management of this Mitigation Program, including both the on-site and off-site elements of the overall mitigation program.

### 2.3.2 County of San Diego

The County of San Diego (County) is the primary permitting entity for the upland mitigation component of the mitigation program, with review provided by the Wildlife Agencies. Impacts to wetlands and/or aquatic resources under the jurisdiction of the U.S. Army Corps of Engineers (ACOE), California Regional Water Quality Control Board (RWQCB) and/or California Department of Fish and Wildlife (CDFW) will be permitted separately.

There is potential for special status wildlife species such as CAGN and various raptor species to occur on site, which would be protected under CDFW and U.S. Fish and Wildlife Service (USFWS) Code and the Migratory Bird Treaty Act, however, no formal permits for these components of the project are part of the current upland restoration/revegetation effort. The County and Wildlife Agencies have the authority to review project status, and determine if performance criteria are being adequately met.

### 2.3.3 Compensatory Mitigation Project Designer

Dudek is acting as the mitigation project designer and Habitat Restoration Specialist/Project Biologist (Designer). The Designer ensures that the design is adequate to accomplish the goals of the project and meets the County requirements per the *County of San Diego Report Format and Content Requirements, Revegetation Plans* (County of San Diego 2007). The Designer will assist the Owner with the mitigation/revegetation installation oversight and coordination efforts with the designated installation contractor.

## **Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project**

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### **2.3.4 Habitat Restoration Installation Contractor**

The Project Owner will select a qualified Habitat Restoration Installation Contractor to implement the mitigation installation and implement the initial 120-day maintenance program. Restoration installation and associated labor shall be provided by a restoration contractor possessing a valid California Landscape Contractor's license, and who has at least 10 years of previous experience with native habitat restoration project in the region, and who can demonstrate at least five successful restoration projects of similar habitat and size in the Southern California area. The contractor and crew must be able to identify California native plants and common weed species and demonstrate knowledge of habitat restoration techniques.

The installation contractor will be responsible for conformance to this mitigation plan and compliance with the County and regulatory agencies permit conditions/requirements, where applicable. The installation contractor's responsibility for installation will continue until successful completion and final acceptance by project owner and the Habitat Restoration Specialist/Project Biologist at the end of the initial 120-day plant-establishment period (PEP). The installation contractor will not be released from contractual obligations for installation until written notification is received from The Project Owner and the Habitat Restoration Specialist/Project Biologist that all required installation tasks as defined in the installation contract, this mitigation plan, and the project permits have been successfully completed.

After initial installation and completion of the PEP, the Project Owner will contract for an additional five years of maintenance services performed by a qualified landscape restoration maintenance contractor that specializes in native vegetation community restoration and maintenance. Maintenance work shall be performed as indicated herein and per the Habitat Restoration Specialist/Project Biologist's recommendations. The Project Owner may choose to hire a maintenance contractor that is separate from the installation contractor, or they can be the same entity.

### **2.3.5 Habitat Restoration Specialist/Biological Monitor**

The Project Owner will also contract for an additional five years of biological monitoring services to be performed by a qualified habitat restoration specialist/biological monitor. Monitoring work shall be performed as indicated herein and per the requirements of the County of San Diego and the applicable resource agencies. The Project Owner may choose to hire a biological monitor that is separate from the installation restoration monitor, or they can choose to utilize the same entity.

## **Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project**

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The Habitat Restoration Specialist/Biological Monitor will review all aspects of the mitigation program documents and the installation procedures, to help verify that all work is being done as intended including but not limited to, site protection, submittals review, scheduling of formal site observations, establishing appropriate lines of communication, and adequate coordination between parties prior to project implementation.

The Habitat Restoration Specialist/Biological Monitor will oversee and coordinate implementation of this mitigation plan and installation per the final revegetation construction plans (i.e., drawings), interpret said plans, conduct field monitoring of project installation and perform biological monitoring throughout the installation and maintenance and monitoring periods. The Habitat Restoration Specialist/Biological Monitor shall possess specific knowledge and demonstrate experience with similar mitigation projects. The Habitat Restoration Specialist/Biological Monitor shall possess at least five years of habitat restoration experience in Southern California.

The Habitat Restoration Specialist/Biological Monitor will conduct a mandatory environmental training for all project personnel prior to implementation of this mitigation plan. Training shall include all on-site construction restrictions and conditions. The Habitat Restoration Specialist/Biological Monitor will inform all project personnel of the presence or potential presence of sensitive species and vegetation communities within or adjacent to the project areas, as well as any potential dangers on site. Information about federal, state, and local laws relating to these biological resources will be discussed as part of personnel education. Access and staging areas outside of environmentally sensitive areas (ESA's) will be established and protection enforced.

Biological monitoring will occur during the mitigation installation and throughout the designated maintenance periods. Monitoring time may increase or decrease as required by field conditions and construction activities. During installation, the Habitat Restoration Specialist/Biological Monitor, via the Project Owner, will have authority to stop work in situations where biological resources not authorized to be impacted are in imminent danger of impacts from adjacent construction activities. Each site visit will be documented in a site observation report that will note mitigation installation activities relating to the mitigation plan and any project deficiencies.

The Habitat Restoration Specialist/Biological Monitor shall conduct on-site monitoring visits throughout the maintenance and monitoring period to assess progress and growth trends, document project deficiencies and provide recommendations for remedial measures. Each monitoring visit will include a qualitative assessment of maintenance work and will include remedial recommendations as necessary to help ensure each year's performance criteria are met. Monitoring of the mitigation program will be performed in accordance with County of San Diego requirements, the resource agency permit conditions and the requirements of this plan.



## **Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project**

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### **2.3.6 Habitat Restoration Maintenance Contractor**

The Project Owner will select a qualified Habitat Restoration Maintenance Contractor to implement the long-term five-year maintenance program. The maintenance contractor shall have the same qualifications as the habitat restoration installation contractor described in Section 2.3.4. The Owner may choose to hire a maintenance contractor that is separate from the installation contractor, or may retain the same contractor for the five-year period.

### **2.4 Revegetation Implementation Time Frame**

The mitigation/revegetation program will be implemented in a sequential manner, starting with site and soil preparation, installation of temporary irrigation systems, planting/seeding, initiation of a 120-day plant establishment maintenance period and ending in the completion of a five-year maintenance and monitoring period. Site preparation will include salvaging and storage of Ramona horkelia, exotic/invasive plants species treatment and removals where necessary, weed control, ripping and tilling of compacted areas and site/soil preparation of temporary disturbance areas to receive revegetation treatments, grading to establish appropriate finish grade elevations to support the intended habitat types, soil testing and amending soil where necessary. Following site and soil preparation, the irrigation system will be installed. Following completion of the irrigation system, an initial “grow-kill” weed eradication period will be implemented to germinate and eradicate weeds and exotic/ non-native species. Following the site and soil preparation, and the weed eradication period, container plant installation and seed application will be completed, salvaged plants will be translocated and planted, followed by an initial 120-day plant establishment maintenance period and then a five-year maintenance and monitoring period.

Phasing of the mitigation/revegetation program will be necessary to address the various treatment areas. Work that can be implemented prior to impacts occurring, will be conducted first and then work associated with revegetation/restoration of areas disturbed during construction would follow after the construction disturbance is complete. As a result, the five-year maintenance and monitoring period will likely need to be phased over time to correspond with project construction and the phased completion of the revegetation areas, as construction work progresses. Details of the phasing are provided in Section 4.2.

### **2.5 Estimated Cost for the On-Site and Off-Site Mitigation Program**

The estimated cost for the on-site and off-site mitigation/revegetation program has not been calculated yet, as there are several details to be worked-out during the preparation of the final detailed construction plans and final revegetation construction documents. A cost estimate will be prepared at the time of the final revegetation construction document (i.e., Final Revegetation Plans) preparation.

## Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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## 3 DESCRIPTION OF PROPOSED ON-SITE AND OFF-SITE COMPENSATORY MITIGATION PROGRAM

The on-site mitigation/revegetation sites are shown for reference on Figure 6, with detailed enlargements included in Figures 7 and 8. The off-site restoration of temporary impact areas is shown on Figures 9 through 11. The proposed mitigation program is described in Section 2 and site selection criteria are outlined herein.

### 3.1 Site Selection

The mitigation/revegetation sites and specified revegetation treatments were selected based on the anticipated temporary impact locations and the type of habitats being impacted, as well as the desire to enhance existing upland habitats. In addition, the ability of the disturbed roadway areas being abandoned to support Ramona horkelia populations, was also evaluated. The on-site mitigation areas will be located in open space preserve areas not proposed for development, as outlined in the *Biological Resources Report for the Newland Sierra Project* (Dudek 2017a). Off-site temporary impacts will be mitigated for at the location in which they occur.

#### 3.1.1 Upland Mitigation Site Selection

The upland mitigation restoration areas were evaluated by Dudek based upon the anticipated locations for temporary impacts, in addition to the type of habitat that will be impacted and the adjacent habitat characteristics. In addition, site conditions in the old roadways to be abandoned, as appropriate to accommodate the populations of salvaged/translocated Ramona horkelia, were also evaluated. The chosen location for the Ramona horkelia translocation offers the best opportunity to achieve appropriate site conditions to help achieve self-sustainability of this rare plant population over time.

Preliminary estimates indicate that there are approximately 3.53 acres of upland CSS restoration/establishment and approximately 6.04 acres of upland SMX restoration/establishment that could be achieved within the temporary disturbance and disturbed habitat areas on-site. Thus, overall there would be a total of approximately 9.57 acres of upland DCSS and SMX mitigation restoration/revegetation acreage that will be provided within the entire on-site biological open space area (see Figures 7 and 8). Temporary habitat impacts off-site will also be revegetated as indicated in figures 9 through 11 and total 5.6 acres. The remainder of the upland and wetland mitigation requirements would be satisfied through the off-site habitat acquisition at the Ramona Parcel, and through on-site preservation.

The mitigation/revegetation goal is to restore Coastal Sage Scrub (CSS) and Southern Mixed Chaparral (SMX) habitat within temporary construction disturbance areas and adjacent disturbed



## **Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project**

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habitat areas within the biological open space areas both on-site as well as off-site, in order to provide restored native habitat quality and connectivity. The required mitigation for Coastal Sage Scrub would include a mosaic of CSS/SMX restoration within the temporary impact areas and adjacent disturbed habitat areas on-site and off-site, as well as supplemental upland mitigation off-site at the Ramona Parcel.

To achieve the on-site mitigation goals, the mitigation restoration/revegetation program will include removal of the exotic/invasive species, removal of all trash and debris, site preparation/soil de-compaction and elimination the off-road vehicle trails and roads where indicated. The goal will be to help restore appropriate grades and soil conditions to support the intended upland revegetation efforts. Once this is completed, appropriate upland CSS and SMX plant species will be installed, in order to support the intended habitat restoration for the habitats being impacted. Site preparation and finish grading will be conducted within the upland mitigation restoration/revegetation areas, in order to eliminate compaction and to help restore appropriate soil conditions to facilitate native plant growth. Grades will be modified where necessary to blend better with the adjacent native habitat areas and to eliminate temporary disturbances and any existing erosion scars where necessary. This will thereby allow for the re-connection of the remnant patches of CSS and SMX vegetation, and will help provide a larger contiguous upland open space areas. This will also help provide improved habitat quality for the remnant upland patches and will help restore upland resources throughout the biological open space. This will also help provide important wildlife resources, and habitat connectivity.

### **3.1.3 Ramona Horkelia Mitigation Site Selection**

Site selection for the Ramona horkelia mitigation program was determined based upon similar soil, drainage and slope aspect/orientation characteristics. The primary goal is to provide conditions similar to the current site conditions in which this species occurs. The three locations where Ramona horkelia occur on-site are in locations where there has been previous soil disturbance, a condition which this species appears to be adapted to. The observed plants are growing in SMX habitat along disturbed road edges, in mafic soil conditions mapped as the Cieneba very rocky coarse sandy loam soil type. The Ramona horkelia also appear to be oriented in a general northeastern slope orientation, with some minor influence from surface drainage runoff. The proposed translocation receptor site location is in close proximity to the existing location of the three populations, in the southeastern portion of the project, and offers similar conditions which should be conducive to supporting this species. The salvaging, translocation and re-establishment of the Ramona horkelia population will be implemented in this area, in association with the old deserted road/ trail area upland revegetation effort.



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#### Onsite Mitigation Treatment

- Coastal Sage Scrub Establishment
- Southern Mixed Chaparral Establishment
- Southern Mixed Chaparral Restoration

#### Proposed Ramona Horkelia Translocation/Revegetation Site

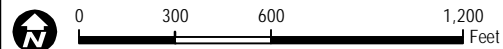
- Project Site
- Permanent Impact
- Preserve

#### Vegetation Communities

- CLOW, Coast live oak woodland
- CSS, Diegan coastal sage scrub
- CSS-CHP, Coastal sage - chaparral transition
- CSSB, Coastal sage scrub - Baccharis dominated
- DEV, Urban/developed
- DH, Disturbed habitat
- EUC, Eucalyptus woodland
- NNG, Non-native grassland
- ORC, Orchard and vineyards
- ORF, Southern coast live oak riparian forest
- SMX, Southern mixed chaparral
- SOC, Scrub oak chaparral
- dCSS, Diegan coastal sage scrub - disturbed
- dSMX, Southern mixed chaparral - disturbed

#### Existing Jurisdictional Waters (ACOE/CDFW/RWQCB)

- Ephemeral
- Intermittent
- Perennial



SOURCE: Bing 2014

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Conceptual Onsite and Offsite Mitigation Restoration Plan for the Newland Sierra Project

FIGURE 8

Mitigation Revegetation Map (Southerly Area)

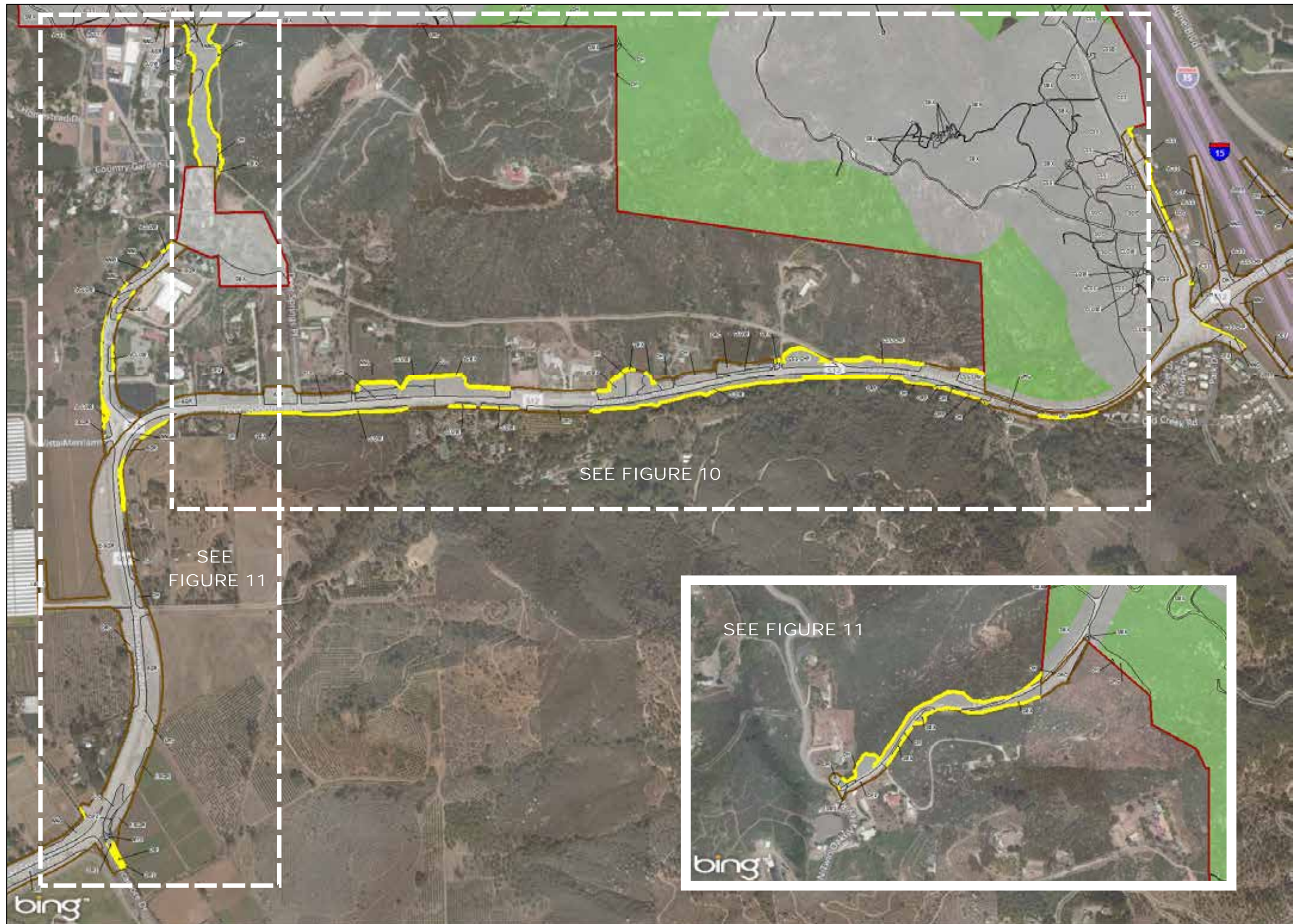
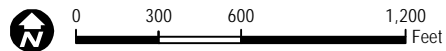
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- Project Site**
- On-site
  - Off-site
  - Preserve
  - Permanent Impact
  - Proposed Offsite Revegetation
- Vegetation Communities**
- AGR, Agriculture
  - CLOW, Coast live oak woodland
  - CSS, Diegan coastal sage scrub
  - CSS-CHP, Coastal sage - chaparral transition
  - CSSB, Coastal sage scrub - Baccharis dominated
  - DEV, Urban/developed
  - DH, Disturbed habitat
  - DW, Disturbed Wetland
  - E-AGR, Agriculture
  - EUC, Eucalyptus woodland
  - I-AGR, Intensive agriculture
  - MFS, Mulefat scrub
  - NNG, Non-native grassland
  - NNW, Non-native Woodland
  - ORC, Orchard and vineyards
  - ORF, Southern coast live oak riparian forest
  - SMX, Southern mixed chaparral
  - SOC, Scrub oak chaparral
  - SWS, Southern willow scrub
  - dCLOW, Coast Live Oak Woodland - disturbed
  - dCSS, Diegan coastal sage scrub - disturbed
  - dSMX, Southern mixed chaparral - disturbed



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SOURCE: Bing 2014

Conceptual Onsite and Offsite Mitigation Restoration Plan for the Newland Sierra Project

FIGURE 9

Overall Offsite Mitigation Revegetation Reference Map



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- Project Site**
- On-site
  - Off-site
  - Preserve
  - Permanent Impact

- Off-Site Revegetation Treatments**
- Scrub Seed Mix
  - Oaks Seed Mix
  - Wetlands Seed Mix
  - Grassland Seed Mis

- Vegetation Communities**
- AGR, Agriculture
  - CLOW, Coast live oak woodland
  - CSS, Diegan coastal sage scrub
  - CSS-CHP, Coastal sage - chaparral transition
  - CSSB, Coastal sage scrub - Baccharis dominated
  - DEV, Urban/developed
  - DH, Disturbed habitat
  - EUC, Eucalyptus woodland
  - I-AGR, Intensive agriculture
  - NNG, Non-native grassland
  - NNW, Non-native Woodland
  - ORC, Orchard and vineyards
  - ORF, Southern coast live oak riparian forest
  - SMX, Southern mixed chaparral
  - SOC, Scrub oak chaparral
  - SWS, Southern willow scrub
  - dCLOW, Coast Live Oak Woodland - disturbed
  - dCSS, Diegan coastal sage scrub - disturbed
  - dSMX, Southern mixed chaparral - disturbed

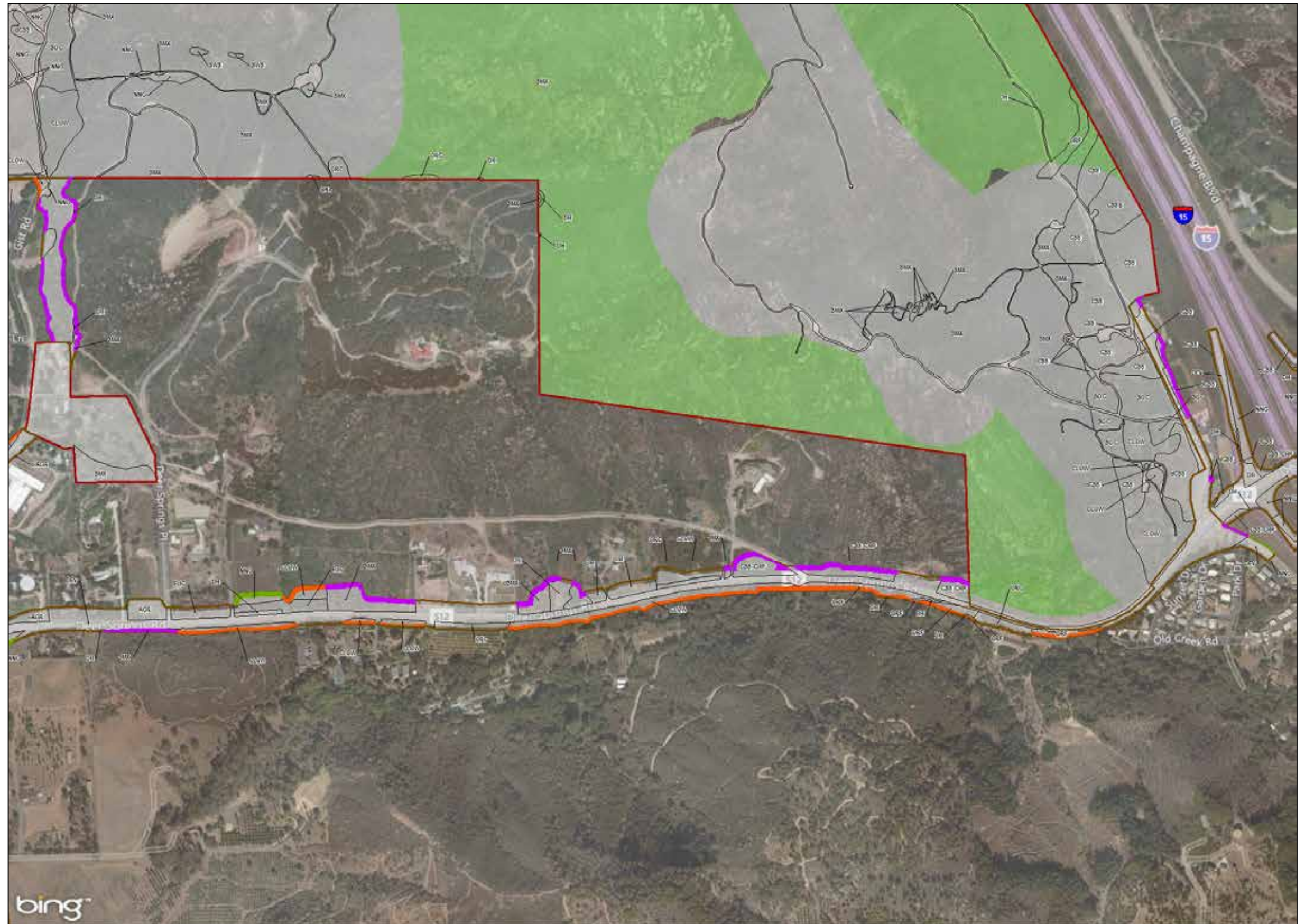
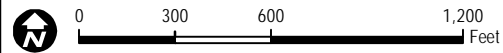


FIGURE 10

Off-Site Mitigation Revegetation Map - Deer Springs Road, Mesa Rock Road, and Sarver Lane

DUDEK

SOURCE: Bing 2014

Conceptual Onsite and Offsite Mitigation Restoration Plan for the Newland Sierra Project

**Conceptual On-Site and Off-Site Mitigation Restoration Plan  
for the Newland Sierra Project**

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SOURCE: Bing 2014

Conceptual Onsite and Offsite Mitigation Restoration Plan for the Newland Sierra Project

**FIGURE 11**  
**Off-Site Mitigation Revegetation Map - Deer Springs Road, Twin Oaks Valley Road, and Camino Mayor**



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# **Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project**

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## **3.2 Location and Size of Compensatory Mitigation Areas**

The project location and size of the proposed mitigation areas are described in Sections 1 and 2. The physical locations and configuration of the on-site mitigation areas are depicted on Figures 6–8. The off-site temporary disturbance restoration/revegetation areas are shown on Figures 9 through 11.

## **3.3 Baseline Conditions and Functions and Values**

Baseline conditions of the sites are described in Section 1. Baseline functions and values were evaluated qualitatively through a review of biological survey data, analysis of physical site conditions, and aerial photography interpretation. Baseline functions and values in the proposed restoration/revegetation areas are currently diminished and are considered poor due to previous site disturbances, as well as from temporary land disturbances from project construction and grading.

## **3.4 Present Conditions of Mitigation Sites and Proposed Uses**

The proposed on-site and off-site mitigation restoration/revegetation sites are composed primarily of existing CSS and SMX habitat. These temporary disturbance areas will be restored to native habitat and all recreational and unauthorized vehicular access will be controlled, with future recreational use restricted only to designated trails and roadways. All mitigation/revegetation areas will be protected from future disturbance through appropriate measures.

The areas to be restored are currently composed of native habitat with some patches of exotic/non-native species that need to be controlled. The proposed mitigation program is intended to restore these areas to functioning native habitat. The site is proposed to be revegetated with appropriate native upland DCSS and SMX species, and will remain as open space following completion of the mitigation program.

The proposed on-site mitigation restoration/revegetation areas will be included in the surrounding open space preserve system and will be protected in perpetuity. As part of the open space preserve system, public access to the mitigation areas will be limited to maintenance and monitoring activities only and direct public access/use will be precluded. Temporary construction fencing, and/or silt fencing will be used to delineate the mitigation/revegetation site boundaries during implementation of the installation and throughout the five-year maintenance and monitoring period. No permanent fencing or signage will be placed within the mitigation areas, except for immediately adjacent to established recreational trails, as the site will be incorporated into the larger, surrounding open space preserve, which will have its own signage program. Trail signage will be utilized at strategic locations where necessary to preclude trail users from entering the mitigation restoration/revegetation areas. No public access is proposed or anticipated within the mitigation/revegetation sites following project completion.



## Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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### 3.5 Reference Sites

The existing on-site and off-site upland habitat areas surrounding the proposed mitigation areas, will serve as the reference habitats for comparison of vegetation communities, species composition and vegetative coverage to be achieved within the mitigation areas. Given that the proposed native species to be incorporated into the mitigation/revegetation program are species naturally occurring on-site and off-site, and are in close proximity to the proposed mitigation/revegetation sites, it is envisioned that the native species compositions proposed in the mitigation restoration/revegetation plant palettes, will be appropriately suited to the revegetation sites, and will continue to grow and establish over time.

# **Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project**

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## **4 IMPLEMENTATION PLAN FOR THE COMPENSATORY MITIGATION AREAS**

All on-site and off-site upland mitigation restoration/revegetation areas will be installed per the guidelines established herein, as well as per the detailed requirements outlined in the final revegetation construction documents (i.e., plans, details, and specifications). All areas shall be maintained for an initial 120-day plant establishment maintenance period and then throughout a subsequent long-term five-year period. The implementation and maintenance work shall be conducted by a licensed Landscape Contractor (State of California C-27) experienced with native habitat restoration/revegetation projects. The contractor shall have a minimum of 10 years of experience in native habitat mitigation installation and maintenance, and shall be able to demonstrate the successful completion of a minimum of 5 wetland and upland mitigation projects in Southern California.

The implementation of the on-site and off-site upland mitigation program shall be monitored by a Habitat Restoration Specialist/Biological Monitor familiar with the implementation of native upland habitat mitigation/revegetation programs. The monitor shall verify and document the installation of the revegetation areas and shall monitor the installation and maintenance efforts periodically as necessary during the installation, as well as throughout the initial 120-day plant establishment period and five-year maintenance and monitoring period. The monitor shall provide periodic site observation status reports and a final letter report at the end of the 120-day plant establishment period, in order to document the successful completion of the initial implementation phase, and to officially document the start of the long-term 5-year maintenance and monitoring period.

### **4.1 Rationale for Expecting Implementation Success**

This project proposes to plant and seed the on-site and off-site mitigation/ restoration areas with appropriate native upland CSS and SMX species, which were observed persisting, reproducing, and increasing in cover within the surrounding adjacent native habitat areas. In addition, the rare plant species *Ramona horkelia*, which is known to occur on site in disturbed soil conditions, particularly along disturbed roadways and trails, will be salvaged and relocated/planted as part of the program to increase this species presence and persistence on-site and to compensate for impacts to individual plants. Given that the proposed rare plant species are observed on-site and are successfully growing within similar habitat areas, it is expected that they will continue to be successful during and following the five-year maintenance and monitoring period, as long as the intended installation and maintenance program is implemented.

## Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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To promote success, and maintain genetic integrity, container plants and seed for the intended native species composing the specified plant palettes, will be sourced from propagules within a 50-mile radius of the site. Container plants are anticipated to be sourced from local native plant nurseries/ supplier sources such as Moosa Creek Nursery, Las Palitas Nursery, Tree of Life Nursery, Recon Native Plants, or an approved equal. Seeds are expected to be sourced from a native seed specialty supplier such as S & S Seeds, Stover Seed Company, or an approved equal. If not all species are available from within a 50 mile radius of the site, then a specific nursery plant contract growing agreement and/or special seed collection arrangements will be established ahead of time, by the owner and/or the contractor, in order to assure availability of the container plants and seed at the time of installation. Ramona horkelia seed and individual plants shall be salvaged, stored and propagated adequately ahead of time in order to assist with the intended revegetation program implementation.

### 4.2 Financial Assurances

Newland Sierra LLC is the owner and permittee of this project, and will be responsible for the successful implementation and management of this mitigation program.

A mitigation/revegetation agreement with the County of San Diego shall be established, signed and notarized by Newland Sierra LLC, following approval of this CMMP, submittal of final revegetation construction documents (i.e., Final Revegetation Plans) and accompanied by the required security as agreed upon by the County.

### 4.3 Schedule

A tentative schedule for initial project implementation (i.e., initiation of the mitigation/revegetation program) is shown in Table 6, however, actual implementation timeframes may change, based on final approval of the County of San Diego and the permitting agencies, as well as the intended development phasing. This schedule represents the optimum time frame in which to implement the various mitigation/revegetation procedures.

**Table 6**  
**Anticipated Project Schedule**  
**(Initial implementation of first phase of the mitigation/revegetation program)**

Timeframe	Activity
Late Summer/Early Fall	Site and Soil preparation and exotic plant removals/treatment
Fall ,Winter, Early Spring	Irrigation, seed and container plant installation
120-day plant establishment period (upon completion of installation	Maintenance and biological monitoring during initial 120-day plant establishment period after completion of installation



# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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**Table 6**  
**Anticipated Project Schedule**  
**(Initial implementation of first phase of the mitigation/revegetation program)**

Timeframe	Activity
5-Year Maintenance and Monitoring Program	Maintenance and biological monitoring upon successful completion of 120-day plant establishment period.
End of 5-year Program	Project completion and final sign-off

Container plant materials will be grown at a native plant nursery for installation according to the proposed schedule and allowing for the necessary lead time for plant propagation from seed and cuttings. Weed control will occur prior to initial plant and seed installation as part of the site preparation work. Container plants, salvaged plants, and seed installation shall occur between October and November, in order to take advantage of winter rainfall, seasonally low temperatures, and the normal growth season for native species. Weed control will continue after plant and seed installation is completed, on an as-needed basis with special attention given to weed and exotics species eradication during the spring period when peak weed and exotic species growth is expected. Biological monitoring will commence upon successful completion of the plant and seed installation and will continue for a minimum of five years until success standards and percent cover goals are achieved.

## 4.4 Site Preparation

The on-site and off-site mitigation/revegetation areas, which are shown on Figures 6–11, include the previous disturbed/ deserted roadways, areas proposed for temporary impacts from grading, and other disturbed habitat and non-native habitat areas that have been impacted by past site activities, have highly disturbed soil conditions and have been designated for revegetation. Trash and debris, located adjacent to and/or within the deserted roadways and disturbed habitat areas designated for revegetation, will be removed as part of the site preparation procedures outlined herein. In order to prepare these areas for the revegetation effort, machinery (i.e., such as bulldozers, backhoes, and/or skid-steer loaders) and trucks (i.e., such as dump trucks, flatbed trucks and pickup trucks) will be required for the demolition and removal of the old anthropogenic trash and debris, removal of non-native invasive/exotic species, and grading/tilling of the revegetation areas. All trash and debris and exotic/non-native vegetation shall be transported off-site, and shall be disposed of in a legal and appropriate manor. Following trash and debris and exotic species removals, other small-scale earth moving equipment may be used for minor grading, ripping and tilling of the site to reduce soil compaction, to blend grades into existing habitat areas and to establish appropriate grade elevations for the intended

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plantings. Old abandoned roadways shall be re-graded to blend grades to existing topography and to restore topsoil and natural grade contours to the degree possible.

Site preparation shall include the removal and treatment of non-native exotics species and weeds. Difficult to control non-native invasive/exotic species, such as salt cedar (*Tamarisk* sp.), Pampas grass (*Cortaderia selloana*), Eucalyptus (*Eucalyptus* sp.), Acacia (*Acacia* sp.), etc., where physical removal by the rootball's is infeasible, shall be treated by the "Cut and Paint" herbicide application method, with an appropriate herbicide utilized, as specified by a certified Pest Control Advisor. Follow-up treatments will be required until the individual plants are completely eradicated from the mitigation/revegetation areas.

The potential presence of soil contamination and/or hazardous materials currently on-site is unknown. Should hazardous materials and/or contaminated soil conditions be discovered during construction, then removal/remediation may need to occur, per applicable state and federal regulations. Should soil contamination and/or hazardous materials conditions be discovered, they will be dealt with accordingly by the project owner, per applicable standards and shall be remediated prior to, and/or in conjunction with, the mitigation/revegetation effort.

The proposed mitigation/revegetation sites where the revegetation efforts are proposed to take place, are assumed to be accessible by vehicles from the existing dirt roads and trails. The revegetation efforts will be implemented in such a way as to work their way out of the site, so that equipment does not disturb areas already planted/seeded as the revegetation work progresses.

Composted organic matter and/or native mulched material shall be tilled into all ripped areas to improve soil structure, and shall also be amended per results/recommendations from pre-construction soil test analysis. *Mycorrhizal inoculum* may also be incorporated in the backfill of container plants at the time of installation, as recommended by the soils test results, if appropriate soil amendments are not already incorporated into the container stock planting soil medium by the native plant supplier.

For areas not ripped or tilled to reduce soil compaction, rakes, hoes and other tools or machinery may be necessary for the removal of annual weeds and non-native invasive/exotic species, in order to prepare the soil surface for planting and seed application. Seed shall only be applied to exposed mineral soils, not over existing thatch, weeds, mulch or other surfaces that could preclude seed contact with the soil and adequate germination. Once the irrigation system is installed and operational, the irrigation system shall be used to supplement natural rainfall and will be utilized to help implement the "grow-and-kill" cycles to germinate and kill weeds and exotic species. Perennial weed species shall be carefully spot-sprayed with a backpack sprayer to avoid overspray on desirable native species that may be existing or germinating in the adjacent

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areas. The “cut and paint” method of herbicide application shall be utilized for larger non-native exotic/invasive species control, where rootball’s need to be left in place. In these instances the trunks would be cut and painted with an herbicide, so that it is drawn into the plant tissue to kill the rootball’s of the target species. Non-native weeds and exotic plants shall be controlled within all areas to be planted, prior to container plant and seed installation and throughout the maintenance period.

The limits of the mitigation/revegetation areas shall be delineated through the installation of fencing utilizing T-posts with yellow polypropylene rope, orange construction fencing, and/or equivalent. These materials shall be installed along the boundaries of the mitigation/revegetation areas to delineate the work areas from adjacent existing native habitat to be preserved and to help control pedestrian access into the mitigation/revegetation areas. No impacts to native vegetation outside of the proposed mitigation/revegetation limits is authorized herein. The mitigation/revegetation sites will be accessed from existing dirt roads and trails. Enhancement areas shall be primarily accessed by foot traffic only, in order to help avoid additional impacts.

Permanent measures for protecting the mitigation/revegetation sites from disturbance will consist of fencing and signage designating the areas as mitigation/revegetation areas in perpetuity and are considered part of the conservation open space area and trail system, and that no public access is allowed within the mitigation/revegetation areas. Trail signage will likely be required adjacent to the mitigation/revegetation areas and the permanent trail alignment, to help keep trail users from accessing the restricted mitigation/revegetation areas.

All erosion control Best Management Practices (BMP’s) materials, such as fiber rolls and gravel bags, with the exception of silt fencing, shall be composed of 100% biodegradable materials. Erosion control measures shall be implemented based on site conditions, per the project SWPPP and per the project Qualified SWPPP Practitioner (QSP) and Habitat Restoration Specialist/Biological Monitor recommendations.

### **4.5 Grading For Upland Restoration Areas**

The areas proposed for upland mitigation restoration/revegetation will be adequately graded to provide appropriate planting elevations relative to the adjacent native habitat areas, as well as to match pre-existing site conditions to the greatest extent possible, based upon the desired habitat to be restored in each location.

All existing habitat areas to be preserved shall be adequately staked, shall be protected from disturbance and shall be adequately protected with BMP’s, such silt fencing, fiber rolls and /or sand bags, where deemed appropriate, to protect these areas from inadvertent impact during the



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restoration activities. Areas of temporary disturbance, and/or areas to receive grade modifications within the upland mitigation restoration/revegetation areas, shall be adequately staked and/or flagged to determine the limits of work, and will be revegetated with appropriate native upland species. Adequate stability of graded areas and planting locations will be achieved through the use of erosion control measures and BMP's and/or through appropriate planting and seeding, in order to provide adequate soil stability to resist erosion.

### **4.6 Plant Palettes, Planting Preparation and Installation**

Soil conditions in the areas to be revegetated will be sampled, with soil samples tested and evaluated by a soil and plant laboratory, in order to determine soil fertility and agricultural suitability for the intended vegetation and habitat types to be restored. Amending of infertile soils may be necessary if soils analysis results indicate that deficiencies exist within the site soils that could affect the growth of the intended native species. All amending requirements will be specified on the final revegetation construction documents (i.e., Final Revegetation Plans).

Established native species and/or naturally recruiting native species within the areas to be restored shall be left in place where feasible. In areas dominated by annual weeds and non-native species, or areas requiring ripping/tilling and grading/ re-contouring of the soil surfaces, these areas shall be cleared of any existing weeds/exotic species and, or thatch, so that mineral soils are exposed prior to grading. The surfaces shall then be tilled and roughened as necessary to provide optimal soil-seed contact and adhesion. All removed weeds, exotics and non-native plant material shall be disposed of appropriately off-site. Following weed removal and soil preparation, the specified native container plants and seed mixes shall be installed and applied to the appropriate prepared areas. The final configuration of all revegetation areas will be recorded through the use of Global Positioning System (GPS) equipment and will be included in the "as-built" plans following completion of the installation.

Propagules for container plant production shall be sourced from within 50 miles of the site. Container plants shall be sourced from a reputable native plant nursery supplier such as Moosa Creek Nursery, Las Pilitas Nursery, Tree Of Life Nursery, Recon Native Plants, or an approved equal. Seeds are expected to be sourced from a native seed supplier such as S & S Seeds, Stover Seed Company, or an approved equal. If any species are not available at the time of acquisition of plants and seed, and from the sources indicated, then the contractor shall make arrangements for cuttings/seed material to be collected for propagation, contract grown and installed when available, and as approved by, and in coordination with, the Habitat Restoration Specialist/Project Biologist.

Seeds for the Ramona horkelia mitigation program shall be collected from the existing Ramona horkelia population on-site prior to impacts and plant salvaging. Additional container plants of

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Ramona horkelia shall also be propagated from a portion of the salvaged seed, as described in the container plant palette and shall be contract grown at an approved native plant nursery for supplemental planting at a later date.

All container plants will be checked for viability and general health upon delivery to the site by the Habitat Restoration Specialist/Project Biologist. Plant materials not meeting acceptable standards will be rejected. Plants delivered to the site shall be free of insect pests, diseases and weeds. Plants shall not be top pruned or root pruned prior to delivery. Any plants wilting upon delivery will be rejected. Plant species and quantities will be confirmed after delivery by the Habitat Restoration Specialist/Project Biologist. Container plants shall be laid-out/flagged by the contractor, and their placement shall be verified and adjusted by the Habitat Restoration Specialist/Project Biologist, as deemed necessary to meet project goals and plant composition requirements.

Standard planting procedures will be employed for the installation of the container plants. Holes approximately twice the width of the rootball of the plant and of the same depth, will be dug using a post hole digger, power auger, or by hand via shovel. Holes will be filled with water and allowed to drain immediately prior to planting. Backfill soil containing amendments (i.e., per formal soils analysis and soil amending recommendations and as directed by the Habitat Restoration Specialist/Project Biologist) will be placed in the backfill of every planting hole following soaking, and container plants will be installed so that the top of the root ball is slightly above finish grade, to allow for minor rootball settling.

Container materials will be grown at a native plant nursery for installation according to the proposed schedule and allowing for the necessary lead-time for plant propagation from seed and/or cuttings as applicable per the various species. Weed control will occur prior to initial plant and seed installation, as part of site preparation procedures. Container planting, salvaged plant relocation and seed installation shall occur between October and November of any given year, in order to take advantage of winter rainfall, seasonally low temperatures, and the normal growth season for native species. Weed control will continue after plant and seed installation is completed, and on an as-needed basis during the maintenance period, with special attention given during spring when peak weed growth is expected. Biological monitoring will commence upon successful completion of plant and seed installation and will continue throughout the initial 120-day maintenance period and then throughout the five-year maintenance and monitoring period.

The specified native container plants and seed mixes to be installed and applied to the appropriate prepared on-site and off-site restoration/ revegetation areas, are shown in Tables 7–12. Container plants and seed will be utilized within the on-site areas and seeding only will be conducted within the off-site areas.

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**Table 7**  
**Coastal Sage Scrub (CSS) Restoration/Establishment Plant Palette**  
**(On-Site Areas Only)**  
**(3.53 acres = 153,767 sq. ft.)**

DCSS Container Plants					
Botanical Name	Common Name	Container Plants	Percent Composition (assumes 100% total)	Average Spacing (feet on center)	Number of Individuals
<i>Artemisia californica</i>	California sagebrush	1 gallon	20	4	1922
<i>Eriogonum fasciculatum</i>	California buckwheat	1 gallon	20	5	1230
<i>Hazardia squarrosa</i>	sawtooth goldenbush	1 gallon	2	4	192
<i>Heteromeles arbutifolia</i>	toyon	1 gallon	8	10	123
<i>Malosma laurina</i>	laurel sumac	1 gallon	5	12	53
<i>Rhus integrifolia</i>	lemonade berry	1 gallon	10	12	107
<i>Salvia apiana</i>	white sage	1 gallon	10	5	615
<i>Salvia mellifera</i>	black sage	1 gallon	20	5	1230
<i>Yucca schidigera</i>	Mojave yucca	1 gallon	5	15	34
Total Individuals					5,506

**Table 8**  
**Southern Mixed Chaparral (SMX) Restoration Plant Palette**  
**(On-Site Areas Only) (6.04 acres = 263,102 sq. ft.)**

Chaparral Container Plants					
Botanical Name	Common Name	Container Plants	Percent Composition (assumes 75% total)	Average Spacing (feet on center)	Number of Individuals
<i>Adenostoma fasciculatum</i>	chamise	1 gallon	2	3	585
<i>Ceanothus tomentosus</i>	Mountain lilac	1 gallon	5	10	132
<i>Cercocarpus betuloides</i> var. <i>betuloides</i>	birchleaf mountain mahogany	Deep 1 gallon	2	8	82
<i>Comarostaphylos diversifolia</i> ssp. <i>diversifolia</i>	summer holly	Deep 1 gallon	3	6	219
<i>Eriogonum fasciculatum</i>	California buckwheat	1 gallon	5	5	526
<i>Heteromeles arbutifolia</i>	toyon	deep 1 gallon	10	10	263
<i>Malosma laurina</i>	laurel sumac	deep 1 gallon	10	12	183



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**Table 8**  
**Southern Mixed Chaparral (SMX) Restoration Plant Palette**  
**(On-Site Areas Only) (6.04 acres = 263,102 sq. ft.)**

Chaparral Container Plants					
Botanical Name	Common Name	Container Plants	Percent Composition (assumes 75% total)	Average Spacing (feet on center)	Number of Individuals
<i>Quercus berberidifolia</i>	scrub oak	deep 1 gallon	15	15	175
<i>Rhus integrifolia</i>	lemonade berry	deep1 gallon	10	12	183
<i>Salvia apiana</i>	white sage	1 gallon	3	5	316
<i>Salvia mellifera</i>	black sage	1 gallon	5	5	526
<i>Yucca schidigera</i>	Mojave yucca	1 gallon	3	10	79
<i>Xylococcus bicolor</i>	mission manzanita	deep1 gallon	2	8	82
<b>Total Individuals</b>					<b>3,351</b>

**Table 9**  
**CSS & SMX Seed Mix (for all On-Site and Off-Site restoration areas)**  
**(9.57 acres = 416,869 sq. ft. On-Site ;**  
**18.9 acres = 823,284 sq. ft. Off-Site)**

CSS and Chaparral Seed Mix			
Botanical Name	Common Name	Percent P/G	Pounds Per Acre
<i>Acmispon glaber</i>	deerweed	95/40	3
<i>Artemisia californica</i>	California sagebrush	15/50	6
<i>Baccharis pilularis</i>	coyote bush	2/40	1
<i>Baccharis sarathroides</i>	broom baccharis	5/40	1
<i>Bromus carinatus</i>	California brome	95/80	1
<i>Castilleja exserta</i>	owl's clover	50/50	1
<i>Eriogonum fasciculatum</i>	California buckwheat	10/65	6
<i>Eriophyllum confertiflorum</i>	golden yarrow	30/50	1
<i>Eschscholzia californica</i>	California poppy	95/75	2
<i>Hazardia squarrosa</i>	sawtooth goldenbush	10/20	2
<i>Isocoma menziesii</i>	coast goldenbush	20/35	1
<i>Lupinus succulentus</i>	arroyo lupine	95/85	2
<i>Malocothamnus fasciculatus</i>	bushmallow	15/60	3
<i>Mimulus aurantiacus</i> var. <i>aurantiacus</i>	orange bush monkey-flower	2/60	1

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**Table 9**  
**CSS & SMX Seed Mix (for all On-Site and Off-Site restoration areas)**  
**(9.57 acres = 416,869 sq. ft. On-Site ;**  
**18.9 acres = 823,284 sq. ft. Off-Site)**

CSS and Chaparral Seed Mix			
Botanical Name	Common Name	Percent P/G	Pounds Per Acre
<i>Stipa lepida</i>	foothill needlegrass	90/60	2
<i>Salvia apiana</i>	white sage	70/30	2
<i>Salvia mellifera</i>	black sage	70/50	3
Total Pounds per Acre			45

**Table 10**  
**Grassland Seed Mix (for all Off-Site Temporary Restoration Areas)**  
**(0.50 acres = 21,780 sq. ft. Off-Site)**

Botanical Name	Common Name	PLS	Lbs./Acre
<i>Collinsia heterophylla</i>	Chinese houses	88%	2.0
<i>Encelia californica</i> *	Bush sunflower	24%	3.0
<i>Eschscholzia californica</i>	California poppy	74%	2.0
<i>Lotus scoparius</i>	Deerweed	54%	6.0
<i>Plantago insularis</i>	Plantain	74%	10.0
<i>Sisyrinchium bellum</i>	Blue-eyed grass	71%	2.0
<i>Lasthenia glabrata</i>	Goldfields	30%	2.0
<i>Lupinus bicolor</i>	Dove lupine	78%	4.0
<i>Mimulus aurantiacus</i> *	Sticky monkeyflower	4%	4.0
<i>Nassella pulchra</i>	Purple needlegrass	42%	5.0
Total Lbs. Per Acre			40.0

\* Indicates locally collected seed from coastal San Diego County.

**Table 11**  
**Oak Woodland Seed Mix (for all Off-Site Temporary Restoration Areas)**  
**(1.50 acres = 65,340 sq. ft. Off-Site)**

Oak Woodland Seed Mix			
Botanical Name	Common Name	Percent P/G	Pounds Per Acre
<i>Ambrosia psilostachya</i>	western ragweed	20/40	3
<i>Artemisia douglasiana</i>	Douglas mugwort	15/50	5
<i>Leymus condensatus</i>	giant wild rye	80/80	4
<i>Lasthenia californica</i>	Calif. goldfields	50/60	2
<i>Sisyrinchium bellum</i>	Blue-eyed grass	95/75	1
Total Pounds per Acre			15

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**Table 12**  
**Wetland/Riparian Seed Mix (for all Off-Site Temporary Restoration Areas)**  
**(0.7 acres = 30,492 sq. ft. Off-Site)**

SWS/MFS Seed Mix			
<i>Botanical Name</i>	<i>Common Name</i>	<i>Percent P/G</i>	<i>Pounds Per Acre</i>
<i>Ambrosia psilostachya</i>	western ragweed	20/40	3
<i>Artemisia douglasiana</i>	Douglas mugwort	15/50	5
<i>Leymus condensatus</i>	giant wild rye	80/80	4
<i>Iva hayesiana</i>	San Diego marsh elder	30/50	6
<i>Lasthenia californica</i>	Calif. goldfields	50/60	2
<i>Pluchea odorata</i>	Marsh fleabane	20/50	4
<i>Sisyrinchium bellum</i>	Blue-eyed grass	95/75	1
Total Pounds per Acre			25

### Hydroseed Slurry Mixes Shall Consist of the Following Additional Slurry Mix Components Per Acre:

- 2,500 Pounds Virgin Wood Fiber Mulch
  - 1,000 Pounds Agricultural Gypsum
  - 650 Pounds 6-20-20-XB Fertilizer (or approved equal)
  - \*150 Pounds “Az-Tac” Commercial Binder (or approved equal)
  - Pounds Seed, as shown in Table 7
- \* To be incorporated into hydroseed slurry mix for installation between fall or early winter of any given year for additional erosion control protection.

## 4.7 Hydroseed Application

Once the container plants have been installed, and all non-native exotic species and weeds have been removed, the mitigation/revegetation areas will be hydroseeded with the seed mix specified in Table 9. Alternatively, if specified in the final revegetation construction documents and/or agreed to by the owner and the Habitat Restoration Specialist/Biological Monitor, seed and the specified soil amendments and fertilizer may be applied by hand and raked into the soil surfaces in areas where hydroseed equipment is unable to reach due to width, existing plant density, and/or steepness restrictions. The Habitat Restoration Specialist/Biological Monitor shall be provided with seed tags and slurry mix components to verify that the seed mixes and slurry mix components meet the intended species and project implementation specifications.



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The seed mix proposed for this project, composed of one combined mix for both the DCSS and SMX areas, shall be applied to the appropriate areas as shown on the final revegetation construction documents. Labels for individual seed mixes, indicating each seed species delivered to the site will be inspected and approved by the Habitat Restoration Specialist/Project Biologist prior to mixing and application. If the seed is applied as hydroseed instead of hand broadcast, the mix is to include the specified seed mix at the prescribed rates per acre, in addition to the supplemental slurry mix components.

All seeds shall be sourced from cismontane San Diego County, within 50 miles from the site. All seeds will be clearly labeled showing type of seed, test date, the name of the supplier, and percentage of the following: pure seed, crop seed, inert matter, weed seed, noxious weeds, and total germination content. All materials will be delivered to the site in original, unopened containers bearing the manufacturer's guaranteed analysis. All seed mixes will be stored in a dark, cool place and not be allowed to become damp prior to application.

Installation of the seed during the late fall, early winter is ideal for allowing establishment during the cooler and wetter periods of the year.

While the initial seed application is proposed to consist of either hand broadcast or hydroseeding, additional seed may be hand broadcast, should the seed not be available at the time of initial installation. The contractor should consult the Habitat Restoration Specialist/Biological Monitor in the event that a given species on the plant palette is not available for inclusion into the initial seed mix, so that alternative arrangements can be made for substitute species or follow-up seed applications can be made at a later date when species to be applied by seed become available.

### **4.8 Irrigation System**

A temporary above-ground gear driven rotor, and/or spray irrigation system will be installed to support the native vegetation development until plants are adequately established and deemed self-sustaining, based upon observed and predicted seasonal rainfall, soil moisture and effective plant rooting depth. The water source point of connection for the temporary irrigation systems shall be from the closest available water source locations. If a water source is not available, then the systems shall be designed to temporarily run from a water truck connection. Manual watering via water truck, served from a temporary construction water meter source, from an available fire hydrant location, may be necessary until water services are available within the site. Watering frequency would be adjusted seasonally as necessary to supplement natural rainfall, with the intent to keep the container plant materials and seeded areas alive until sufficient establishment can be achieved to have these areas survive on natural conditions over the long term. The

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frequency of water truck watering applications will fluctuate based upon time of year climatic conditions and site moisture content. The revegetation installation contractor shall coordinate the water schedule to meet these variables and to assure the revegetation areas receive sufficient moisture to assure plant growth and survival.

Germination and seedling establishment will also progress more rapidly under irrigation than if left to seasonal rainfall patterns within the first few growing seasons. In addition, the irrigation system may be used for site preparation prior to plant and seed installation to induce germination of non-native species for “grow and kill” cycles. This process would consist of running the irrigation regularly until germination of weed seeds is observed. Once seedlings are big enough to be positively identified, they will be controlled and treated with an appropriate herbicide. Desirable native species which have naturally germinated/recruited will be left in place. This cycle of the “grow and kill” treatments may be repeated until the non-native seed bank within the site has reached a desirable level, (i.e., few newly germinated seedlings are observed). The Habitat Restoration Specialist/Project Biologist shall determine the number of repeat “grow and kill” cycles that will be necessary, based on seedling germination.

All irrigation will be installed by the installation contractor under direction of the Habitat Restoration Specialist/Project Biologist. The irrigation system shall be designed with a buried mainline and valves, but the remaining system above-ground to facilitate removal once the system is decommissioned. Water sources and points of connection shall either be from on-site locations associated with water truck application, existing infrastructure, or from a groundwater well.

The goal of the restoration project is to create native, self-sustaining plant communities that can survive on their own over time on natural site conditions. Ideally, irrigation use would be discontinued at least 2 years before the end of the maintenance and monitoring period, to demonstrate the vegetation community’s ability to survive without supplemental water.

The irrigation system will utilize programmable valves that operate independent irrigation circuits, minimizing irrigation maintenance requirements for the site. All irrigation will consist of UV resistant polyvinyl chloride (UV-PVC) pipe staked on grade, with 100% coverage from the sprinkler heads.

The Restoration Contractor will consult with the Habitat Restoration Specialist/Project Biologist and Project Manager regarding the watering schedule during the monitoring period and the timing for the cessation of irrigation. Irrigation is intended to stop at the earliest possible date when plants are adequately established and deemed sustainable, without risking significant plant mortality.

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## **4.9 Erosion Control Protection**

Where needed, appropriate erosion control Best Management Practices (BMP's) measures, such as, but not limited to, jute matting, rice straw wattles, fiber rolls, gravel bags and/or additional hydroseeding, will be installed on the transitional slopes and areas needing erosion protection, and a silt fence shall be placed at the bottom of all slopes adjacent to low lying areas, or existing drainages, to serve as erosion control protection. The location of these applications will be determined by the Habitat Restoration Specialist/Biological Monitor and as shown on the final revegetation construction documents. Soil stability and erosion control problems will be inspected by the Habitat Restoration Specialist/Biological Monitor during the rainy season to determine whether any additional erosion control measures/applications may be necessary.

## **4.10 Final Revegetation Construction Documents**

A set of final revegetation construction documents (i.e., plans, details and specifications) will be prepared by a State of California registered Landscape Architect/habitat restoration designer in order to implement the biological intent for the various mitigation/revegetation areas, as outlined in this conceptual mitigation plan. The revegetation construction documents shall be prepared for all on-site and off-site mitigation/revegetation areas. The plans shall be a comprehensive set of plans showing all sites, or on separate sets of plans (i.e., on-site and off-site), depending upon the intended revegetation/mitigation implementation phasing strategies. The revegetation construction documents shall detail all site preparation and demolition procedures, and all grading, irrigation, planting, seeding, and maintenance requirements for the implementation of the wetland, upland and rare plant mitigation/revegetation areas. The revegetation construction documents shall be of sufficient detail for bidding and construction of the mitigation/revegetation area improvements. The revegetation construction documents shall be reviewed and approved by the County and the appropriate resource agencies, based upon final permitting requirements, prior to actual implementation.

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## **5 MAINTENANCE PROGRAM**

All on-site and off-site mitigation/revegetation areas will be maintained during an initial 120-day plant establishment maintenance period following installation and then throughout a 5-year maintenance and monitoring period, until successful fulfillment of the project's success criteria and sign-off by the applicable jurisdictions/agencies. All maintenance procedures shall follow the guidelines established in this conceptual mitigation plan report and per the final permit conditions of the County and the resource agencies. The goal will be to help foster adequate plant establishment, as well as to control non-native weeds and exotic/invasive plant species, so that the intended native species and habitats can develop and establish over time as anticipated. The maintenance contractor shall provide sufficient maintenance to assure survival of the mitigation/revegetation plantings until they can survive on their own without artificial support and can become self-sustaining.

### **5.1 Maintenance Activities**

Site maintenance shall occur regularly throughout the initial 120-day plant establishment period and throughout the five-year maintenance and monitoring period, as directed by the Habitat Restoration Specialist/Biological Monitor. Maintenance activities shall include the following.

#### **5.1.1 Non-Native and Weed Species Control**

Non-native/exotic and weed species plant control measures will include the following: (1) hand removal, (2) cutting with mechanical devices and treatment with herbicides (i.e., "cut and paint" treatment), and (3) herbicide application (i.e., "grow and kill" treatment). Hand removal of non-native/exotic species and weeds is the most desirable method of control and will be used around individual native plants to be preserved. Weeds should be pulled by hand, including rootball's, when plants are 6–12 inches tall, or when they can be positively identified, and prior to the formation of seed heads.

The maintenance contractor shall coordinate with the Restoration Specialist/Biological Monitor to identify weeds for removal as needed. Chemical herbicide control will be used for perennial species that are low growing and are difficult to control by hand pulling. Any herbicide treatment must be specified by a certified Pest Control Advisor and applied by a certified Pest Control Applicator.

#### **5.1.2 Clearing and Trash Removal**

Pruning and/or clearing of native vegetation will generally not be allowed within the mitigation/revegetation areas. Deadwood and leaf litter from native species will generally not be



## **Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project**

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removed, but will be left in place, unless directed otherwise by the Restoration Specialist/Biological Monitor. Downed branches and leaf litter from native species provide valuable mulch and microhabitats for invertebrates, reptiles, small mammals, and birds. In addition, the decomposition of deadwood and leaf litter is essential for the replenishment of soil nutrients and minerals. Trash and debris will be removed from the mitigation areas by hand on a regular basis. Trash and debris consists of all anthropogenic (i.e., man-made) materials, equipment, or debris dumped, thrown, washed, blown, and left within the mitigation/revegetation areas.

### **5.1.3 Erosion Control BMPs**

Erosion control features, including Best Management Practices (BMPs) may need to be repaired or replaced during the maintenance period. The determination of whether or not BMPs need to be repaired or replaced will be made by the Habitat Restoration Specialist/Project Biologist. With the exception of silt fence and perimeter fencing, all BMPs shall be 100% biodegradable and allowed to naturally degrade in place. Silt fence will be removed from the site when no longer needed and as directed by the Habitat Restoration Specialist/Project Biologist.

### **5.1.4 Pest Management**

Weeds and exotic/invasive plants are expected to be the primary pest problem in the restoration area during the first few years. Weeds and exotics shall be controlled so that they will not prevent the establishment of the native species or invade adjacent areas. Weeds and exotics shall be controlled prior to setting seed and shall be removed from the site. The Maintenance Contractor shall control weeds and invasive exotic species within the drainage basin and in the created and enhanced areas on a regular basis. A combination of physical removal and appropriate herbicide treatments shall be used to control the non-native/invasive plant species.

Weeds and non-native grasses shall be adequately controlled during the five-year maintenance period to avoid competition with the revegetated species. Annual weeds will be kept under control (i.e., from less than 20% cover at the end of year 1 to less than 10% cover at the end of years 2–5), so they are not a competitive threat to establishment of the desired native species. Perennial exotic/invasive species shall be 5% or less at the end of year 1 and then 0% from years 2–5.

All perennial, invasive, non-native weeds and exotics will be controlled through a combination of hand removals, as well as herbicide applications, during the long-term maintenance and monitoring period. Properly timed, repeat herbicide applications will likely be required to effectively control these species.

## **Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project**

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In general, little or no pest control is anticipated for the mitigation/revegetation areas except for weed control. The concepts of integrated pest management (Dreistadt, *et al.* 1994) will be used on this project.

All weeds and native seedlings shall be controlled within 24-inches of container plants until the container plants are well established. The Habitat Restoration Specialist shall determine when weed control around container plants may cease.

Some common invasive exotics that could invade the mitigation/revegetation areas and shall be controlled include: fennel, Pampas grass, salt cedar, castor bean, tree tobacco, and artichoke thistle, among others. The Habitat Restoration Specialist may add species to this list as necessary. These species may be successfully controlled by pulling if discovered early enough at the seedling stage, but may prove impossible to control without herbicides once they become established. The above listed invasive exotic species require 100% control.

Vertebrate pest control is not anticipated as part of this project, nor are insect pests expected to be severe enough to warrant attention. If plant diseases become a problem during the plant establishment period, they can generally be controlled by cultural measures.

Pest control will be conducted following all applicable laws, regulations, label directions, and safety precautions. Should the landscape contractor require specific pest control recommendations, the contractor shall consult a licensed Pest Control Adviser. All pesticide and herbicide applications shall be conducted by a qualified pest control applicator. The landscape contractor shall provide reports of all pest control measures implemented at the site, including details of methods and materials used, including any pesticide applications. Copies of any written recommendations shall also be provided.

### **5.1.5 Irrigation System Maintenance**

Irrigation system maintenance shall take place on an as-needed basis to maintain the irrigation systems and all water source connections in an operative condition throughout the maintenance period for as long as the systems are needed, and as directed by the Habitat Restoration Specialist/Biological Monitor.

### **5.1.6 Plant Material Maintenance**

Plant material maintenance shall take place on a regular basis to assure proper plant establishment, plant health and survival as specified in this plan and as directed by the Habitat Restoration Specialist/Biological Monitor. Dead plant replacements shall occur as necessary to meet project performance standards. Plant species replacements shall be identical to the original

## Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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species and sizes installed and/or as determined to be appropriate by the Habitat Restoration Specialist/Biological Monitor.

### 5.2 Maintenance Schedule

An approximate typical time of year maintenance schedule is shown in Table 13. This schedule is intended to begin with the first phase of revegetation implementation following project installation completion and shall continue throughout the maintenance program. The maintenance schedule shall be coordinated between the maintenance contractor and the Habitat Restoration Specialist/Project Biologist, and shall be adjusted as necessary to address the phasing of the revegetation implementation program.

**Table 13**  
**Typical Habitat Revegetation Maintenance Program Schedule (Five Years)**

Work Tasks <sup>1</sup>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Weed Abatement		X			X			X				
Erosion Control <sup>2</sup>		X									X	
Fencing and Signage <sup>2</sup>		X			X			X			X	
Pest Control		X			X			X			X	
Irrigation System Maintenance		X			X			X			X	

<sup>1</sup> Maintenance task schedule and frequency will be adjusted, as appropriate, depending on site conditions and in coordination with the Habitat Restoration Specialist/Biological Monitor.

<sup>2</sup> As needed during the 5-year program, depending on site conditions.

**Note:** This schedule represents the most desirable time of year to conduct the various maintenance activities. Final schedules may vary based upon the phasing and timing of the revegetation installation and actual completion of various phases.

# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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## **6 MONITORING PLAN FOR COMPENSATORY MITIGATION SITES**

All on-site and off-site mitigation/revegetation areas will be monitored during the installation, including throughout the initial 120-day plant establishment period, and then throughout the 5-year maintenance and monitoring period, in order to help assure project success. Monitoring shall be conducted by a qualified Habitat Restoration Specialist/Biological Monitor in order to implement the biological intent for the mitigation/revegetation program. Qualifications for the monitor shall be as outlined in section 2.3.5 herein.

Biological monitoring will be conducted to evaluate the progress of the revegetation/mitigation program, both qualitatively (i.e., visually) and quantitatively (i.e., data collection and analysis) throughout the monitoring program. Periodic monitoring visits and reporting will be conducted as specified herein. The project will be assessed against specific success standards and criteria as outlined in Section 6.1. Year-end monitoring reports will be prepared and submitted to the applicable parties and agencies as documentation of the progress of the project and fulfillment of permit requirements.

At the end of the designated 5-year maintenance and monitoring period, the project will be visited by all appropriate parties and agencies in order to determine completion of the 5-year program and acceptance by the County and the permitting agencies.

### **6.1 Performance Standards for Target Dates and Success Criteria**

The performance standards and success criteria outlined herein provide the intended standards for each year of the program through 5 years, and include percent cover of native species, percent cover of non-native/exotic species, as well as target height and canopy goals for selected representative tree and shrub species. The criteria also outline appropriate remedial measures and procedures that shall be implemented in any given year should the success criteria not be met.

Performance criteria for the various mitigation restoration/revegetation habitat types are shown in Table 14 and are based on expected conditions based on target vegetation communities and the existing context of the land covers/vegetation communities surrounding the sites. Performance goals for Ramona horkelia are shown in Table 15.



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**Table 14**  
**Performance Criteria for On-Site Upland CSS/SMX Mitigation Restoration Areas**

Year	% Survival of Container Plantings*	Minimum Percent Native Cover**	Maximum Percent Non-Native Annual Weed Cover***	Maximum Percent Invasive Exotic Perennials
1	100	30	40	10
2	90	40	35	5
3	90	50	30	5
4	90	60	25	0
5	90	70	20	0

\* Denotes container planted species, with percentage based upon original planting quantities.

\*\* Percentages based upon absolute cover values from transect data collected in years 3–5, visual estimates only in years 1 and 2.

\*\*\* Percentages are for annual weed species. The site shall also remain free of invasive exotic/noxious weed species as identified by the California Invasive Plant Pest Council (Cal IPPC), and shall have less than 1% cover

**Table 15**  
**Performance Criteria for On-Site Ramona Horkelia Restoration**

Year	Percent Survival/Minimum Number of Plants*	Evidence of Natural Recruitment/Seeding
1	80%/50	yes
2	90%/56	yes
3	100%/62	yes
4	100%/62	yes
5	100%/62	yes

\* Naturally recruiting Ramona horkelia plants sown from seed and/or propagated from seed and then out-planted, can make up for any losses to actual salvaged specimens to achieve 100% replacement by the end of the program.

### 6.2 Target Functions and Values

The primary functions and services of the restored Diegan coastal sage scrub and southern mixed chaparral habitats, is to provide habitat for a variety of native plant and wildlife species. Within the upland areas the goal is to provide an environment, where appropriate, that provides opportunities for suitable forage and native plant cover for use by coastal California gnatcatcher. To achieve the target functions and services of the proposed mitigation/revegetation program, the plan strives to provide a diverse association of plant species that are typical of similar habitats within the area and that can become self-sustaining native habitat areas over time.

## Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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### 6.3 Target Mitigation/Restoration Acreage

The target acreage of the on-site mitigation restoration/revegetation areas is 9.57 acres of combined upland CSS and SMX acreage, as well as the translocated population of 62 Ramona horkelia plants including the following:

Upland CSS Restoration & Establishment -	3.53 acres
Upland SMX Restoration & Establishment -	<u>6.04 acres</u>
<b>Total On-Site:</b>	<b>9.57 acres</b>

Ramona horkelia – 62 individual plants translocated and successfully established.

The target acreage of the off-site temporary impact restoration/revegetation areas is 18.9 acres of combined upland CSS, SMX, CLOW, Wetland/Riparian and Grassland acreage.

Upland CSS Restoration –	0.8 acres
Upland SMX Restoration –	2.3 acres
Coast Live Oak Woodland Restoration -	1.5 acres
Non-Native Grassland Restoration -	0.5 acres
Wetland/Riparian Restoration -	<u>0.7 acres</u>
<b>Total Off-Site:</b>	<b>5.8 acres</b>

### 6.4 Monitoring Methods

Monitoring will consist of qualitative field monitoring visits based upon visual analysis and observations, quantitative transect data collection, and quantitative plant growth data collected by the Habitat Restoration Specialist/Biological Monitor. These monitoring efforts will help determine initial survival rates, percent native and non-native cover, and growth and vigor of the desired native plant species. These assessments will be based on qualitative visual assessment methods, as well as quantitative data collection methods.

Monitoring activities will include regular evaluation of non-native weed and invasive/exotic species establishment and control. No plant species listed as problematic and/or invasive by the California Native Plant Society (CNPS), the California Invasive Plant Council (CAL-IPC), or the State of California shall be allowed to naturalize or persist in the mitigation/revegetation areas. No plant

## Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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species listed as a “noxious weed” by the State of California, or the U.S. Federal Government, shall be planted or allowed to naturalize or persist within the mitigation/revegetation areas.

Following each monitoring site visit, the Habitat Restoration Specialist/Biological Monitor shall generate a brief Site Observation Report (SOR), detailing the condition of the site and any maintenance and/or remedial actions needed to ensure that the project remains on track to meet its annual performance goals and success criteria. Copies of the Site Observation Reports shall be provided to the County of San Diego, the project proponent/owner and the contractor.

Monitoring will consist of qualitative field monitoring visits conducted by the Habitat Restoration Specialist/Biological Monitor to determine germination rates and percent cover of native and non-native species. This assessment will be based on qualitative visual assessments using relative methods. These methods will evaluate the progression of the revegetation areas in cover and vegetative structure compared to other areas of the same vegetation type.

Monitoring visits during all years will be conducted to evaluate plant species cover and prescribe any necessary remedial measures to correct project inadequacies. Qualitative evaluations will assess plant mortality, compliance with intended standards, and need for supplemental planting and/or seeding. Remedial measures will be recommended if native cover does not meet the intended performance criteria/success standards.

Permanent vegetation transects will be randomly established within the mitigation/revegetation areas at appropriate representative locations during year one. Transects will be approximately 25 meters long (or based on size and configuration of the selected mitigation restoration/revegetation areas), and sampling will utilize the point-intercept method, utilizing 0.5 meter intervals along each transect. Permanent photo-documentation stations will be established at the beginning of each permanent data station, to record the progress of the mitigation program and plant establishment over the five-year maintenance and monitoring period. Vegetation transect sampling results will be included in the annual monitoring reports.

All individual translocated and/or container planted Ramona horkelia plants shall be staked and numbered per individual plant location, for identification throughout the five-year maintenance and monitoring period. In addition, Ramona horkelia plants established from seed shall also be staked and labeled for identification and tracking.

### 6.5 Monitoring Schedule

A typical monitoring schedule for various monitoring tasks is shown in Table 16. (Note: The final monitoring schedule may vary from this based upon when the various phases of the mitigation/revegetation program are completed and when the monitoring periods begin for each phase.)

# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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**Table 16**  
**Annual Biological Monitoring Schedule for Years 1 through 5**

Work Tasks	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Quarterly Biological Monitoring		X			X			X			X	
Annual Transect Data Collection					X							

The schedule may be adjusted as conditions necessitate and as phases of the mitigation/revegetation program are completed. Quantitative data collection will typically occur during the spring and/or summer, depending upon the species being monitored, before plant species have gone drought deciduous, or go dormant for the summer and/or fall season.

## 6.6 Monitoring Reports

An annual biological monitoring report outlining the results of the progress of the site each year will be submitted to the County of San Diego and the applicable resource agencies, at the end of each years monitoring period, throughout the five-year maintenance and monitoring period, and no later than the first week of January of each year, and /or as specified by the project permits.

The monitoring reports will include the following:

- A list of names, titles and companies of all persons who prepared the content of the annual report and participated in maintenance and monitoring activities.
- Prints of representative monitoring photographs.
- Maps identifying monitoring areas, transect locations, planting zones, etc. as appropriate.
- Results of all qualitative and quantitative monitoring efforts.
- Describe the existing conditions of the mitigation site derived from qualitative and quantitative data,
- Provide a comparison of annual success criteria with field conditions,
- Identify all shortcomings of the mitigation program,
- Recommended remedial measures necessary for the successful completion of the mitigation project.

Each yearly report will provide a summary of the accumulated quantitative data.



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Any significant issues or contingencies that arise within the mitigation/revegetation sites (e.g., plant survival issues, fire or flooding) shall be reported in writing to the County of San Diego and the applicable resource agencies within two weeks from the date of the incident. Accompanying the report shall be a plan for remediation, with an implementation schedule and a monitoring schedule for the remedial actions.

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### **7 COMPLETION OF COMPENSATORY MITIGATION**

When the results of the monitoring efforts document that the project has met the final performance standards and success criteria, the County of San Diego and the applicable resource agencies will be notified, based upon submittal of the final annual report and a request for final project sign-off and acceptance shall be solicited. Before successful mitigation is considered to have been achieved, the intended native vegetation communities will have become adequately established, will have met their performance standards and success criteria, and will show signs of successful reproduction and long-term sustainability. Additional regulatory agency site meetings for project sign-off may be required for this project, depending upon final permitting requirements.

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## 8 CONTINGENCY MEASURES AND ADAPTIVE MANAGEMENT

If the final performance standards and success criteria are not met by the end of the designated five-year period, then the Habitat Restoration Specialist/Biological Monitor, in consultation with County of San Diego and the applicable resource agencies, will prepare an analysis of the cause(s) of failure(s), such as drought, fire, landslide, flood, etc., and if determined to be necessary by County of San Diego, and/or the resource agencies, propose remedial actions to correct the problems. then the maintenance and monitoring obligations will continue until final project approval/confirmation is obtained.

An adaptive management approach will be implemented in the event of unforeseen or probable but unpredictable circumstances, or changes in site conditions. Adaptive management is defined, for the purposes of this restoration project, as a flexible, iterative approach to the long-term management of biological resources that is directed over time by the results of ongoing monitoring activities and direct observation of environmental stressors that are producing adverse results within the restoration site.

Adaptive management will include the utilization of regular qualitative visual assessments and rapid qualitative assessment data gathered in the field prior to and/or throughout the monitoring period to assess the health and vigor of habitat within the restoration site. Following an event that causes damage to all or part of the restoration site, these data will be used in part to drive management considerations for repair of the damaged areas. Achieving the key goals of the restoration program and establishment of self-sustaining native habitats will be the focus of all adaptive management decisions. Individual environmental stressors are discussed below, along with an anticipated range of adaptive management responses to correct any damage that may occur to the restoration site.

### 8.1 Initiating Contingency Procedures

Contingency procedures shall be initiated, as determined by the Habitat Restoration Specialist/Biological Monitor in consultation with County of San Diego and the applicable resource agencies in the event of possible, but unlikely catastrophic event (i.e., fire, flood, landslide, earthquake, etc.). Should such an episode occur, an analysis shall be performed by the Habitat Restoration Specialist/Biological Monitor and a site observation report shall be generated outlining the specific conditions of the site following the catastrophic event, and recommendations for remedial action and/or contingency measures. These actions shall be coordinated with the project owner, the Habitat Restoration Specialist/Biological Monitor, the maintenance contractor, the County and the applicable resource agencies, as necessary to fulfill the projects mitigation/revegetation requirements.



## **Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project**

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### **8.2 Alternative Locations for Contingency Compensatory Mitigation**

No alternative sites for contingency measures have been currently identified, as the proposed mitigation restoration/revegetation areas outlined herein constitute the extent of the intended restoration/revegetation on-site and off-site. Additional mitigation for project impacts includes the intended preservation of existing native habitat on site. Additional wetland and upland mitigation requirements are being mitigated for through acquisition and/or purchase of off-site mitigation credits at the Ramona Parcel, or through other agreed to compensatory arrangements.

### **8.3 Funding for Contingency Measures**

Newland Sierra is the project owner and permittee of this project, and will be responsible for the successful implementation of this conceptual mitigation/revegetation plan/ program. Newland Sierra shall be financially responsible for implementation, maintenance, monitoring and the long-term management of this project, including implementation of any contingency measures necessitated to address catastrophic events and/or by adaptive management strategies necessary to address project changes over time, and evolving habitat and/or climatic conditions.

# Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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## 9 LONG-TERM HABITAT MANAGEMENT

After successful completion of the five-year maintenance and monitoring period, the on-site and off-site mitigation/ restoration areas are expected to function as naturally regenerating and self-sustaining native habitat and will then fall under the long-term habitat management program. The long-term management of the on-site and off-site open space habitat areas is described in a separate Conceptual Resource Management Plan (CRMP) (Dudek 2017b).

The majority of the site will remain as open space area with protection in perpetuity. The County, or a designee for the County shall maintain the right to inspect the mitigation areas and to inform the Applicant of conditions requiring amelioration and direct them to maintain vegetation and soils on site in qualitatively similar condition to that of the site at the end of the long-term five-year maintenance and monitoring period.

Approximately 1,209 acres of chaparral, riparian, and non-native communities are proposed as part of the on-site open space preservation and management program, as part of the overall mitigation program for the proposed project. The CRMP includes a description of the management tasks involved within the on-site Open Space Preserve.

The purpose of the CRMP is to provide guidance to ensure preservation and long-term management of the Open Space Preserve areas. The objectives of the CRMP include the following:

1. Guide management of vegetation communities/habitats, plant and animal species, cultural resources, and programs described herein to protect and, where appropriate, enhance biological and cultural values.
2. Serve as a descriptive inventory of vegetation communities, habitats, and plant and animal species that occur on or use this property.
3. Serve as a descriptive inventory of archaeological and/or historic resources that occur on this property.
4. Establish the baseline conditions from which adaptive management will be determined and success will be measured.
5. Provide an overview of the operation, maintenance, administrative, and personnel requirements to implement management goals and serve as a budget planning aid.

The long-term management of the mitigation/revegetation areas described in this conceptual on-site mitigation restoration/revegetation plan document will be included as a component of the overall CRMP program (Dudek 2017b).

## **Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project**

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Additional acreage will also be provided by off-site open space acquisition at the Ramona Parcel, in order to help meet the overall the mitigation requirements for the proposed project. The long-term management of the off-site open space areas is also described in a separate CRMP document titled: *Off-Site Conceptual Resource Management Plan for the Newland Sierra Project* (Dudek 2017c).

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### **11 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED**

This report was prepared by Dudek Habitat Restoration Staff John Minchin and Andy Thomson, with senior biological resources review provided by Brock Ortega. Figure preparation was provided by Lesley Terry. Editorial and formatting support was provided by Dudek word processing and publications staff.

## Conceptual On-Site and Off-Site Mitigation Restoration Plan for the Newland Sierra Project

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# **APPENDIX A**

## *Plant Compendium*





## APPENDIX A

### Plant Compendium

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#### VASCULAR SPECIES

#### DICOTS

##### ***ADOXACEAE—MUSKROOT FAMILY***

*Sambucus nigra* ssp. *caerulea*—blue elderberry

##### ***AIZOACEAE—FIG-MARIGOLD FAMILY***

\* *Aptenia cordifolia*—heartleaf iceplant

##### ***ANACARDIACEAE—SUMAC OR CASHEW FAMILY***

- \* *Schinus molle*—Peruvian peppertree
- Malosma laurina*—laurel sumac
- Rhus integrifolia*—lemonade sumac
- Rhus ovata*—sugar sumac
- Toxicodendron diversilobum*—Pacific poison oak

##### ***APIACEAE—CARROT FAMILY***

- \* *Anthriscus caucalis*—bur chervil
- \* *Foeniculum vulgare*—sweet fennel
- Apiastrum angustifolium*—mock parsley
- Daucus pusillus*—American wild carrot
- Lomatium dasycarpum*—woollyfruit desertparsley
- Sanicula bipinnatifida*—purple sanicle
- Sanicula tuberosa*—turkey pea
- Tauschia arguta*—southern umbrellawort

##### ***APOCYNACEAE—DOGBANE FAMILY***

- \* *Nerium oleander*—oleander

##### ***ASTERACEAE—SUNFLOWER FAMILY***

- \* *Carduus pycnocephalus* ssp. *pycnocephalus*—Italian plumeless thistle
- \* *Centaurea melitensis*—Maltese star-thistle
- \* *Cynara cardunculus* ssp. *cardunculus*—globe artichoke
- \* *Delairea odorata*—Cape-ivy
- \* *Hedypnois cretica*—Cretanweed
- \* *Helminthotheca echioides*—bristly oxtongue
- \* *Hypochaeris glabra*—smooth cat's ear
- \* *Lactuca serriola*—prickly lettuce
- \* *Logfia gallica*—narrowleaf cottonrose

## APPENDIX A (Continued)

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- \* *Matricaria discoidea*—disc mayweed
- \* *Pseudognaphalium luteoalbum*—Jersey cudweed
- \* *Sonchus oleraceus*—common sowthistle
- Acourtia microcephala*—sacapellote
- Ambrosia psilostachya*—Cuman ragweed
- Artemisia californica*—coastal sagebrush
- Baccharis pilularis* ssp. *consanguinea*—coyotebrush
- Brickellia californica*—California brickellbush
- Chaenactis artemisiifolia*—white pincushion
- Chaenactis glabriuscula*—yellow pincushion
- Corethrogyne filaginifolia*—common sandaster
- Deinandra fasciculata*—clustered tarweed
- Erigeron canadensis*—Canadian horseweed
- Erigeron foliosus*—leafy fleabane
- Eriophyllum confertiflorum* var. *confertiflorum*—golden-yarrow
- Euthamia occidentalis*—western goldentop
- Hazardia squarrosa*—sawtooth goldenbush
- Heterotheca grandiflora*—telegraphweed
- Isocoma menziesii* var. *menziesii*—Menzies' goldenbush
- Isocoma menziesii* var. *vernonioides*—Menzies' goldenbush
- Logfia filaginoides*—California cottonrose
- Osmadenia tenella*—false rosinweed
- Porophyllum gracile*—slender poreleaf
- Pseudognaphalium biolettii*—two-color rabbit-tobacco
- Pseudognaphalium californicum*—ladies' tobacco
- Pseudognaphalium leucocephalum*—white rabbit-tobacco
- Rafinesquia californica*—California plumeseed
- Stephanomeria virgata*—rod wirelettuce
- Stylocline gnaphaloides*—mountain neststraw
- Venegasia carpesioides*—canyon sunflower
- Baccharis salicifolia*—mulefat
- \* *Sonchus asper*—spiny sowthistle

### ***BORAGINACEAE—BORAGE FAMILY***

- Cryptantha micromeres*—pygmyflower cryptantha
- Emmenanthe penduliflora*—whisperingbells
- Eriodictyon crassifolium* var. *crassifolium*—thickleaf yerba santa
- Eucrypta chrysanthemifolia* var. *chrysanthemifolia*—spotted hideseed
- Phacelia cicutaria*—caterpillar phacelia

## APPENDIX A (Continued)

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*Phacelia grandiflora*—largeflower phacelia

*Phacelia parryi*—Parry's phacelia

### **BRASSICACEAE—MUSTARD FAMILY**

- \* *Brassica nigra*—black mustard
- \* *Hirschfeldia incana*—shortpod mustard
- \* *Raphanus sativus*—cultivated radish
- Cardamine californica*—milkmaids
- Lepidium virginicum*—Virginia pepperweed
- Nasturtium officinale*—watercress

### **CACTACEAE—CACTUS FAMILY**

- \* *Opuntia ficus-indica*—Barbary fig

### **CAPRIFOLIACEAE—HONEYSUCKLE FAMILY**

*Lonicera subspicata*—southern honeysuckle

### **CARYOPHYLLACEAE—PINK FAMILY**

- \* *Silene gallica*—common catchfly
- \* *Spergula arvensis*—corn spurry
- \* *Stellaria media*—common chickweed
- Silene laciniata*—cardinal catchfly
- \* *Polycarpon tetraphyllum*—fourleaf manyseed

### **CHENOPODIACEAE—GOOSEFOOT FAMILY**

- \* *Salsola tragus*—prickly Russian thistle
- Atriplex canescens* var. *canescens*—fourwing saltbush
- \* *Kochia scoparia*—no common name

### **CISTACEAE—ROCK-ROSE FAMILY**

*Crocanthemum scoparium*—no common name

### **CONVOLVULACEAE—MORNING-GLORY FAMILY**

*Calystegia macrostegia*—island false bindweed

*Cuscuta californica*—chaparral dodder

### **CRASSULACEAE—STONECROP FAMILY**

*Crassula connata*—sand pygmyweed

*Dudleya pulverulenta*—chalk dudleya



## APPENDIX A (Continued)

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### ***CUCURBITACEAE—GOURD FAMILY***

- Cucurbita foetidissima*—Missouri gourd
- Marah macrocarpa*—Cucamonga manroot

### ***ERICACEAE—HEATH FAMILY***

- Arctostaphylos glandulosa* ssp. *glandulosa*—Eastwood's manzanita
- Arctostaphylos pungens*—pointleaf manzanita
- Comarostaphylis diversifolia* ssp. *diversifolia*—summer holly
- Xylococcus bicolor*—mission manzanita

### ***EUPHORBIACEAE—SPURGE FAMILY***

- \* *Ricinus communis*—castorbean
- Euphorbia albomarginata*—whitemargin sandmat

### ***FABACEAE—LEGUME FAMILY***

- \* *Melilotus indicus*—annual yellow sweetclover
- \* *Vicia villosa* ssp. *villosa*—winter vetch
- Acmispon americanus* var. *americanus*—American bird's-foot trefoil
- Acmispon argophyllus*—silver bird's-foot trefoil
- Acmispon glaber* var. *glaber*—common deerweed
- Lupinus bicolor*—miniature lupine
- Lupinus truncatus*—collared annual lupine

### ***FAGACEAE—OAK FAMILY***

- Quercus agrifolia* var. *agrifolia*—California live oak
- Quercus berberidifolia*—scrub oak
- Quercus engelmannii*—Engelmann oak

### ***GENTIANACEAE—GENTIAN FAMILY***

- Zeltnera venusta*—charming centaury

### ***GERANIACEAE—GERANIUM FAMILY***

- \* *Erodium botrys*—longbeak stork's bill
- \* *Erodium cicutarium*—redstem stork's bill
- Geranium carolinianum*—Carolina geranium

### ***GROSSULARIACEAE—GOOSEBERRY FAMILY***

- Ribes californicum*—hillside gooseberry
- Ribes indecorum*—whiteflower currant

## APPENDIX A (Continued)

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### **LAMIACEAE—MINT FAMILY**

- \* *Marrubium vulgare*—horehound
- Salvia apiana*—white sage
- Salvia clevelandii*—fragrant sage
- Salvia mellifera*—black sage
- Salvia munzii*—Munz’s sage
- Stachys* spp. —hedgenettle

### **MALVACEAE—MALLOW FAMILY**

- \* *Malva parviflora*—cheeseweed mallow
- Malacothamnus fasciculatus* var. *fasciculatus*—Mendocino bushmallow

### **MELIACEAE—MAHOGANY FAMILY**

- \* *Melia azedarach*—Chinaberrytree

### **MONTIACEAE—MONTIA FAMILY**

- Claytonia parviflora*—streambank springbeauty

### **MYRSINACEAE—MYRSINE FAMILY**

- \* *Anagallis arvensis*—scarlet pimpernel

### **MYRTACEAE—MYRTLE FAMILY**

- \* *Eucalyptus* sp. —no common name

### **NYCTAGINACEAE—FOUR O’CLOCK FAMILY**

- Mirabilis laevis*—desert wishbone-bush

### **ONAGRACEAE—EVENING PRIMROSE FAMILY**

- Clarkia epilobioides*—canyon clarkia
- Epilobium canum* ssp. *canum*—hummingbird trumpet

### **OROBANCHACEAE—BROOM-RAPE FAMILY**

- Cordylanthus rigidus*—stiffbranch bird’s beak

### **PAPAVERACEAE—POPPY FAMILY**

- Eschscholzia californica*—California poppy

### **PHRYMACEAE—LOPSEED FAMILY**

- Mimulus aurantiacus* var. *aurantiacus*—orange bush monkeyflower
- Mimulus pilosus*—false monkeyflower

## APPENDIX A (Continued)

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### **PLANTAGINACEAE—PLANTAIN FAMILY**

- \* *Plantago lanceolata*—narrowleaf plantain
- \* *Plantago major*—common plantain
- Antirrhinum nuttallianum* ssp. *nuttallianum*—violet snapdragon
- Antirrhinum nuttallianum*—violet snapdragon
- Keckiella antirrhinoides*—snapdragon penstemon
- Keckiella cordifolia*—heartleaf keckiella

### **PLATANACEAE—PLANE TREE, SYCAMORE FAMILY**

- Platanus racemosa*—California sycamore

### **POLEMONIACEAE—PHLOX FAMILY**

- Navarretia hamata* ssp. *hamata*—hooked pincushionplant
- Navarretia hamata* ssp. *leptantha*—hooked pincushionplant

### **POLYGONACEAE—BUCKWHEAT FAMILY**

- \* *Rumex crispus*—curly dock
- Chorizanthe fimbriata*—fringed spineflower
- Eriogonum fasciculatum* var. *fasciculatum*—Eastern Mojave buckwheat
- Eriogonum fasciculatum* var. *foliolosum*—Eastern Mojave buckwheat
- Pterostegia drymarioides*—woodland pterostegia
- Rumex californicus*—toothed willow dock

### **RANUNCULACEAE—BUTTERCUP FAMILY**

- Clematis ligusticifolia*—western white clematis
- Clematis pauciflora*—ropevine clematis
- Thalictrum fendleri*—Fendler's meadow-rue
- Delphinium* spp. —no common name

### **RESEDACEAE—MIGNONETTE FAMILY**

- \* *Reseda luteola*—weld

### **RHAMNACEAE—BUCKTHORN FAMILY**

- Ceanothus tomentosus*—woollyleaf ceanothus
- Rhamnus ilicifolia*—hollyleaf redberry
- Rhamnus pilosa*—hollyleaf buckthorn

### **ROSACEAE—ROSE FAMILY**

- Adenostoma fasciculatum* var. *fasciculatum*—chamise
- Cercocarpus betuloides* var. *betuloides*—birchleaf mountain mahogany
- Cercocarpus minutiflorus*—smooth mountain mahogany

## APPENDIX A (Continued)

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*Heteromeles arbutifolia*—toyon  
*Horkelia truncata*—Ramona horkelia  
*Prunus ilicifolia* ssp. *ilicifolia*—hollyleaf cherry

### **RUBIACEAE—MADDER FAMILY**

*Galium angustifolium*—narrowleaf bedstraw  
*Galium aparine*—stickywilly  
*Galium nuttallii* ssp. *nuttallii*—climbing bedstraw

### **RUTACEAE—RUE FAMILY**

*Cneoridium dumosum*—bush rue

### **SALICACEAE—WILLOW FAMILY**

*Populus fremontii* ssp. *fremontii*—Fremont cottonwood  
*Salix gooddingii*—Goodding's willow  
*Salix laevigata*—red willow  
*Salix lasiolepis*—arroyo willow

### **SCROPHULARIACEAE—FIGWORT FAMILY**

\* *Myoporum laetum*—ngaio tree  
*Scrophularia californica*—California figwort

### **SIMAROUBACEAE—QUASSIA OR SIMAROUBA FAMILY**

\* *Ailanthus altissima*—tree of heaven

### **SOLANACEAE—NIGHTSHADE FAMILY**

\* *Nicotiana glauca*—tree tobacco  
*Datura wrightii*—sacred thorn-apple  
*Solanum xanti*—chaparral nightshade

### **TAMARICACEAE—TAMARISK FAMILY**

\* *Tamarix ramosissima*—saltcedar

### **URTICACEAE—NETTLE FAMILY**

\* *Urtica urens*—dwarf nettle  
*Hesperocnide tenella*—western stingingnettle

### **VITACEAE—GRAPE FAMILY**

*Vitis girdiana*—desert wild grape



## APPENDIX A (Continued)

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### **ZYGOPHYLLACEAE—CALTROP FAMILY**

- \* *Tribulus terrestris*—puncturevine

### **FERNS AND FERN ALLIES**

#### **BLECHNACEAE—DEER FERN FAMILY**

*Woodwardia fimbriata*—giant chainfern

#### **DRYOPTERIDACEAE—WOOD FERN FAMILY**

*Dryopteris arguta*—coastal woodfern

#### **POLYPODIACEAE—POLYPODY FAMILY**

*Polypodium californicum*—California polypody

#### **PTERIDACEAE—BRAKE FAMILY**

*Cheilanthes clevelandii*—Cleveland's lipfern

*Pellaea andromedifolia*—coffee cliffbrake

*Pellaea mucronata*—birdfoot cliffbrake

*Pentagramma triangularis*—goldback fern

#### **SELAGINELLACEAE—SPIKE-MOSS FAMILY**

*Selaginella cinerascens*—ashy spike-moss

### **MONOCOTS**

#### **AGAVACEAE—AGAVE FAMILY**

*Hesperoyucca whipplei*—chaparral yucca

*Yucca schidigera*—Mojave yucca

#### **ALLIACEAE—ONION FAMILY**

*Allium praecox*—early onion

#### **ARECACEAE—PALM FAMILY**

- \* *Washingtonia robusta*—Washington fan palm

#### **ASPHODELACEAE—ASPHODEL FAMILY**

- \* *Asphodelus fistulosus*—onionweed

#### **CYPERACEAE—SEDGE FAMILY**

*Carex praegracilis*—clustered field sedge

*Carex spissa*—San Diego sedge

*Cyperus eragrostis*—tall flatsedge

## APPENDIX A (Continued)

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### ***JUNCACEAE—RUSH FAMILY***

*Juncus dubius*—questionable rush

*Juncus mexicanus*—Mexican rush

*Juncus xiphioides*—irisleaf rush

### ***LILIACEAE—LILY FAMILY***

*Calochortus splendens*—splendid mariposa lily

*Calochortus* spp. —no common name

### ***MELANTHIACEAE—FALSE HELLEBORE FAMILY***

*Toxicoscordion fremontii*—Fremont's deathcamas

### ***ORCHIDACEAE—ORCHID FAMILY***

*Piperia cooperi*—chaparral rein orchid

### ***POACEAE—GRASS FAMILY***

- \* *Arundo donax*—giant reed
- \* *Avena barbata*—slender oat
- \* *Avena fatua*—wild oat
- \* *Brachypodium distachyon*—purple false brome
- \* *Bromus catharticus*—rescuegrass
- \* *Bromus diandrus*—ripgut brome
- \* *Bromus hordeaceus*—soft brome
- \* *Bromus madritensis* ssp. *madritensis*—compact brome
- \* *Bromus madritensis* ssp. *rubens*—red brome
- \* *Cortaderia selloana*—Uruguayan pampas grass
- \* *Cynodon dactylon*—Bermudagrass
- \* *Ehrharta calycina*—perennial veldtgrass
- \* *Festuca myuros*—rat-tail fescue
- \* *Festuca perennis*—Italian ryegrass
- \* *Hordeum murinum*—mouse barley
- \* *Lamarckia aurea*—goldentop grass
- \* *Paspalum dilatatum*—dallisgrass
- \* *Pennisetum setaceum*—crimson fountaingrass
- \* *Polypogon monspeliensis*—annual rabbitsfoot grass
- \* *Stipa miliacea* var. *miliacea*—smilograss
- Agrostis pallens*—seashore bentgrass
- Melica imperfecta*—smallflower melicgrass
- Muhlenbergia rigens*—deergrass
- Poa secunda*—Sandberg bluegrass

## APPENDIX A (Continued)

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*Stipa coronata*—giant ricegrass

*Stipa lepida*—foothill needlegrass

*Stipa pulchra*—purple needlegrass

\* *Melinis repens*—rose Natal grass

### ***THEMIDACEAE—BRODIAEA FAMILY***

*Dichelostemma capitatum*—bluedicks

*Brodiaea* spp.—no common name

\* Signifies introduced (non-native) species.

# **APPENDIX K**

## ***Off-Site Mitigation Site Memorandum***





## MEMORANDUM

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**To:** Rita Brandin, Newland Sierra LLC  
**From:** Brock Ortega, Dudek  
**Subject:** Newland Sierra Off-Site Mitigation Memo  
**Date:** December 27, 2016  
**cc:** Brian Grover, Dudek  
**Attachment(s):** Figures 1–3

---

### INTRODUCTION

The purpose of this memo is to describe an off-site mitigation site in support of the proposed Newland Sierra project. The 211.8-acre mitigation site is located in Ramona, California (Figure 1) and is situated within the Pre-Approved Mitigation Area (PAMA) of the draft North County Multiple Species Conservation Program (MSCP).

The mitigation site is situated in a key natural gap in the adjacent agricultural (ranches, poultry farms) landscape amid cattle ranch lands and open space. The site is topographically diverse, with steep slopes dominated by scrub and chaparral vegetation to low-sloped Engelmann oak savannah grasslands and sycamore riparian woodland drainages. Granitic boulder outcrops occur throughout the site. The site provides for connectivity between segments of the Cleveland National Forest located approximately 2 miles to the east and west, and San Diego County Parks land located approximately 3 miles to the north and south.

### LOCATION

The site (Assessor's Parcel Number 286-041-04) is situated in Township 13 South, Range 2 East, and Section 3 of the U.S. Geological Service 7.5-minute series topographic Ramona quadrangle map (Figure 2). The mitigation site is located approximately 5 miles east of the community of Ramona, and approximately 3.5 miles south of Sutherland Reservoir. State Route 78 runs along the southern boundary of the site, where there is a gate to access the site.

### METHODS

Field surveys were conducted at this property in 1993 by PSBS and in 1990 and 1996 by Merkel & Associates (Merkel & Associates 1999). The vegetation communities were updated by Dudek

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biologist Erin Bergman and a general wildlife habitat assessment was conducted by Dudek biologist Brock Ortega in December 2016.

## **VEGETATION COMMUNITIES**

Vegetation communities and acreages within the mitigation site are summarized in Table 1 and shown in Figure 3. Vegetation community classifications follow Oberbauer et al. (2008), which is revised from Holland (1986) specifically for San Diego County.

**Table 1**  
**Vegetation Communities and Land Cover Types**

Vegetation Community / Land Cover Type	Code	Acreage
<i>Scrub and Chaparral Communities</i>		
Diegan Coastal Sage Scrub	37200	106.4
Chamise Chaparral	32500	19.7
<i>Subtotal</i>		126.1
<i>Grassland Communities</i>		
Valley Needlegrass Grassland	42110	8.5
Non-Native Grassland or Annual Grassland	42200	33.8
<i>Subtotal</i>		42.2
<i>Woodland Communities</i>		
Eucalyptus Woodland	79100	3.2
Southern Sycamore-Alder Riparian Woodland	62400	7.9
Open Engelmann Oak Woodland	71181	29.0
<i>Subtotal</i>		40.1
<i>Disturbed or Developed</i>		
Disturbed Habitats	11300	3.3
Urban/Developed	12000	0.1
<i>Subtotal</i>		3.4
<b>Total</b>		<b>211.8</b>

## **Scrub and Chaparral Communities**

### ***Diegan Coastal Sage Scrub***

The majority of the mitigation site consists of Diegan coastal sage scrub (CSS). CSS is composed of low, soft-woody subshrubs, many of which are facultative drought-deciduous. Subshrubs in this community typically reach a height of 1 meter. Soils are rich in clay, allowing for longer-term water storage. CSS is a wide-spread community in coastal Southern California.

Characteristic dominant species found within the CSS community mitigation site include California sagebrush (*Artemisia californica*), eastern Mojave buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), and white sage (*Salvia apiana*). Less common species within the mitigation site include dove weed (*Croton setiger*), soft brome (*Bromus hordeaceus*), shortpod mustard (*Hirschfeldia incana*), redstem stork's bill (*Erodium cicutarium*), longbeak stork's bill (*Erodium botrys*), black sage (*Salvia mellifera*), deerweed (*Acmispon glaber*), common sandaster (*Corethrogyne filaginifolia*), broom snakeweed (*Gutierrezia sarothrae*), wishbone bush (*Mirabilis laevis*), horehound (*Murrubium vulgare*), Menzies' goldenbush (*Isocoma menziesii*), sawtooth goldenbush (*Hazardia squarrosa*), toyon (*Heteromeles arbutifolia*), hollyleaf redberry (*Rhamnus illicifolia*), California brickellbush (*Brickellia californica*), whiteflower currant (*Ribes indecorum*), caterpillar phacelia (*Phacelia cicutaria*), and chaparral yucca (*Hesperoyucca whipplei*). The shrub layer in this community ranges from a continuous canopy and little understory to a more open canopy with widely spaced shrubs and a well-developed understory.

Approximately 106.4 acres of coastal sage scrub was mapped within the mitigation site.

### **Chamise Chaparral**

Chamise chaparral is a vegetation community dominated by chamise (*Adenostoma fasciculatum*). A community of chamise can range anywhere from 1 to 3 meters in height. Within chamise communities, other shrub species cover is generally low. Understories of herbaceous plants are less frequent within chamise when compared to CSS and other chaparral communities.

Characteristic dominant species found within the chamise community mitigation site are chamise, longbeak stork's bill, redstem stork's bill, and maltese star-thistle (*Centaurea melitensis*) along the edges. Understories of the community consisted mostly of bare ground during the winter season.

Approximately 19.7 acres of chamise chaparral was mapped within the mitigation site.

### **Grassland Communities**

#### **Valley Needlegrass Grassland**

A smaller percentage of the mitigation site is characterized as valley needlegrass grassland, which is an assemblage of native grasses and forbs. Valley needlegrass grassland is mid-height (2 feet) grassland that consists mainly of purple needle grass (*Stipa pulchra*). Native and introduced annuals occur between the perennials; these forbs can typically exceed the bunchgrass in cover.



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Within the mitigation site, purple needlegrass dominates the community, comprising more than 70 percent of the community. The mitigation site contains exceedingly intact valley needlegrass grassland. Less commonly occurring species within the mitigation site include western blue-eyed grass (*Sisyrinchium bellum*), soft brome, redstem stork's bill, longbeak stork's bill, eastern Mojave buckwheat, cuman ragweed (*Ambrosia psilostachya*), and deergrass (*Muhlenbergia rigens*).

Approximately 8.5 acres of valley needlegrass grassland was mapped within the mitigation site.

### **Non-Native Grassland or Annual Grassland**

Non-native grassland/annual grassland is dominated by European annual grasses that usually reach up to 0.5 meter in height. This community can be associated with wildflowers, but due to disturbance in the soils, it is assumed that annual grasses will dominate in the future on site. Fine-textured clay soils are often associated with annual grasslands.

Characteristic dominant species found within the non-native grassland habitat of the mitigation site are soft brome, shortpod mustard, redstem stork's bill, longbeak stork's bill, ripgut brome (*Bromus diandrus*), and slender oat (*Avena barbata*). Less common species include cuman ragweed and dove weed.

Approximately 33.8 acres of non-native grassland was mapped within the mitigation site.

### **Woodland Communities**

#### ***Eucalyptus Woodland***

Eucalyptus woodland habitats can be made up of single-species thickets with little or no shrubs in the understory, or can have a well-developed understory. In the majority of eucalyptus woodland communities, species produce dense stands and closed canopies. Eucalyptus will produce a large amount of leaf litter, so few native species grow within eucalyptus canopies. Characteristic species found within the eucalyptus woodland of the mitigation site is red gum (*Eucalyptus camaldulensis*).

Approximately 3.2 acres of eucalyptus woodland were mapped within the mitigation site.

#### ***Southern Sycamore-Alder Riparian Woodland***

Southern sycamore-alder riparian woodland is a tall winter deciduous community that does not form a dense closed-canopy forest. Upland shrub species can be found within the understory, along with Pacific poison oak (*Toxicodendron diversilobum*) and California blackberry (*Rubus*

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*ursinus*). The overstory is almost entirely California sycamore (*Platanus racemosa*) and can contain white alder (*Alnus rhombifolia*).

The characteristic dominant species is California sycamore, as this makes up the majority of this community within the mitigation site. No white alder occurs within the mitigation site, but this vegetation description best fits the community. Less common species include pacific poison oak, California blackberry, California sagebrush, eastern Mojave buckwheat, black sage, deergrass, and common sandaster.

Approximately 7.9 acres of southern sycamore-alder riparian woodland was mapped within the mitigation site.

### ***Open Engelmann Oak Woodland***

Open Engelmann oak woodland is an evergreen community dominated by Engelmann oak (*Quercus engelmannii*). The understory consists of native grassland, sage scrub, or both.

Characteristic dominant species within mitigation site include Engelmann oak and purple needlegrass. Less common species include California sagebrush, white sage, slender oat, eastern Mojave buckwheat, and sacred thorn apple (*Datura wrightii*).

Approximately 29.0 acres of open Engelmann oak woodland was mapped within the mitigation site.

### **Disturbed or Developed**

#### ***Disturbed Habitats***

Disturbed habitat describes areas that have been physically disturbed. This disturbance could be due to previous human activity, with the area no longer recognized as native land. Vegetation consists of non-native weedy species or ornamentals that take advantage of disturbance. Some typical examples include areas that have been graded or repeatedly cleared for fuel management, or the land has been used repeatedly so that it prevents natural revegetation.

Characteristic species found within the disturbed habitat of the mitigation site include olive (*Olea europaea*), common sowthistle (*Sonchus oleraceus*), totalote (*Centaurea melitensis*), and tumbleweed (*Salsola tragus*).

Approximately 3.3 acres of disturbed habitat was mapped within the mitigation site.

## Urban/Developed

Developed habitats are areas where construction has occurred. Native vegetation is no longer supported. Developed land is characterized by permanent structures, and could include pavement or hardscape.

Within the mitigation site, developed land includes parking lots, buildings, and pavement. No native vegetation is present. Approximately 0.1 acre of urban/developed land was mapped within the mitigation site.

## SITE SUMMARY

Field surveys were conducted at this property in 1993 by PSBS and in 1990 and 1996 by Merkel & Associates (Merkel & Associates 1999). These surveys identified 66 bird species, seven mammal species, four reptile species, and a high potential for several additional species to occur on site given the habitat present. In addition, special-status species were observed on site, including southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) and desert woodrat (*Neotoma lepida*), as well as foraging raptors Cooper's hawk (*Accipiter cooperii*), white-tailed kite (*Elanus leucurus*), golden eagle (*Aquila chrysaetos*), and peregrine falcon (*Falco peregrinus anatum*). Observations of southwestern willow flycatcher (*Empidonax traillii extimus*) were presumed migrants based on the time of observation and the unsuitable nesting habitat (Merkel & Associates 1999).

Based on site visits conducted in December 2016 by Dudek biologists Brock Ortega and Erin Bergman, the site includes an array of local species and a diversity of habitat and aspect that encourages use by a wider array of wildlife species. Besides the suite of expected sage scrub and chaparral species that would be expected (e.g., greater roadrunner (*Geococcyx californianus*), southern California rufous-crowned sparrow, Cassin's kingbird (*Tyrannus vociferans*)), oak species (e.g., oak titmouse (*Baeolophus inornatus*) and acorn woodpecker (*Melanerpes formicivorus*)), northern flicker (*Colaptes auratus*), ruby-crowned kinglet (*Regulus calendula*)), and other species indicative of grasslands and riparian areas, the site appears to be heavily used by various mammal species. Abundant mule deer (*Odocoileus hemionus*) tracks, scat, and a few individuals were observed. Coyote (*Canis latrans*), bobcat (*Lynx rufus*), and mountain lion (*Puma concolor*) sign was detected. Additionally, ringtail (*Bassariscus astutus*) scat and desert woodrat middens were observed. Based on the granitic boulder fields, it is expected that several special-status reptile species would occur, including red diamondback rattlesnake (*Crotalus ruber*), granite night lizard (*Xantusia henshawi*), granite spiny lizard (*Sceloporus orcutti*), San Diego ringneck snake (*Diadophis punctatus similis*), rosy boa (*Lichanura trivirgata*), and possibly southern rubber boa (*Charina umbratica*). Other special-status species that would be

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expected include golden eagle (foraging) and American badger (*Taxidea taxus*). Satellite telemetered female golden eagles F001, F002, F004, and F008, and male M007 are known to occasionally occur on the site (Tracey et al. 2016).

The wetland delineation by Merkel & Associates (1999) found non-wetland waters and wetland communities on site (southern sycamore-alder riparian woodland and freshwater marsh). Only southern sycamore-alder riparian woodland was present during the 2016 site visit by Dudek.

## CONCLUSION

The mitigation site is comparable to or better than the habitat that is being impacted on the Newland Sierra site. The mitigation site includes a variety of topographic relief, a comparable suite of vegetation communities, and rock resources. It provides better golden eagle foraging habitat and better wildlife movement potential than the Newland Sierra site because it connects segments of the Cleveland National Forest and San Diego County Parks properties (Figure 2). This site supports more Engelmann oak resources (100+ trees versus the three on the Newland Sierra site) and other sensitive resources (e.g., ringtail). Preservation of the mitigation site through acquisition would also benefit the PAMA and draft North County MSCP because the site is under real threat of development for agricultural production or residential use (the site has many developable areas and the views are outstanding from many locations). Further, the site could benefit from management, since there is currently easy access to the site and there are wild boar (*Sus scrofa*) concerns.

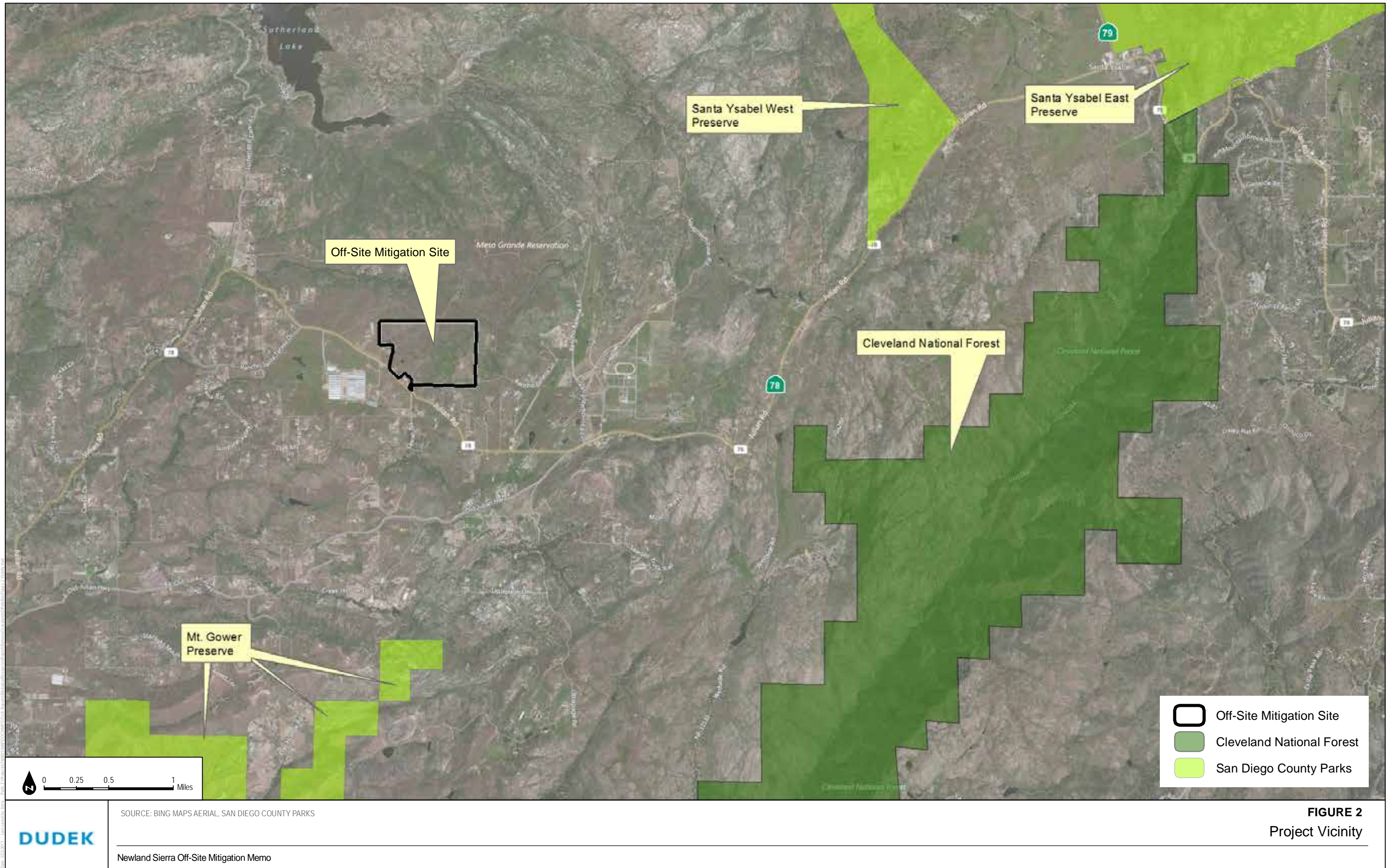
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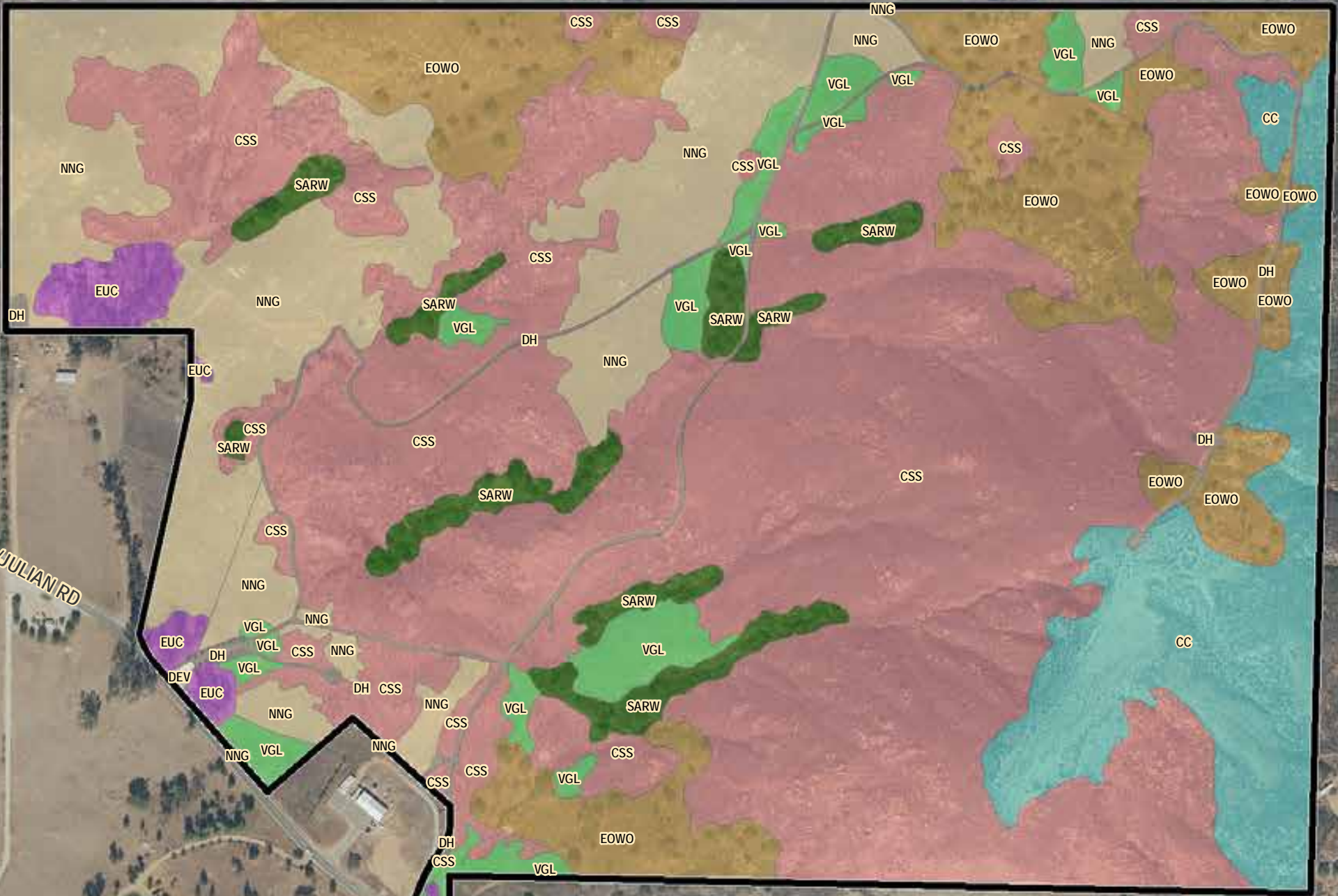
SOURCE: BING MAPS AERIAL, SAN DIEGO COUNTY PARKS

DUDEK





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Off-Site Mitigation Site

**Vegetation Communities/Land Covers:**

CC, Chamise Chaparral

CSS, Diegan Coastal Sage Scrub

DEV, Urban/Developed

DH, Disturbed Habitat

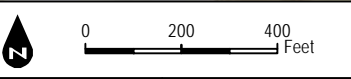
EOWO, Open Engelmann Oak Woodland

EUC, Eucalyptus Woodland

NNG, Non-Native Grassland

SARW, Southern Sycamore-Alder Riparian Woodland

VGL, Valley Needlegrass Grassland



AERIAL SOURCE: SANDAG IMAGERY 2014

**FIGURE 3**  
**Biological Resources Map**





# **APPENDIX L**

## ***On-Site Conceptual Resource Management Plan***



# **On-Site Conceptual Resource Management Plan for the Newland Sierra Project**

**Prepared for the County of San Diego**

*Lead Agency:*

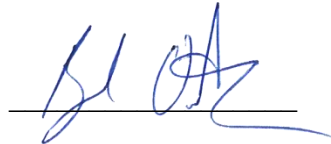
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A handwritten signature in blue ink, appearing to read 'B. Ortega', is written over a horizontal line.

**JUNE 2017**





# On-Site Conceptual Resource Management Plan for the Newland Sierra Project

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## **On-Site Conceptual Resource Management Plan for the Newland Sierra Project**

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# On-Site Conceptual Resource Management Plan for the Newland Sierra Project

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## 1 INTRODUCTION

This on-site Conceptual Resource Management Plan (CRMP) has been prepared for the proposed Newland Sierra Project (proposed project) in accordance with the mitigation requirements identified in the draft *Biological Resources Technical Report for the Newland Sierra Project* (Dudek 2016a). This document is consistent with the format and content requirements of the County of San Diego Report Format and Content Requirements: Conceptual Biological Resources Management Plan attachment (County 2010a). This CRMP covers the management of the habitats to remain as part of the on-site biological open space on the project Site.

Approximately 1,209.1 acres of chaparral, riparian, and non-native communities is proposed as on-site open space and additional acreage is proposed as off-site open space as part of the mitigation for the proposed project. The proposed open space design consists of two large continuous blocks of key biological resources (approximately 1,025.0 acres) situated within the northern half, and along the eastern boundary of the project Site, as well as a large third block of open space in the center of the proposed development that connects these blocks of open space to open space located east and south of the project Site and creates a preserve netting 1,209.1 acres. Each of these blocks compares favorably in size and biologic importance to a number of other preserve areas. This CRMP includes a description of management tasks for the 1,209.1 acres of on-site Open Space Preserve. The off-site mitigation area is covered under a separate CRMP.

### 1.1 Purpose of Biological Resources Management Plan

The purpose of this CRMP is to provide guidance to ensure preservation and long-term management of the Open Space Preserve. The objectives of this CRMP are to:

1. Guide management of vegetation communities/habitats, plant and animal species, cultural resources, and programs described herein to protect and, where appropriate, enhance biological and cultural values
2. Serve as a descriptive inventory of vegetation communities, habitats, and plant and animal species that occur on or use this property
3. Serve as a descriptive inventory of archaeological and/or historic resources that occur on this property
4. Establish the baseline conditions from which adaptive management will be determined and success will be measured
5. Provide an overview of the operation, maintenance, administrative, and personnel requirements to implement management goals and serve as a budget planning aid

## **On-Site Conceptual Resource Management Plan for the Newland Sierra Project**

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The details of this CRMP may be modified when the Final RMP is prepared and submitted to the County for approval. The County will review the Final RMP to ensure that it meets the specified purpose and objectives.

A resource analysis is provided in the Biological Resources Technical Report for the proposed project (Dudek 2016a). These reports include (1) a description of the existing biological resources on the project Site, including vegetation communities and land covers, jurisdictional resources, plants, wildlife, and wildlife corridors; (2) a discussion of the potential impacts to biological and cultural resources that would result from development of the property and the biological significance of these impacts in the context of federal, state, and local laws and policies; and (3) recommended mitigation measures for reducing identified significant impacts to biological and cultural resources to less than significant. Mitigation recommendations follow federal, state, and local rules and regulations, including the California Environmental Quality Act (CEQA), the County's Guidelines for Determining Significance and Report Format and Content Requirements (County 2010b), and the County's Resource Protection Ordinance (County 2007).

### **1.1.1 Conditions and/or Mitigation Measures that Require an RMP**

A CRMP is required for projects in the County of San Diego when a planned project proposes open space preservation that would significantly benefit from active management and/or monitoring of biological and/or cultural resources. A CRMP is always required when a project proposes open space totaling more than 50 acres or more, regardless of the presence or absence of sensitive species. In the case of the Newland Sierra open space preserve, both of these parameters apply.

The details of this CRMP may be modified when the Final RMP is prepared and submitted to the County for approval. The County will review the Final RMP to ensure that it meets the specified Purpose and Objectives.

The project would impact approximately 776.0 acres of vegetation communities and land covers; of which impacts to 745.3 acres require mitigation. Additionally, there would be permanent off-site direct impacts to 65.4 acres (Option A), including 13.2 acres that require mitigation. Table 1 shows the impacts and required mitigation based on the County's mitigation ratios (County 2010b, Table 5). A total of 496.1 acres of comparable habitat is required in order to meet the mitigation requirement. The project proposes to meet this mitigation obligation through the preservation of 1,209.1 acres within proposed on-site and 211.8 acres within a proposed off-site Open Space Preserve. A separate CRMP will be prepared for the off-site mitigation requirements.

# On-Site Conceptual Resource Management Plan for the Newland Sierra Project

**Table 1**  
**Summary of Permanent Impacts, Mitigation, and Open Space for**  
**Vegetation Communities and Jurisdictional Areas**

Habitat Types/Vegetation Communities	On-Site Existing Acreage	Total On-Site Impacts <sup>1</sup>	Total Off-Site Impacts <sup>2</sup>	Mitigation Ratio	Mitigation Required	On-Site Open Space <sup>3</sup>	Off-Site Mitigation Area	Mitigation Excess/ (Deficit)
<i>Coastal Scrub</i>								
Diegan coastal sage scrub (including disturbed)*	68.2	45.6	0.5	2:1	92.2	22.6	106.4	36.8
Coastal sage scrub – Baccharis dominated (including disturbed)	2.0	1.5	—	2:1	3.0	0.5	—	(2.5)
Flat-topped buckwheat – disturbed*	1.7	0	—	2:1	0	1.7	—	1.7
Coastal sage – chaparral transition*	7.8	7.4	1.7	2:1	18.2	0.4	—	(17.8)
<i>Subtotal</i>	<i>79.7</i>	<i>54.5</i>	<i>2.2</i>	<i>N/A</i>	<i>113</i>	<i>25.2</i>	<i>106.4</i>	<i>18.2</i>
<i>Chaparral</i>								
Chamise chaparral <sup>4*</sup>	—	—	—	—	—	—	19.7	19.7
Granitic southern mixed chaparral (including disturbed)*	1,700.7	626.9	6.3	0.5:1	316.6	1,073.8	—	757.2
Mafic southern mixed chaparral*	58.8	0.8	—	3:1	2.4	58.0	—	55.6
Scrub oak chaparral*	44.3	39.2	—	0.5:1	19.6	5.1	—	(14.5)
<i>Subtotal</i>	<i>1,803.8</i>	<i>666.9</i>	<i>6.3</i>	<i>N/A</i>	<i>338.6</i>	<i>1,136.9</i>	<i>19.7</i>	<i>818.0</i>
<i>Woodland</i>								
Coast live oak woodland*	9.1	6.5	2.8	3:1	27.9	2.6	—	(25.3)
Engelmann Oak Woodland - Open <sup>4*</sup>	—	—	—	N/A	—	—	29.0	29.0
<i>Subtotal</i>	<i>9.1</i>	<i>6.5</i>	<i>2.8</i>	<i>N/A</i>	<i>27.9</i>	<i>2.6</i>	<i>29.0</i>	<i>3.7</i>
<i>Riparian</i>								
Freshwater marsh*	0.1	—	—	3:1	—	0.1	—	0.1
Southern coast live oak riparian forest*	5.2	1.9	0.8	3:1	8.1	3.3	—	(4.8)
Mulefat scrub*	0.2	0.1	0.03	3:1	0.4	0.1	—	(0.3)
Southern sycamore-alder riparian woodland <sup>4</sup>	—	—	—	—	—	—	7.9	7.9
Southern willow scrub*	2.5	0.1	0.5	3:1	1.8	2.4	—	0.6
Southern willow scrub/tamarisk scrub*	0.3	—	—	3:1	—	0.3	—	0.3
Arundo-dominated	—	—	0.1	3:1	0.3	—	—	(0.3)



# On-Site Conceptual Resource Management Plan for the Newland Sierra Project

**Table 1**  
**Summary of Permanent Impacts, Mitigation, and Open Space for**  
**Vegetation Communities and Jurisdictional Areas**

Habitat Types/Vegetation Communities	On-Site Existing Acreage	Total On-Site Impacts <sup>1</sup>	Total Off-Site Impacts <sup>2</sup>	Mitigation Ratio	Mitigation Required	On-Site Open Space <sup>3</sup>	Off-Site Mitigation Area	Mitigation Excess/ (Deficit)
riparian								
<i>Subtotal</i>	8.3	2.1	1.4	N/A	10.6	6.2	7.9	3.5
<i>Grassland</i>								
Valley needlegrass grassland <sup>4*</sup>	—	—	—	—	—	—	8.5	8.5
Non-native grassland*	16.1	15.3	2.6	0.5:1	9.0	0.8	33.8	25.7
<i>Subtotal</i>	16.1	15.3	22.6	N/A	9.0	0.8	42.3	34.2
<i>Non-native Communities and Land Covers</i>								
Agriculture	—	—	2.0	None	—	—	—	(2.0)
Eucalyptus woodland	0.5	—	2.0	None	—	0.5	3.2	1.7
Intensive agriculture	<0.0	<0.0	1.4	None	—	—	—	(1.4)
Extensive agriculture	—	—	4.5	None	—	—	—	(4.5)
Orchard and vineyards	2.0	1.0	1.9	None	—	1.0	—	(1.9)
Urban/developed	9.2	9.2	40.8	None	—	—	0.1	(49.9)
Disturbed habitat	57.0	21.0	5.1	None	—	36.0	3.3	13.2
Non-native woodland	—	—	0.2	None	—	—	—	(0.2)
<i>Subtotal</i>	68.7	31.2	57.9	—	0	37.5	6.6	(35.5)
<b>Total<sup>1</sup></b>	<b>1,985.6</b>	<b>776.6</b>	<b>71.7</b>	<b>N/A</b>	<b>497.3</b>	<b>1,209.1</b>	<b>211.8</b>	<b>923.6</b>
<i>Other</i>								
RPO wetland buffer <sup>5</sup>	30.2	8.7	3.2	N/A	N/A	N/A	—	N/A
Oak Root Zone <sup>5</sup>	32.9	11.2	8.4	3:1	58.8	21.7	16.8	-2.1
Non-wetland waters (ephemeral and intermittent) <sup>5</sup>	5.33	1.41	0.15	1:1	1.59	3.92	—	N/A

<sup>1</sup> Totals may not add due to rounding.

<sup>2</sup> This includes impacts for Option A, the preferred project Option, and all other off-site impacts.

<sup>3</sup> The open space acreage includes the on-site temporary impacts since they will be restored and conserved in permanent open space.

<sup>4</sup> These communities occur in the off-site Ramona mitigation site.

<sup>5</sup> These features are overlays to the vegetation community layer and are not counted toward the total existing acreage.

\* Considered special-status by the County (2010b).

3:1 for riparian areas includes a 1:1 creation and 2:1 enhancement requirement.

## 1.1.2 Agency Review and Coordination

This document was written in collaboration with the County of San Diego and Newland Sierra LLC. The management of the Newland Sierra open space, as detailed in this CRMP, does not interfere with mitigation and monitoring requirements mandated by the California Department of Fish and Wildlife (CDFW), the U.S. Fish and Wildlife Service (USFWS), the U.S. Army Corps

# **On-Site Conceptual Resource Management Plan for the Newland Sierra Project**

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of Engineers (ACOE), the Regional Water Quality Control Board (RWQCB), or by any other permitting agency.

## **1.2 Implementation**

### **1.2.1 Resource Manager Qualifications and Responsible Parties**

A resource manager must be designated to be responsible for the long-term management and maintenance of the Open Space Preserve. The resource manager shall be one of the following:

- Conservancy group
- Natural resource land manager (e.g., Center for Natural Lands Management, San Diego Habitat Conservancy)
- Natural resource consultant
- County Department of Park and Recreation (DPR)
- County Department of Public Works
- Federal or state wildlife agency (USFWS, CDFW)
- Federal land manager, such as Bureau of Land Management (BLM)
- City Land Managers, including but not limited to Departments of Public Utilities, DPR, and Environmental Services.

If the developer desires DPR to manage the land, the following criteria must be met:

- The land must be located inside a Pre-Approved Mitigation Area or proposed Pre-Approved Mitigation Area, or otherwise deemed acceptable by DPR.
- The land must allow for public access.
- The land must allow for passive recreational opportunities such as a trails system.

The resource manager shall be approved in writing by the Director of Planning & Development Services, the Director of Public Works, or the DPR, depending on the resource manager. Any change in the designated resource manager shall also be approved in writing by the approving director. Appropriate qualifications for the resource manager include but are not limited to:

- Ability to carry out habitat monitoring or mitigation activities.
- Fiscal stability including preparation of an operational budget (using an appropriate analysis technique) for the management of this CRMP.

## **On-Site Conceptual Resource Management Plan for the Newland Sierra Project**

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- Have at least one staff member with a biological, ecological, or wildlife management degree from an accredited college or university, or have a Memorandum of Understanding (MOU) with a qualified person with such a degree.
- If cultural sites are present, have a cultural resource professional on staff or an MOU with a cultural consultant.
- Experience with habitat and cultural resource management in southern California.

Potential entities identified as providing the labor under the direction of the resource manager for the Open Space Preserve include the Center of Natural Lands Management, Habitat Restoration Sciences Inc., or Habitat West.

### **Proposed Land Owner**

Fee title of separate open space lots may be held by the land/resource manager or another appropriate land owner (e.g., land trust, conservancy, or public agency), depending on the particular circumstance.

Currently, the land is slated to be owned by a state or federal agency or non-profit corporation. Depending on the circumstances, the applicant may find an alternative fee title holder such as a state or federal agency or non-profit corporation.

### **Proposed Easement Holder**

If the land is transferred in fee title to a non-governmental entity, a Biological Open Space Easement or Conservation Easement must be recorded. This easement should be dedicated to the County, but it may also include other appropriate agencies as a grantee or third-party beneficiary. If the title to the land is transferred to the County or other public conservation entity, no easement is necessary.

### **Restoration Entity**

Management responsibility for the revegetation/restoration area shall remain with the restoration entity until restoration/revegetation has been completed. Upon County/agency acceptance of the revegetated/restored area, management responsibility for the revegetation/restoration area will be transferred to the resource manager.

# On-Site Conceptual Resource Management Plan for the Newland Sierra Project

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## 1.2.2 Financial Responsibility and Mechanism

Acceptable financial mechanisms include the following:

- **Special District.** Formation of a Lighting and Landscape District or Zone or Community Facility District as determined appropriate by the Director of the Department of Planning & Development Services, Director of Public Works, or DPR
- **Endowment.** A one-time, non-wasting endowment, which is tied to the property and intended to be used by the resource manager to implement the RMP
- **Alternatives.** Other acceptable types of mechanisms including annual fees to be approved by the Director of Planning & Development Services, Director of Public Works, or DPR
- **Transfer.** Transfer of ownership to existing entity for management

The project applicant is responsible for all RMP funding requirements, including direct funds to support the RMP start-up tasks as well as an ongoing funding source for annual tasks, which is tied to the property to fund long-term RMP implementation. Start-up tasks include sign installation around the on-site Open Space Preserve (where appropriate), fencing at select locations in the Open Space Preserve, and database compilation. Long-term tasks involve the management and maintenance of the Open Space Preserve in perpetuity, including habitat monitoring and mapping, exotic species control (if needed), and general monitoring and reporting. These habitat management tasks commence immediately upon initiation of long-term management by the resource manager.

## 1.2.3 Conceptual Cost Estimate

An initial Property Analysis Record (PAR) will be prepared based on the biological resource management tasks identified in this CRMP. Table 2 includes the biological resource management tasks that are planned for the Open Space Preserve. A final PAR and cost estimate will be prepared for the Open Space Preserve when a resource manager has been selected and approved by the County.



## On-Site Conceptual Resource Management Plan for the Newland Sierra Project

**Table 2**  
**Resource Management Tasks**

Check if Applies	Tasks	Frequency (times per year)	Hours Required Per Year
<i>Biological Tasks</i>			
	Baseline inventory of resources (if original inventory is over 5 years old)		
✓	Update biological mapping	Once every 5 years	3.2 (16 hours every 5 years)
✓	Update aerial photography	Once every 5 years	Based on PAR
✓	Removal of invasive species	As needed	120
✓	Predator control	As needed	32
	Habitat restoration/installation		
	Habitat restoration/monitoring and management		
	Poaching control		
✓	<b>Species Surveys (include a separate line for each species):</b> 1. Focused protocol surveys for California gnatcatcher ( <i>Poliophtila californica</i> ) 2. Focused rare plant surveys (for known populations only)	1. Once every 5 years 2. Once every 5 years	20 (100 hours every 5 years)
✓	Species Management	As needed	16
	Noise management, if required		
	For lands within the MSCP and outside PAMA, consult Table 3-5 of the MSCP Plan for required biological resource monitoring		
✓	Monitoring	Monthly	96
<i>Operations, Maintenance, and Administration Tasks</i>			
✓	Establish and maintain database and analysis of data	Annually	8
✓	Write and submit annual report to County	Annually	24
✓	Submit review fees for County review of annual report	Annually	Based on PAR
✓	Review and, if necessary, update Management Plan	Every 5 years	4 (20 hours every 5 years)
✓	Construct permanent signs	One time	80
✓	Replace signs	As needed, estimate 5 signs a year	16
✓	Construct permanent fencing/gates	One time	200
✓	Maintain permanent fencing/gates	As needed, estimate 100 feet per year	8
✓	Remove trash and debris	Quarterly	60
✓	Coordinate with Department of Environmental Health (DEH) and Sheriff	As needed	16
	Maintain access road		

## On-Site Conceptual Resource Management Plan for the Newland Sierra Project

**Table 2**  
**Resource Management Tasks**

Check if Applies	Tasks	Frequency (times per year)	Hours Required Per Year
	Install stormwater BMPs		
	Maintain stormwater BMPs		
	Restore built structure		
	Maintain built structure		
	Maintain regular office hours		
	Inspect and service heavy equipment and vehicles		
	Inspect and repair buildings, residences, and structures		
	Inspect and maintain fuel tanks		
✓	Coordinate with utility providers and easement holders (Vallecitos Water District, San Diego County Water Authority, SDG&E, Homeowners' Association, and State of California)	Annually	8
	Manage hydrology (as required)		
✓	Coordinate with law enforcement and emergency services (e.g., fire)	Annually	Included in "Coordinate with utility providers and easement holders" task
	Coordinate with adjacent land managers		
✓	Remove graffiti and repair vandalism	As needed	40
<i>Public Use Tasks</i>			
	Construct trail(s)		
	Monitor, maintain/repair trails (unless a trail easement has been granted to the County)		
✓	Control public access	Quarterly	20
✓	Provide ranger patrol	Quarterly	This task is combined with the "Monitoring visits" task
	Manage fishing and/or hunting program (if one is allowed)		
	Provide Neighbor Education – Community Partnership		
	If HOA is funding management, provide annual presentation to HOA		
	Coordinate volunteer services		
	Provide emergency services access/response planning		
<i>Fire Management Tasks</i>			
✓	Coordinate with applicable fire agencies and access (gate keys, etc.) for these agencies	Annually	2
✓	Plan fire evacuation for public use areas		40

## On-Site Conceptual Resource Management Plan for the Newland Sierra Project

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**Table 2**  
**Resource Management Tasks**

Check if Applies	Tasks	Frequency (times per year)	Hours Required Per Year
✓	Protect areas with high biological importance	Every 5 years	This will be covered with the adaptive management for coastal California gnatcatcher and rare plants.
	Hand-clear vegetation		
	Mow vegetation		
<i>Post-Fire Tasks</i>			
✓	Control post-fire erosion	Every 15 years	Assumes lump sum budget of \$15,000 every 15 years
✓	Remove post-fire sediment	Every 15 years	Included with erosion task
✓	Reseed after fire	Every 15 years	Assumes that there will be a fire every 15 years that will require a response that may include 3 acres of revegetation every 15 years (\$7,500 lump sum)
✓	Replant after fire	Every 15 years	Included with reseed after fire

MSCP = Multiple Species Conservation Program; PAMA = Pre-Approved Mitigation Area; DEH = Department of Environmental Health; BMP = best management practice; HOA = Homeowners' Association  
Hours are estimated and may fluctuate based on on-the-ground conditions.

### 1.2.4 Reporting Requirements

An RMP Annual Report will be submitted to the County (and resource agencies, as applicable), along with the submittal fee to cover County staff review time. The annual report shall discuss the previous year's management and monitoring activities as well as management/monitoring activities anticipated in the upcoming year.

The annual report shall provide a concise but complete summary of management and monitoring methods, identify any new management issues, and address the success or failure of management approaches (based on monitoring). The report shall include a summary of changes from baseline or previous year conditions for species and habitats and address any monitoring and management limitations, including weather (e.g., drought). The report shall also address any management (changes) resulting from previous monitoring results and provide methods for measuring the success of adaptive management.

For new sensitive species observations or significant changes to previously reported species, the annual report shall include copies of completed California Natural Diversity Database forms with evidence that they have been submitted to the state. The report shall also include copies of invasive plant species forms submitted to the state or County.

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A fee will be collected by Planning & Development Services upon submittal of the annual report for staff's review time. The RMP may also be subject to an ongoing deposit account for staff to address management challenges as they arise. Deposit accounts, if applicable, are replenished to a defined level as necessary.

### 1.2.5 RMP Agreement

The County will require an agreement with the applicant when an RMP is required. The RMP Agreement will be executed when the County accepts the Final RMP. The agreement will obligate the applicant to implement the RMP and provide a source of funding to pay the cost to implement the RMP in perpetuity. The agreement shall also provide a mechanism for the funds to be transferred to the County if the resource manager fails to meet the goals of the RMP.

The agreement will specify that RMP funding or a funding mechanism be established prior to the following milestones:

- For subdivisions, prior to the approval of grading or improvement plans, or prior to approval of the parcel/final map, whichever is first
- For permits, prior to construction or use of the property in reliance on the permit.

*This agreement will be provided once the County approves the final RMP.*

### 1.3 Limitations and Constraints

Specific internal or external management constraints that may affect meeting RMP goals have not been identified for this CRMP. Examples of potential constraints that may be applicable include, but are not limited to, the following:

- Environmental factors such as the influence of local water availability (either surface or subsurface waters), introduction or spread of non-native species, presence of threatened or endangered species, fire, flood, drought, erosion, air pollution, and hazardous waste materials.
- Legal, political, or social factors that influence or mandate certain types of management; special permitting requirements (i.e., ACOE, USFWS, archeological sites, etc.), County Ordinances (e.g., nuisance abatement), MOUs, or other special agreements with private or public entities, water, timber, or mineral rights for the area.

## **On-Site Conceptual Resource Management Plan for the Newland Sierra Project**

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FINANCIAL FACTORS SUCH AS THE SOURCE OF FUNDING TO BE USED FOR OPERATION AND MAINTENANCE, PERSONNEL REQUIREMENTS, AND OVERALL MANAGEMENT OF THE AREA (FUND SOURCE MAY DICTATE MANAGEMENT DIRECTION).

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# **On-Site Conceptual Resource Management Plan for the Newland Sierra Project**

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## **2 PROPERTY DESCRIPTION**

### **2.1 Location**

The Newland Sierra Project Site consists of approximately 1,983 acres located within an unincorporated area of the north-central portion of the Merriam Mountains of northern San Diego County, California (Figures 1 and 2). The majority of the project Site is located in the community of Twin Oaks Valley. The project Site is directly west of Interstate 15 (I-15), north of State Route 78 (SR-78), and south of State Route 79 (SR-79). The cities of Escondido and San Marcos are approximately 1 mile south of the site.

The project Site is bounded by I-15 on the east, Deer Springs Road on the south, and Twin Oaks Valley Road on the west, with a small portion of the northwestern edge of the site traversed by Twin Oaks Valley Road. Gopher Canyon Road is located approximately 1.5 miles north of the site's northern boundary, and approximately 2.5 miles north of proposed site development.

The proposed project lies in the San Marcos U.S. Geological Survey (USGS) 7.5-minute quadrangle, Township 11 West, Range 2 and 3 West, and Sections 11, 12, 13, 14, 15, 18, 19, 23, 24, 25, 30, 35, and 36. The latitude and longitude of the approximate center of the site is 33°12'47" N and -117°09'07" W (Figure 2).

### **2.2 Environmental Setting**

The following is summarized from the Biological Resources Technical Report for the proposed project (Dudek 2016a). The project Site is located within the northern portion of the Merriam Mountains, a narrow chain of low mountains generally running north-south with a variety of east-west trending ridgelines and scattered peaks. These mountains originate near the northern end of the urban parts of the City of Escondido and are bordered by Gopher Canyon Road to the north, I-15 to the east, and Twin Oaks Valley Road to the west. The Merriam Mountains are approximately 8.5 miles long, and the project Site is situated on approximately 3 miles of the northern portion of the Merriam Mountains. It is in a dry climate with monthly average temperatures near the community of Vista ranging from approximately 44°–83°F. This community generally receives an average annual rainfall of less than 13.10 inches per year (Western Regional Climate Center 2014).

The undeveloped site contains natural features of scenic and biological value including rugged topography and rock outcroppings. Much of the vegetation covering the existing site is mature and well-developed. Elevation of the site ranges widely, from approximately 660 feet above mean sea level (AMSL) along Twin Oaks Valley Road traversing the northwestern portion of the site to 1,750 feet AMSL directly northeast of Twin Oaks Crest Drive. The perimeter of the

## On-Site Conceptual Resource Management Plan for the Newland Sierra Project

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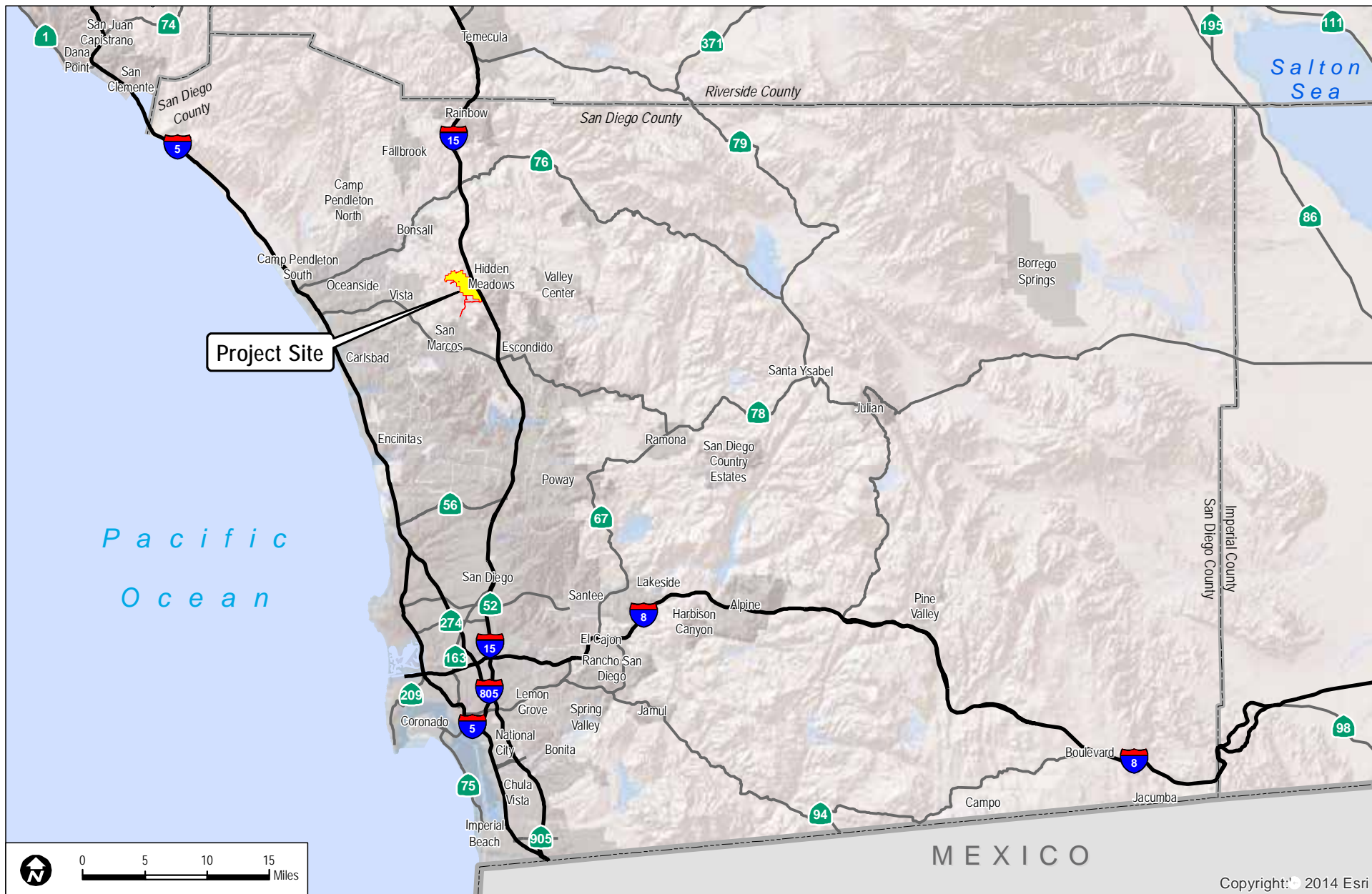
project Site has an overall gentle sloping topography. Within the project Site, the topography is more varied. Overall, there are approximately five locations where elevation is above 1,500 feet AMSL (one in the southern and four in the north–central areas of the project Site). Topography generally increases toward the center of the site, forming a number of ridgelines and some prominent rock outcrops. In some locations the gentle sloping perimeter gradually rises to higher elevations, and in other areas the slopes are more acute.

Eighteen soils types in 10 soil series occur on site, including 78 acres of Los Posas soils. Las Posas soils often support endemic plants that have either evolved to do well on these nutrient-poor soils or can outcompete other plants and thrive on such soils. The Las Posas soils series is the only soil type mapped on site that is known to support mafic conditions, and these soils are thought to occur in the northwestern and southeastern corners of the project Site. In the northwest, the soil occurs to west of and immediately adjacent to Twin Oaks Valley Road. In the southeast, this soil was thought to occur in two small locations directly adjacent to and north of Mesa Rock Road along I-15. However, no mafic soil indicators, or mafic endemic plant species, were observed at the two southeastern locations. Therefore, this area is not considered to support mafic conditions or soils. To date, only one special-status plant species typically associated with mafic conditions, Ramona horkelia (*Horkelia truncata*), has been identified on site, but it was not mapped in Las Posas soils.

The proposed project is located within the unincorporated portion of the County of San Diego within the North County Metropolitan Subregional Plan area. The North County Metropolitan Subregional Plan area is comprised of many non-contiguous "island" areas interspersed among the cities of Escondido, San Diego, San Marcos, Vista, and Oceanside with the most easterly portion adjacent to Valley Center. The North County Metropolitan Subregional Plan area includes the communities of Hidden Meadows and Twin Oaks Valley.

### 2.3 Land Use

Land use within the Open Space Preserve and in the surrounding areas is a mixture of undeveloped lands and rural residential areas. Portions of the site are used consistently for off-road vehicle and mountain biking activities, and there is evidence of homeless encampments and regular day use in some of the flatter, open areas.



**FIGURE 1**  
**Regional Map**

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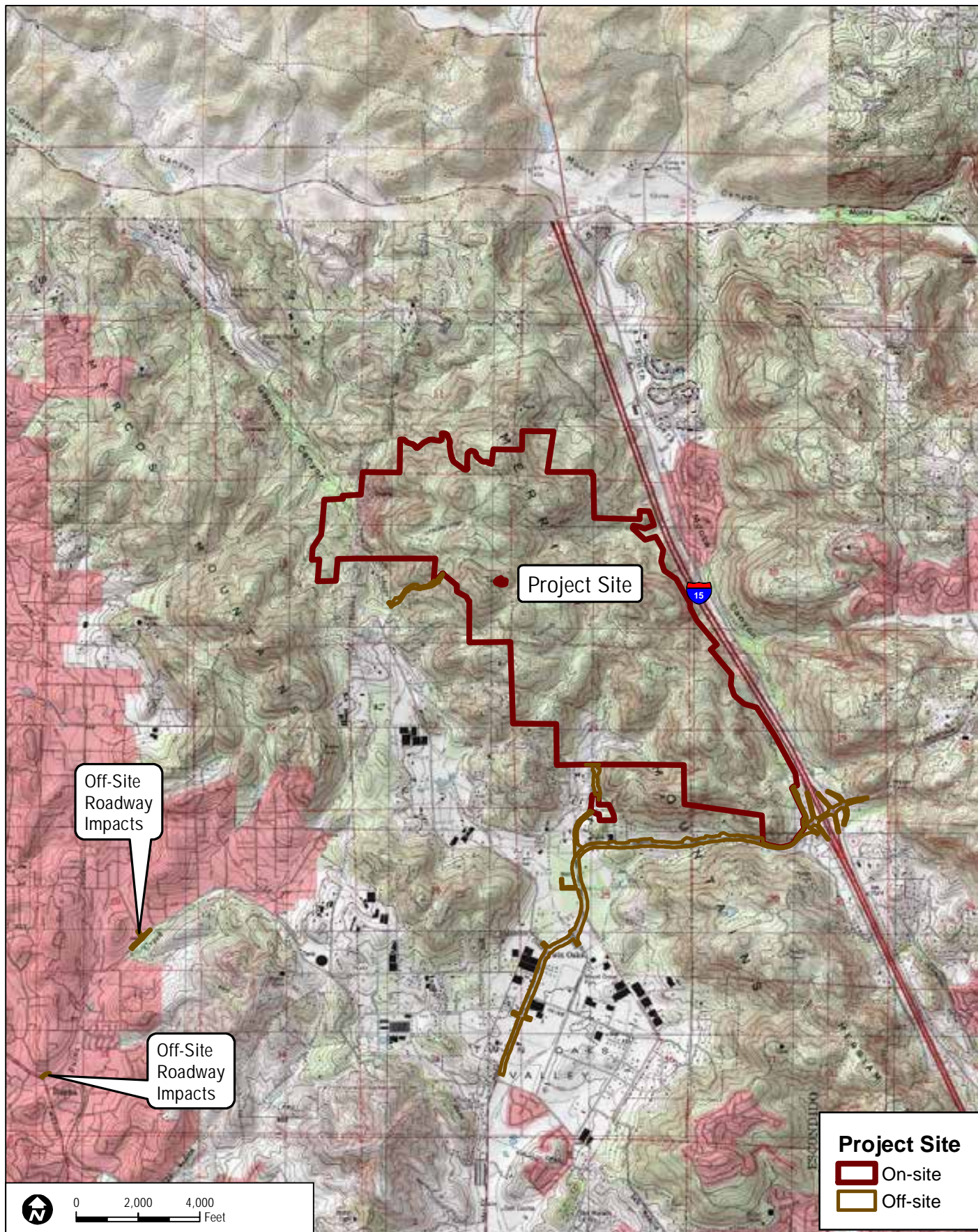
Newland Sierra Project Draft On-Site Conceptual Resource Management Plan

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SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle.

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**FIGURE 2**  
**Vicinity Map**

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The landscape character of the development will include the natural terrain and boulder outcroppings. Low-water-use, native, and naturalizing plant materials will make up the landscape plant palette. Low-fuel-volume plant materials will be included in compliance with the Fire Protection Plan. In addition, professionally-managed vineyards will be planted on selective high visibility slopes. Fuel management zones have been identified as Limited Building Zone Easements and range in width from 200 to 250 feet (Figure 3).

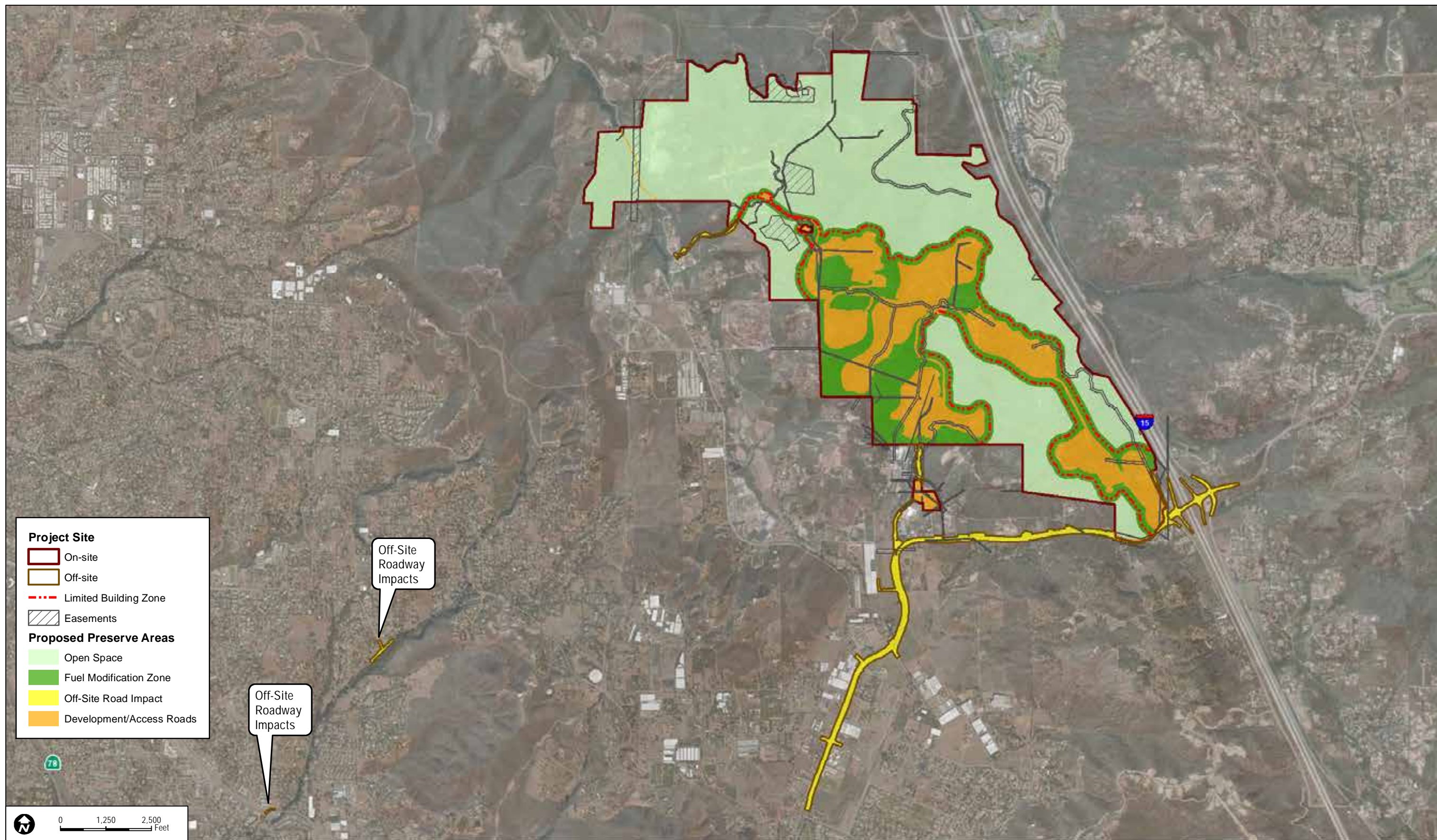
Easements within the proposed open space total 29.9 acres and are held by various agencies, including Vallecitos Water District, San Diego County Water Authority, San Diego Gas & Electric (SDG&E), the Homeowners' Association, and State of California. These easements are primarily for water and other utilities such as sewer and electric.

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SOURCE: Bing 2016; Fuscoe Engineering 2016

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**FIGURE 3**  
**Land Use**



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# On-Site Conceptual Resource Management Plan for the Newland Sierra Project

## 3 BIOLOGICAL RESOURCES DESCRIPTION

This section is based on the biological data collected for the project Site, as described in the Biological Resources Technical Report prepared for the proposed project (Dudek 2016a). This section only discusses the areas within the proposed Open Space Preserve.

### 3.1 Vegetation Communities/Habitat Types

Seventeen vegetation communities and land cover types were identified within the Open Space Preserve and include the following general vegetation communities: coastal sage scrub, chaparral, woodland, riparian, non-native areas, and waters (Figure 4, Table 3). The status of vegetation communities was determined using Holland (1986), as modified by Oberbauer et al. (2008), and the County's Guidelines for Determining Significance and Report Format and Content Requirements (County 2010b). Refer to the Biological Resources Technical Report for the proposed project prepared by Dudek (2016a) for a more detailed description of the biological resources on site.

**Table 3**  
**Vegetation Communities and Land Cover Types**

General Vegetation Community/Land Cover Type	Code <sup>1</sup>	Acres
<i>Coastal Scrub</i>		
Diegan coastal sage scrub (including disturbed) *	32500	22.6
Coastal sage scrub – Baccharis dominated (including disturbed)	32530	0.5
Flat-topped buckwheat – disturbed*	32800	1.7
Coastal sage – chaparral transition*	37G00	0.4
<i>Subtotal</i>		25.2
<i>Chaparral</i>		
Granitic southern mixed chaparral* (including disturbed)	37121	1,073.8
Mafic southern mixed chaparral*	37122	58.0
Scrub oak chaparral*	37900	5.1
<i>Subtotal</i>		1,136.9
<i>Woodland</i>		
Coast live oak woodland *	71160	2.6
<i>Riparian</i>		
Freshwater marsh*	52400	0.1
Southern coast live oak riparian forest*	61310	3.3
Mulefat scrub*	63310	0.1
Southern willow scrub*	63320	2.4
Southern willow scrub/tamarisk scrub*	63320/63810	0.3
<i>Subtotal</i>		6.2

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**Table 3**  
**Vegetation Communities and Land Cover Types**

General Vegetation Community/Land Cover Type	Code <sup>1</sup>	Acres
<i>Non-native Communities and Land Covers</i>		
Eucalyptus woodland	79100	0.5
Orchard and vineyards	18100	1.0
Disturbed habitat	11300	36.0
Non-native grassland*	42200	0.8
<i>Subtotal</i>		38.3
<i>Other</i>		
Non-wetland waters (ephemeral and intermittent) <sup>3</sup>	42200	3.42
<b>Total <sup>2</sup></b>		<b>1,209.1</b>

**Notes:**

<sup>1</sup> Holland (1986) as modified by Oberbauer et al. (2008)

<sup>2</sup> May not total due to rounding

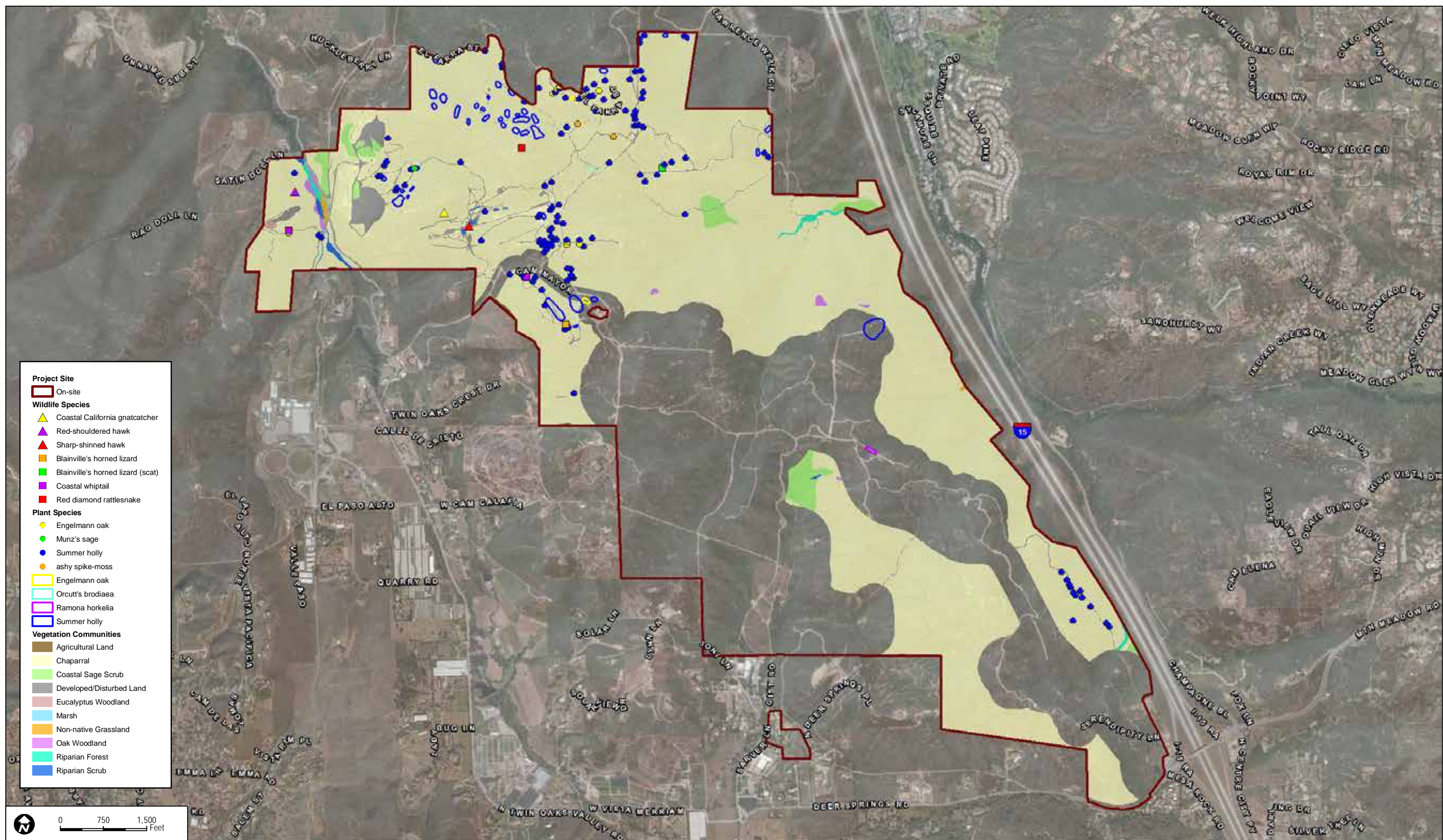
<sup>3</sup> These features are overlays to the vegetation community layer and are not counted toward the total existing acreage.

\* Considered special-status by the County of San Diego (2010a).

### 3.1.1 Diegan Coastal Sage Scrub (32500)

Diegan coastal sage scrub is a widespread coastal sage scrub in coastal southern California from Los Angeles into Baja California (Oberbauer et al. 2008). The community mostly consists of drought deciduous species, such as California sagebrush, Eastern Mojave buckwheat (*Eriogonum fasciculatum*), white sage (*Salvia apiana*), laurel sumac (*Malosma laurina*), and black sage (*Salvia mellifera*). Diegan coastal sage scrub is typical on low moisture-available sites, such as steep, xeric lopes or clay-rich soils that release stored water slowly. This community integrates with types of chaparral at higher elevations. Within the Open Space Preserve, there are five main locations along the length of the project Site: along Gist Road to the east, along North Twin Oaks Valley Road to the east, two patches of habitat along the eastern boundary (west of I-15), and one patch east of the abandoned airstrip (Figure 4). Coastal sage scrub that contains 20 to 50 percent native species by percent cover were mapped as “disturbed” associations. Disturbed Diegan coastal sage scrub occurs in two patches within the old rock quarry (Figure 4).





SOURCE: Bing 2016; Fuscoe Engineering 2016

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FIGURE 4  
On-Site Biological Open Space



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Areas mapped as Diegan coastal sage scrub within the project Site are dominated by California sagebrush. The *Artemisia californica* (California sagebrush scrub) alliance has a rank of G5S5 in CDFW (CDFG 2010) meaning it is globally secure and secure in the state. Diegan coastal sage scrub is not considered special-status by CDFW; however, it requires mitigation per the County Report Format and Content Requirements for Biological Resources (County 2010a).

### 3.1.2 Coastal Sage Scrub–Baccharis (32530)

Diegan coastal sage scrub–Baccharis dominated is similar to Diegan coastal sage scrub but dominated by Baccharis species (desert broom [*B. sarothroides*] and/or coyote brush [*B. pilularis*]) (Oberbauer et al. 2008). This community typically occurs on disturbed sites or those with nutrient-poor soils and often found within other forms of Diegan coastal sage scrub and on upper terraces of river valleys. This community is distributed along coastal and foothills areas in San Diego County. Within the Open Space Preserve, this community is mapped directly north of Mesa Rock Road adjacent to I-15 (Figure 4). Coastal sage scrub–Baccharis that contains 20 to 50 percent native species by percent cover were mapped as “disturbed” associations. A small patch of disturbed Coastal Sage Scrub–Baccharis is located east of North Twin Oaks Valley Road within the old rock quarry.

Areas mapped as coastal sage scrub–Baccharis within the project Site are dominated by California sagebrush and coyote brush. The *Artemisia californica* (California sagebrush scrub) alliance and *Baccharis pilularis* (coyote brush scrub) alliance have a rank of G5S5 by CDFW (CDFG 2010) meaning it is globally secure and secure in the state. Diegan coastal sage scrub–Baccharis dominated is not considered special-status by CDFG or the County (2010b). Based on the County’s criteria, the proposed project is considered a Biological Resource Area because it is mapped as draft PAMA (County 2010a).

### 3.1.3 Flat-topped Buckwheat (32800)

Flat-topped buckwheat is a nearly monoculture community usually resulting from disturbance and transitioning to coastal sage scrub or chaparral Oberbauer et al. 2008. Species characteristic of this community, Eastern Mojave buckwheat and common deerweed (*Acmispon glaber*), appear over time. This community often occurs in disturbed areas in the coastal and foothill areas of San Diego County and often intergrades with Diegan coastal sage scrub. Within the Open Space Preserve, this community is mapped within the old rock quarry east of North Twin Oaks Valley Road (Figure 4).

The area mapped as disturbed flat-topped buckwheat within the project Site are dominated by Eastern Mojave buckwheat (*Eriogonum fasciculatum*), but also is comprised of 20 to 50 percent



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non-native herbs and grasses. The *Eriogonum fasciculatum* (California buckwheat scrub) alliance has a rank of G5S5 in CDFG (2010) meaning it is globally secure and secure in the state. Flat-topped buckwheat is not considered special-status by CDFW (CDFG 2010); however, mitigation is required by the County (2010b).

### 3.1.4 Coastal Sage–Chaparral Transition (37G00)

Coastal sage–chaparral transition habitats include a mix of sclerophyllous, woody chaparral species and drought-deciduous, malacophyllous sage scrub species (Oberbauer et al. 2008). Chamise and California sagebrush (*Artemisia californica*) are dominant in equal cover. Generally, laurel sumac, black sage, and lemonade sumac (*Rhus integrifolia*) are more common in coastal sage scrub, while *Ceanothus* spp. and mission manzanita (*Xylococcus bicolor*) are more common in chaparrals. Areas mapped as coastal sage–chaparral transition within the project Site are dominated by California sagebrush with some chamise. Within the project Site, there are 0.4 acre mapped east of Gist Road (Figure 4).

The *Artemisia californica* (California sagebrush scrub) alliance has a rank of G5S5 by CDFW (CDFG 2010) meaning it is globally secure and secure in the state. Coastal sage-chaparral transition is not considered special-status by CDFW (CDFG 2010) but requires mitigation per the County (2010c).

### 3.1.5 Granitic Southern Mixed Chaparral (37121), Mafic Southern Mixed Chaparral (37122)

Granitic southern mixed chaparral (37121) is characterized by broad-leaved sclerophyll shrubs ranging from 5 to 10 feet in height (Oberbauer et al. 2008). Granitic southern mixed chaparral is characterized by chamise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos* spp.), white fairy-lantern (*Calochortus albus*), ceanothus (*Ceanothus* spp.), and other species with patches of bare soil. This habitat often occurs on dry, rocky, often steep slopes with little soil and moderate temperatures.

Mafic southern mixed chaparral (37122) is similar to granitic southern mixed chaparral, but it occurs on mafic (gabbro), metavolcanic, or metasedimentary derived soils (Los Posas and Boomer Soils) in the coastal region. These soils can have a very red or dark brown appearance with an affiliation for sensitive plant species and are rarer than granitic types of chaparral.

Southern mixed chaparral occurs throughout the majority of the Open Space Preserve totaling approximately 1,073.8 acres, including approximately 58 acres of mafic southern mixed chaparral where it occurs on Las Posas series soils within the northeastern most portion of the project Site, surrounding and occurring west of North Twin Oaks Valley Road (Figure 4).

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Disturbed granitic southern mixed chaparral (12 acres) occurs east of Gist Road, along the abandoned airstrip, and within the old rock quarry (Figure 4).

Areas mapped as southern mixed chaparral are dominated by chamise. The *Adenostoma fasciculatum* (chamise) alliance has a rank of G5S5 by CDFW (CDFG 2010) meaning it is globally secure and secure in the state. Southern mixed chaparral (including disturbed) is not considered special-status by CDFW; however, southern mixed chaparral requires mitigation per the County (2010c).

### 3.1.6 Scrub Oak Chaparral (37900)

Scrub oak chaparral habitats are composed of a dense, evergreen chaparral that is typically dominated by scrub oak (*Quercus* spp.) with birchleaf mountain mahogany (*Cercocarpus betuloides*). In San Diego, scrub oak (*Quercus berberidifolia*) is usually the dominant species with over 50 percent vegetation cover usually occurring in small patches within a variety of other vegetation communities (Oberbauer et al. 2008). Within the Open Space Preserve, there are 5.1 acres mapped in two areas along the eastern boundary (west of I-15) and directly north of the water tower southeast of Camino Mayor (Figure 4).

Areas mapped as scrub oak chaparral within the Open Space Preserve are dominated by scrub oak. The *Quercus berberidifolia* (Scrub oak chaparral) alliance has a rank of G4S4 in CDFW (CDFG 2010), meaning it is apparently secure globally and in the state. Scrub oak chaparral is not considered special-status by CDFW; however, it requires mitigation per the County (2010c).

### 3.1.7 Coast Live Oak Woodland (71160)

Coast live oak woodland is dominated by a single evergreen species: coast live oak (*Quercus agrifolia*) with a canopy height reaching 33 to 82 feet in height (Oberbauer et al. 2008). The shrub layer is poorly developed, but may include toyon (*Heteromeles arbutifolia*), gooseberry (*Ribes* spp.), laurel sumac, or dominated blue elderberry (*Sambucus nigra* ssp. *caerulea*). Coast live oak woodland occurs throughout the Open Space Preserve with three areas mapped east of the water tower located southeast of Camino Mayor, west along North Twin Oaks Valley Road, and one location east of Gist Road (Figure 4).

Areas mapped as coast live oak woodland within the project Site are dominated by coast live oak. The *Quercus agrifolia* (coast live oak woodland) alliance has a rank of G5S4 by CDFW (CDFG 2010), meaning it is globally secure and apparently secure in the state. Coast live oak woodland is not considered special-status by CDFW; however, it requires mitigation per the County (2010c).

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### 3.1.8 Freshwater Marsh (52400)

Freshwater marshes are typically dominated by perennial, emergent monocots to 13 to 16 feet tall often forming completely closed canopies. Characteristic species include species such as sedges (*Carex* spp.), flatsedges (*Cyperus* spp.), bulrush (*Scirpus* spp.), cattail (*Typha* spp.), and rushes (*Juncus* spp.). Within the Open Space Preserve, there is one 0.07-acre area mapped west of North Twin Oaks Valley Road (Figure 4).

Areas mapped as freshwater marsh within the project Site are dominated by cattails. The *Typha* (*angustifolia*, *domingensis*, *latifolia*) (cattail marshes) alliance has a rank of G5S5 by CDFW (CDFG 2010) meaning it is globally secure and secure in the state. Freshwater marsh is not considered special-status by CDFW; however, it requires mitigation per the County (2010c).

### 3.1.9 Southern Coast Live Oak Riparian Forest (61310)

Southern coast live oak riparian forests (61310) consists of dense riparian forests dominated by evergreen sclerophyllous trees (e.g., coast live oak) with a closed, or nearly closed, canopy (Oberbauer et al. 2008). This community appears to be richer in herbs and poorer in understory scrubs than other riparian communities and is a homogenous mixture of coast live oak woodland and southern riparian woodland. Southern coast live oak riparian forest includes coast live oak communities found along rivers, creeks, and drainages throughout San Diego County. Southern coast live oak riparian forest is mapped in three locations including west along North Twin Oaks Valley Road, along the northwestern portion of the Open Space Preserve, and along the southeastern boundary (west of I-15) (Figure 4).

Areas mapped as oak riparian forest within the project Site are dominated by coast live oak. The *Quercus agrifolia* (Coast live oak woodland) alliance has a rank of G5S4 by CDFW (CDFG 2010) meaning it is globally secure and apparently secure in the state. Southern coast live oak riparian forest is not considered special-status by CDFW; however, it requires mitigation per the County (2010c).

### 3.1.10 Mulefat Scrub (63310)

Mulefat scrub is a depauperate, tall, herbaceous riparian scrub strongly dominated by mulefat (*Baccharis salicifolia*). This early seral community is maintained by frequent flooding. Site factors include intermittent stream channels with fairly coarse substrate and moderate depth to the water table (Oberbauer et al. 2008). This community type is widely scattered along intermittent streams and near larger rivers. Within the Open Space Preserve, there is one small patch along the abandoned airstrip (Figure 4).

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Areas mapped as mulefat scrub within the project Site are dominated by mulefat. The *Baccharis salicifolia* (mulefat thickets) alliance has a rank of G5S4 by CDFW (CDFG 2010) meaning it is globally secure and apparently secure in the state. Mulefat scrub is not considered special status by the CDFW; however, mitigation is required per the County (2010c).

### 3.1.11 Southern Willow Scrub (63320)

Southern willow scrub is a dense, broad-leaved, winter-deciduous riparian thicket dominated by several willow species (*Salix* spp.), with scattered emergent Fremont's cottonwood (*Populus fremontii*) and western sycamore (*Platanus racemosa*). This community was formerly extensive along the major rivers of coastal southern California, but now much reduced (Oberbauer et al. 2008). Southern willow scrub is mapped throughout the Open Space Preserve along North Twin Oaks Valley Road, north of the abandoned airstrip, and east of Gist Road (Figure 4).

Areas mapped as southern willow scrub within the project Site are dominated by red willow (*Salix laevigata*). The *Salix laevigata* (red willow thickets) alliance has a rank of G3S3 by CDFW (CDFG 2010) meaning it is vulnerable to extirpation or extinction globally and in the state. Southern willow scrub is considered special status by CDFW; however, mitigation is required per the County (2010c).

### 3.1.12 Southern Willow Scrub/Tamarisk Scrub (63320/ 63810)

Southern willow scrub/tamarisk scrub contains characteristics of both southern willow scrub (described above) and tamarisk scrub communities. Tamarisk scrub community is a weedy, virtual monoculture of any of several tamarisk species, usually supplanting native vegetation following major disturbance (Oberbauer et al. 2008). This community type typically occurs on sandy or gravelly braided washes or intermittent streams, often in areas where high evaporation increases the stream's saltiness. Tamarisk is a strong phreatophyte and a prolific seeder which predispose the species to be aggressive competitors in disturbed riparian corridors. This community type is widely scattered and increases its range throughout the drier parts of California. Within the Open Space Preserve, this community is mapped within the abandoned airstrip (Figure 4).

The area mapped as southern willow scrub/tamarisk scrub within the project Site is dominated by both red willow and tamarisk. In addition to the southern willow scrub description above, the *Tamarix* spp. (tamarisk thickets) semi-natural stands does not have a global or state rank and is not considered special status by the CDFW (CDFG 2010); however, both southern willow scrub and tamarisk scrub require mitigation per the County (2010c).

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### 3.1.13 Eucalyptus Woodland (79100)

Eucalyptus habitats range from single species thickets with little or no shrubby understory to scattered trees over a well-developed herbaceous and shrubby understory (Oberbauer et al. 2008). In most cases, eucalyptus forms a dense stand with a closed canopy. Eucalyptus species produces a large amount of leaf and bark litter, the chemical and physical characteristics which limit the growth of other species in the understory. Within the Open Space Preserve, one area is mapped along the northwestern boundary of the project Site, west of North Twin Oaks Valley Road and east of Satin Doll Lane (Figure 4).

The areas mapped as Eucalyptus woodlands within the project Site is dominated by *Eucalyptus* spp. The *Eucalyptus* (*globulus*, *camaldulensis*) (eucalyptus groves) semi-natural stands does not have a global or state rank and not considered special status by CDFW (CDFG 2010); no mitigation is required per the County (2010c).

### 3.1.14 Orchard and Vineyards (18100)

Orchards and vineyards are usually comprised of artificially irrigated habitat dominated by one (or sometimes several) tree or shrub species (Oberbauer et al. 2008). The trees are typically low and bushy with an open understory. Vineyards include single species crops planted in rows that are usually supported by wood and wire trellises. Understory growth of both orchard and vineyard crops often include short grasses and other herbaceous plants between rows. Within the Open Space Preserve, non-commercial orchard crops are mapped in four locations directly along the Open Space Preserve boundary (northeast of Deer Springs Place), north of Camino Califia, east of Camino Mayor, and west of North Twin Oaks Valley Road) (Figure 4). Orchard and vineyards are not considered special status by the CDFW, and no mitigation is required per the County (2010c).

### 3.1.15 Disturbed Habitat (11300)

Disturbed habitats are areas that have been physically disturbed and no longer recognizable as native or naturalized vegetation association (Oberbauer et al. 2008). These areas may continue to retain soil substrate. If vegetation is present, it is almost entirely composed of non-native vegetation, such as ornamentals or ruderal exotic species. Examples of these areas may include graded landscapes or areas, graded firebreaks, graded construction pads, construction staging areas, off-road vehicle trails, areas repeatedly cleared for fuel management, or repeatedly used areas that prevent revegetation (e.g., parking lots, trails that have persisted for years). There are 36 acres mapped throughout the Open Space Preserve that consist of dirt trails, an abandoned airstrip, the old rock quarry, and other disturbed areas (Figure 4).



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Disturbed habitat is not considered special-status by CDFW (CDFG 2010), and no mitigation is required per the County (2010c).

### 3.1.16 Non-native Grasslands (42200)

Non-native grasslands consists of dense to sparse cover of annual grasses with flowering culms between 0.5 to 3 feet in height (Oberbauer et al. 2008). In San Diego County the presence of (*Avena* spp.), bromes (*Bromus* spp.), stork's bill (*Erodium* spp.), and mustard (*Brassica* spp.) are common indicators. Within the Open Space Preserve, non-native grasslands are mapped along North Twin Oaks Valley Road and along the Open Space Preserve boundary (east of Gist Road) (Figure 4).

Non-native grassland has a rank of G4S4 by CDFW (CDFG 2010), meaning it is apparently secure globally and in the state. Because non-native grassland can provide habitat for a variety of species, the County requires mitigation for impacts to it; therefore, it is considered special-status by the County (2010c).

## 3.2 Jurisdictional Wetlands and Waters

During the 2013 jurisdictional wetlands delineation performed by Dudek, approximately 7.61 acres of potential jurisdictional resources, out of 13.04 total acres within the entire project Site, were identified within the Open Space Preserve. These jurisdictional resources are under the jurisdiction of the ACOE, the RWQCB, CDFW, and the County of San Diego. Specifically, 0.23 acre are under the joint jurisdiction of the above-listed agencies, 5.86 are under jurisdiction of CDFW and the County, while the remaining 1.52 acres are solely under the jurisdiction of CDFW. In addition, 3.42 acres of the 5.33 acres of non-wetland waters within the project Site occur within the Open Space Preserve. These waters are under the jurisdiction of the ACOE, RWQCB, and CDFW. This is based on the preliminary jurisdictional delineation approach described in the Biological Resources Technical Report for the proposed project prepared by Dudek (2017a).

## 3.3 Plant Species

Four special-status plant species were detected within the Open Space Preserve: summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), Munz's sage (*Salvia munzii*), Engelmann oak (*Quercus engelmannii*), and ashy spike-moss (*Selaginella cinerascens*).

## On-Site Conceptual Resource Management Plan for the Newland Sierra Project

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### **Summer Holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), List A**

Summer holly is a California Rare Plant Rank (CRPR) 1B.2 (CNPS 2014) and County List A species (County 2010b). This evergreen shrub blooms from April to June. It occurs in chaparral and cismontane woodlands at elevations of 100–1,800 feet (CNPS 2014). Within the Open Space Preserve, numerous individuals of summer holly were detected within southern mixed chaparral and one occurrence was detected in disturbed southern mixed chaparral (Figure 4).

### **Munz's Sage (*Salvia munzii*), List B**

Munz's sage is a CRPR 2.3 and County List B species. This perennial evergreen shrub typically blooms from February to April. It occurs in chaparral and coastal scrub habitat types, at elevations of 394–3,494 feet (CNPS 2014). One population, consisting of four individuals, was detected within the northern portion of the Open Space Preserve east of North Twin Oaks Valley Road in southern mixed chaparral, but it likely occurs throughout other suitable habitat on site (Figure 4). In addition, fragrant sage (*Salvia clevelandii*) was also observed throughout the project area. This species is not considered special-status and therefore was not mapped during the 2013 focused surveys.

### **Engelmann Oak (*Quercus engelmannii*), List D**

Engelmann oak is a CNPS 4.2 and County List D species. This deciduous tree blooms from March to June. It occurs in chaparral, cismontane, woodland, riparian woodland, and valley and foothill grasslands at elevations of 394–4,265 feet. Within the Open Space Preserve, one occurrence was detected within the northwestern corner and seven individuals were detected within the north-central portion (Figure 4). All occurred within southern mixed chaparral.

### **Ashy Spike-Moss (*Selaginella cinerascens*), List D**

Ashy spike-moss is a CNPS 4.1 and County List D species. This perennial rhizomatous herb occurs in chaparral and coastal scrub at elevations of 66–2,100 feet. Within the Open Space Preserve, two occurrences were detected in the north-central portion within southern mixed chaparral (Figure 4).

## **3.4 Fauna**

The proposed project area supports habitat for common upland and riparian species. Chaparral, coastal scrub, woodland, riparian, and non-native habitats (e.g., eucalyptus and non-native grassland) within the project area provide foraging and nesting habitat for migratory and resident bird species and other wildlife species. Riparian streams or puddles within the rock quarry may provide refuge for amphibian species. Rock outcroppings, chaparral, coastal scrub, and

## On-Site Conceptual Resource Management Plan for the Newland Sierra Project

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woodlands within the project area provide cover and foraging opportunities for wildlife species, including reptiles and mammals.

There were 132 wildlife species observed on the proposed project Site. Species richness in the project area is moderate due to the property size and amount of undeveloped native land. Species richness is generally increased with the presence of more habitat types and ecotones, but the project Site is primarily one habitat type (89 percent is chaparral). Although species richness is moderate, the number of species and the wildlife population levels (i.e., number of individuals) is typical for undeveloped areas in this region, particularly those areas that support the habitat types on site.

Twenty special-status wildlife species were detected within the proposed project Site: western spadefoot (*Spea hammondi*), Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), red-diamondback rattlesnake (*Crotalus ruber*), San Diego ringneck snake (*Diadophis punctatus similis*), Blainville's horned lizard (*Phrynosoma blainvillei*), coast patch-nosed snake (*Salvadora hexalepis virgulata*), Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), Bell's sage sparrow (*Artemisospiza [Amphispiza] belli belli*), red-shouldered hawk (*Buteo lineatus*), turkey vulture (*Cathartes aura*), Nuttall's woodpecker (*Picoides nuttallii*), California gnatcatcher, yellow warbler (*Setophaga petechia*), western bluebird (*Sialia mexicana*), common barn owl (*Tyto alba*), San Diego desert woodrat (*Neotoma lepida intermedia*), mule deer (*Odocoileus hemionus*), and monarch butterfly (*Danaus plexippus*).

### 3.5 Habitat Connectivity and Wildlife Corridors

The proposed project is surrounded by undeveloped portions of the Merriam Mountains and adjacent to and east of another large undeveloped land form, the San Marcos Mountains (Figure 5). The northern and southern Merriam Mountains, along with the adjacent San Marcos Mountains, represent the largest substantial-sized, essentially native blocks of habitat located west of I-15 in central San Diego County. The site is currently undeveloped and is intersected by a number of dirt roads and trails that provide connectivity to surrounding undeveloped landscapes. Based on the existing conditions of the site, wildlife can generally move through the project Site relatively unencumbered. Wildlife movement within the proposed open space design will occur within three large blocks of open space and four corridors located between development (Figure 5). Open space blocks of habitat (Blocks 1, 2, and 3) are internally linked through Corridors A through D as shown on Figure 5. Corridor A includes an approximately 1,000-foot by 400-foot linkage. Corridor B includes an approximate 700-foot by 750-foot area. Corridor C includes an approximately 1,500-foot by 800-foot linkage. Corridor D includes an approximately 2,250-foot by 200-foot linkage. All of these include varying degrees of fuel modification, which should allow for better wildlife mobility than the dense mature chaparral

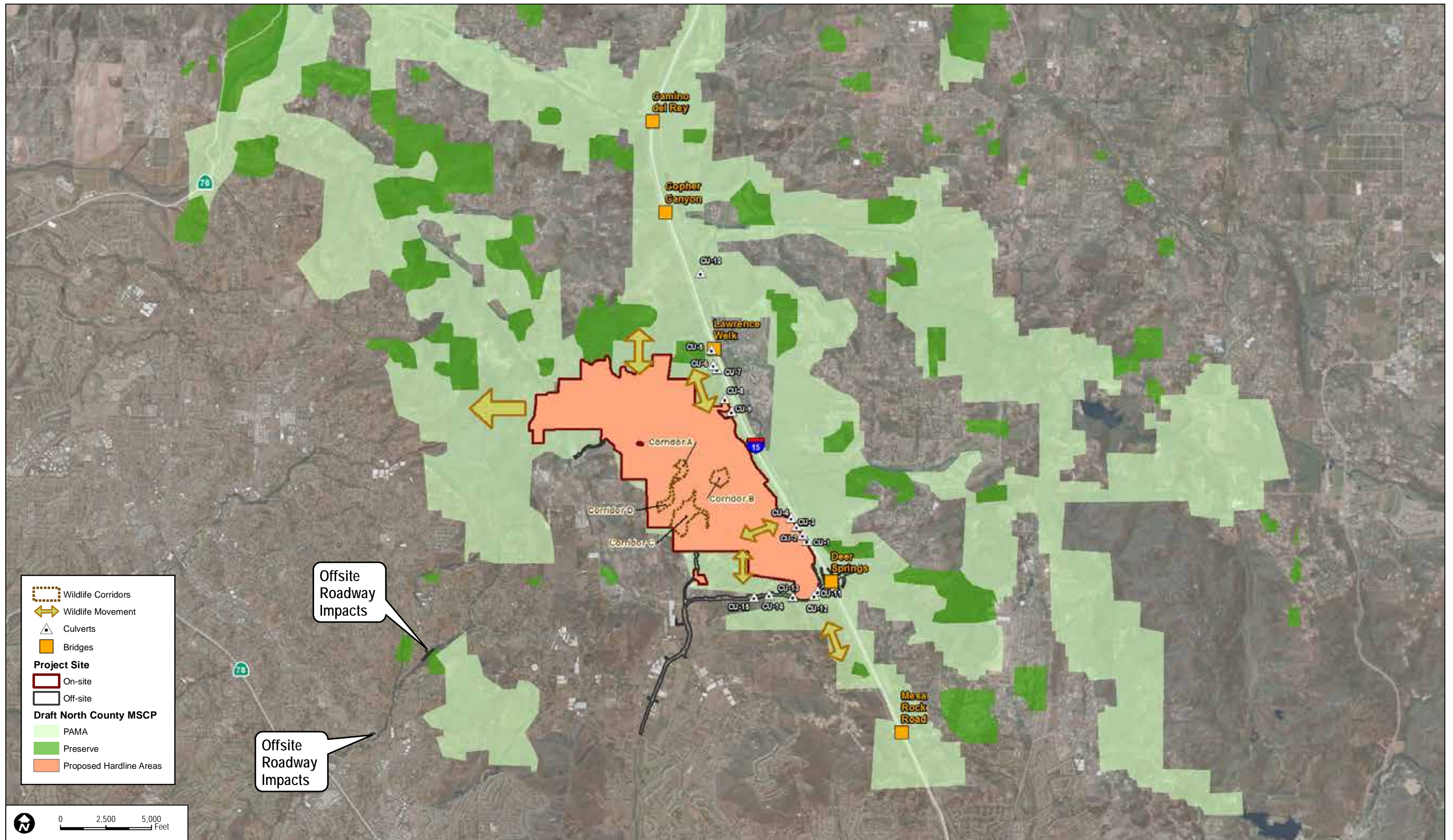
## **On-Site Conceptual Resource Management Plan for the Newland Sierra Project**

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which covers most of the intact open space. Corridor B connects Block 2 with Block 3 across an internal road. Block 2 is connected to Block 1, without any barriers, along the east side of the project area. Corridor C connects off-site PAMA to Block 3 across an internal road. Corridor A provides a secondary connection to off-site PAMA to the south and west, by allowing wildlife to cross another internal road and Corridor D. Corridors A and D also provide an additional linkage from Block 1 to off-site areas to the southwest.

The open space configuration for the Newland Sierra project will form a centroid of connectivity to the north, south, east, and west: north along the I-15 corridor and then west into the San Luis Rey River area; south along I-15 into Escondido; east across I-15 to the Escondido and other eastern areas; and west through the San Marcos Mountains and then north into the San Luis Rey River area and beyond. Along I-15, there are four bridges under I-15 which might convey wildlife. These occur at (1) Mesa Rock Road, approximately 1.8 miles south of the property; (2) Lawrence Welk Court, adjacent to the northern boundary of the property; (3) Gopher Canyon Road, approximately 1.4 miles north of the property; and (4) Camino Del Rey, approximately 3 miles to the north. All four of these potential crossing areas are bridge structures that pass under I-15 with north and south-bound highway lanes, are insulated from highway noise, are connected to native habitat and PAMA areas, and experience low traffic volumes. An additional crossing structure, in the form of an overpass, is located at the southern end of the property at Deer Springs Road. This is a focal point of activity and likely provides little wildlife movement benefit until the late night and early morning hours when traffic and human activity wanes. In September 2014, Dudek reviewed the entire project boundary with I-15 and Deer Springs road to note the location and diameters of potential undercrossings.





SOURCE: Bing 2016; County of San Diego 2014

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**FIGURE 5**  
**Habitat Connectivity and Wildlife Corridors**



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Additionally, the previously discussed I-15 bridges were documented as were the locations of fencing adjacent to I-15 and culverts. These data are presented within Tables 4 and 5, as well as on Figure 5. Chain-link fencing appears to only occur at the Deer Springs Road, Mesa Rock Road, and Gopher Canyon Road crossing areas. Otherwise, five-strand barbed-wire fencing runs along both sides of I-15. Therefore, it is likely that larger wildlife make frequent at-grade crossings of I-15 during the late-night and early morning periods when traffic volumes are reduced.

**Table 4  
I-15 Bridge Dimensions**

	Total Approximate Bridge Width (East to West)	Total Approximate Bridge Length (North to South)	Total Approximate Opening Distance Between I-15 North and I-15 South (East to West)	Total Approximate Max Height of Bridges (pavement to bridge bottom)	Comments
Camino Del Rey	237 ft	140 ft	63 ft	60 ft	5-strand barbwire fencing installed in the east to west direction, on both the north and south sides of Camino del Rey Road. Fencing terminates at Camino del Rey and Highway 395 intersection.
Gopher Canyon	245 ft	148 ft	95 ft	60 ft	No fencing exists under bridge crossing.
Lawrence Welk Lane	240 ft	110 ft	100 ft	40 ft	5-strand barbwire fencing installed in the east to west direction, on both the north and south sides of Lawrence Welk Road.
Deer Springs Road	180 ft	50 ft	N/A	60 ft	Deer Springs Road bridge crosses over I-15. 6-ft chainlink fence installed in north/south direction on east and west sides of I-15.

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**Table 4**  
**I-15 Bridge Dimensions**

	Total Approximate Bridge Width (East to West)	Total Approximate Bridge Length (North to South)	Total Approximate Opening Distance Between I-15 North and I-15 South (East to West)	Total Approximate Max Height of Bridges (pavement to bridge bottom)	Comments
Mesa Rock Road	212 ft	130 ft	63 ft	50 ft	6-foot chain link fence installed in east/west direction on north and south sides of Mesa Rock Road.

ft = feet

**Table 5**  
**Culvert Dimensions Adjacent to Sierra Project Site**

ID	Location	Type	Width	Height	Length	Substrate
CU-1	I-15	Round concrete culvert	4 ft	4 ft	Est. 350 feet	Concrete
CU-2	I-15	Round concrete culvert	2 ft	2 ft	Est. 350 feet	Concrete
CU-3	I-15	Round corrugated metal culvert	2 ft	2 ft	Est. 350 feet	Metal
CU-4	I-15	Round corrugated metal culvert	4 ft	4 ft	Est. 350 feet	Metal
CU-5	I-15	Round corrugated metal culvert	2 ft	2 ft	Est. 350 feet	metal
CU-6	I-15	Round corrugated metal culvert	2 ft	2 ft	Est. 350 feet	metal
CU-7	I-15	Round corrugated metal culvert	3 ft	3 ft	Est. 350 feet	metal
CU-8	I-15	Round corrugated metal culvert	4 ft	4 ft	Est. 350 feet	metal/leaves/dirt
CU-9	I-15	Round concrete culvert	4 ft	4 ft	Est. 350 feet	concrete
CU-10	Champagne Rd	Half-round concrete culvert	4 ft	4 ft	30 ft	dirt/leaves
CU-11	Deer Springs Rd	Half-round, corrugated metal culvert	1 ft	1 ft	30 ft	
CU-12	Deer Springs Rd	Corrugated metal round	1.5 ft	1.5 ft	30 ft	dirt
CU-13	Deer Springs Rd	Corrugated metal round	2ft	2ft	30 ft	dirt
CU-14	Deer Springs Rd	Corrugated metal round	2.5 ft	2.5 ft	30 ft	dirt
CU-15	Deer Springs Rd	Corrugated metal round	2.5 ft	2.5 ft	30 ft	metal

ft = feet; Est. = estimate

These culverts are located along I-15 and Deer Springs Road and demonstrate that wildlife can move in some areas in an east–west direction, as well as north–south. The areas where wildlife are likely to move through depend on the wildlife species and their preferred habitat and movement patterns. These are discussed in more detail below.

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The majority of the habitat on site is chaparral, is relatively dense, and can support a variety of chaparral species. Of 37 mammal species known to regularly occur in California chaparral communities (Quinn 1990), ten have a potential to occur in the Open Space Preserve are found primarily in mature chaparral,<sup>1</sup> and are uncommon or absent in other habitat types. These ten species include the brush rabbit (*Sylvilagus bachmani*), Merriam's chipmunk (*Tamias merriami*), California pocket mouse (*Chaetodipus californicus*), California deer mouse (*Peromyscus californicus*), dusky-footed woodrat (*Neotoma fuscipes*), agile kangaroo rat (*Dipodomys agilis*), desert cottontail (*Sylvilagus audubonii*), gray fox (*Urocyon cinereoargenteus*), western spotted skunk (*Spilogale gracilis*), and bobcats (*Lynx rufus*) (Quinn 1990). Of these ten species, four were observed during the PSBS (2003) wildlife corridor study and more recent focused surveys, and include gray fox, brush rabbit, bobcat, and agile kangaroo rat.

Although many species are known to utilize mature chaparral, some chaparral may be very dense and difficult for medium to larger wildlife, such as mule deer, to maneuver through. As such, dirt access roads and trails may serve as a primary route for medium to larger wildlife movement. Research conducted on cougars (i.e., mountain lions; *Puma concolor*) in Southern California have found that cougars consistently used travel paths less rugged than their general surroundings and that dirt roads may even promote cougar movement (Dickson et al. 2005). In addition, the most frequently used travel routes for dispersing cougars in the Santa Ana Mountains was found to be scour zones in stream channels, ridgeline routes, and dirt roads (Beier 1995). A similar result was found in Arizona and Utah where cougars crossed unimproved dirt roads more frequently than improved dirt roads and hard surfaced roads (Van Dyke et al. 1986) suggesting that the intertwining and abundant dirt roads located within the proposed open space would provide great facilitation to wildlife movement, especially those of large mammals, through the dense chaparral that characterizes a large portion of this site. Similar results have been found by Dudek during a number of movement studies conducted in the Santa Ana Mountain foothills, Transverse Ranges, and Sierra Nevada foothills.

Similarly, dirt roads may also facilitate movement of coyotes (*Canis latrans*) (PSBS 2003), gray foxes (PSBS 2003), bobcats (PSBS 2003; Lovallo and Anderson 1996) mule deer, and other species. Dirt roads have also been shown to provide potentially important landscape linkages for smaller wildlife to pass through unsuitable habitat to more suitable habitat (Brock and Kelt 2004). For example, California ground squirrels may use trails and drainage systems to disperse from colonies (Wiggett and Boag 1989). San Diego pocket mice (*Chaetodipus fallax*) and cactus mice (*Peromyscus eremicus*) will utilize low-use dirt trails but avoid low-use paved roads of similar width and rural two-lane highways (Brehme et al. 2013). Brock and Kelt (2004) found that the

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<sup>1</sup> Mature chaparral is characterized by shrubs approximately 3 to 10 feet in height and dense vegetation cover of 50 to 100 percent (Quinn 1990).

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federally endangered Stephens' kangaroo rat (*Dipodomys stephensi*) used dirt roads extensively to move great distances through otherwise inhospitable habitat to find more suitable habitat.

It should be noted that although mountain lions have been anecdotally reported as occurring on site, as described in the *Merriam Mountains Specific Plan Final EIR* (County 2010c), the dense chaparral and human influence likely reduce their utilization of the site to brief periods of time and at broad intervals. The main prey item for mountain lion is mule deer, which prefers a mix of more open vegetation to forage in with denser habitat to escape in. Since mule deer have only been occasionally recorded within the site, the general lack of suitable prey further reduces the potential for mountain lions to utilize the site.

### 3.6 Overall Biological Value

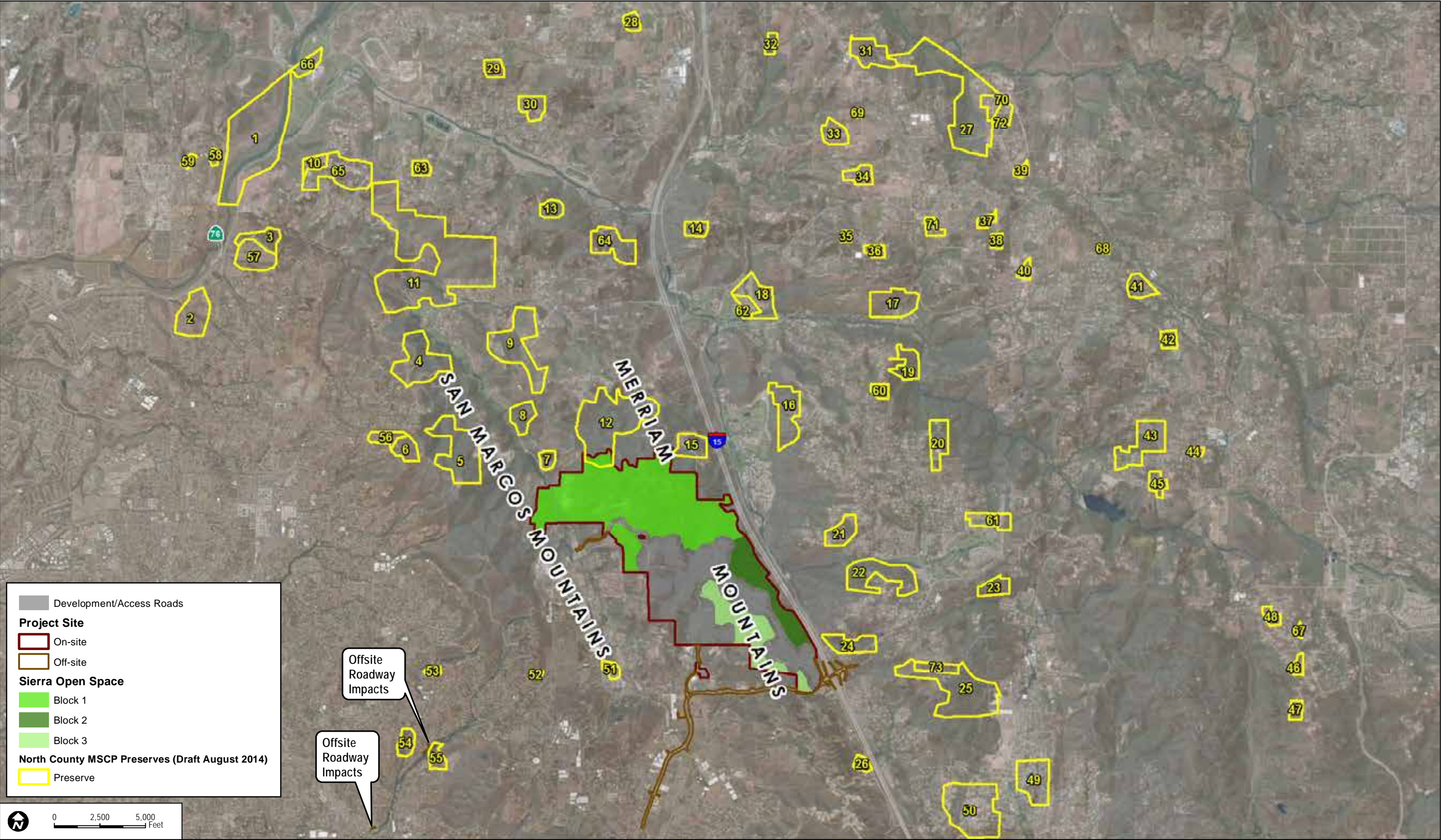
As described in the above sections, the on-site Open Space Preserve supports a variety of native vegetation communities, non-wetland ephemeral waters, rare plants, special-status wildlife species, and wildlife movement. It is adjacent to contiguous areas of undeveloped habitat, providing habitat connectivity to PAMA areas (Figure 6).

### 3.7 Enhancement and Restoration Opportunities

Revegetation is proposed in areas that will be temporarily impacted by the proposed project, but which will remain within the Open Space Preserve. The Conceptual On-Site Mitigation Restoration Plan for the Newland Sierra Project (Dudek 2017b) provides details regarding the restoration of 7.5 acres of temporary impacts to coastal sage scrub, southern mixed chaparral and disturbed habitat. Preliminary estimates indicate that there are approximately 1.45 acres of upland disturbed coastal sage scrub restoration and approximately 6.05 acre of southern mixed chaparral restoration that could be achieved within the temporary disturbance and disturbed habitat areas on site. Thus, overall there would be a total of approximately 7.5 acres of mitigation restoration/revegetation acreage that will be provided within the entire biological open space area on site. The remainder of the upland mitigation requirement would be satisfied through off-site habitat acquisition, preservation, and revegetation as required.

In addition, the restoration plan contains a Horkelia Relocation Plan for proposed direct impacts to 62 Ramona Horkelia (*Horkelia truncata*) individuals. Impacts to the 62 individual Ramona horkelia plants will be mitigated for through salvaging, relocation and associated revegetation activities, as part of the on-site mitigation program (Dudek 2016b). Mitigation for this species will also include additional seeding and container planting, as a component of the revegetation of an abandoned roadway within the southeastern portion of the project open space. This mitigation location is in proximity to the location of the southerly two occurrences of this species. This location was chosen for compatibility with similar soils type, exposure and growing conditions for this species.





SOURCE: Bing 2016; County of San Diego 2014

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Newland Sierra Project Draft On-Site Conceptual Resource Management Plan

FIGURE 6  
Proposed Open Space Design and MSCP Preserves



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## 4 BIOLOGICAL RESOURCE MANAGEMENT

This CRMP identifies activities to manage and preserve the sensitive biological resources within the Open Space Preserve. The main goal is to preserve the 1,209.1 acres of on-site open space described, including the sensitive plant and animal species they support.

### 4.1 Management Goals

**Goal: To preserve and manage lands to the benefit of the flora, fauna, and native ecosystem functions reflected in the natural communities occurring within the Open Space Preserve.**

A baseline inventory has been collected during the evaluation of the Project under CEQA. As such, ongoing species and habitat monitoring shall occur in accordance with County and regional standards. These standards typically include vegetation mapping every 5 years. Habitat maintenance may be required if vegetation mapping indicates habitat conversion that is detrimental to the preservation of native ecosystem functions. Specific management tasks are described in the following section, 4.2 Biological Management Tasks.

### 4.2 Biological Management Tasks

The biological management tasks associated with the Open Space Preserve are outlined in Table 2 of this report. This section includes a description of each of the tasks required for management of the open space.

#### 4.2.1 Update Biological Mapping and Aerial Photography

Every 5 years, the Resource Manager will update the vegetation map on a current aerial photograph of the site. This task includes mapping vegetation over the entire open space and updating the aerial photography.

#### 4.2.2 Removal of Invasive Species

The Resource Manager will map occurrences of perennial, non-native species that have a rating of moderate or high by the California Invasive Plant Council. Weed control measures will be implemented, as necessary, to prevent expansion of existing or establishment of new exotic species in the Open Space Preserve.

If the use of herbicide is deemed necessary, application should be minimal and may only occur in compliance with all federal and state laws. Use of chemical herbicides should be determined in coordination with the County Department of Environmental Health (DEH). All herbicide use

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will be applied by backpack sprayers or stump painting directly on target weeds and will involve short-duration, biodegradable chemicals.

### 4.2.3 Predator/Pest Control

The Resource Manager will evaluate the need for predator/pest control and identify appropriate measures (e.g., pesticides, traps) to reduce/eliminate the problem. In general, predator control will be conducted as needed based on adaptive measures for special-status species (described in Section 4.3). If significant predator/pest eradication actions are determined to be necessary, the Resource Manager will notify the appropriate regulatory oversight agencies. This task includes annual evaluation and set up of traps, if necessary, for feral cats and/or other predators that are determined by the Resource Manager to have a detrimental effect on managed species.

### 4.2.4 Species Surveys

Several special-status species were documented throughout the project Site, including in the Open Space Preserve. Special-status plant populations documented within the Open Space Preserve include summer holly, Munz's sage, Engelmann oak, and ashy spike-moss. Numerous special-status wildlife species were documented in the project area and are listed in Section 3.4.

Protective measures to monitor and manage these species should be implemented, as necessary, to help ensure the persistence of preserved biological resources in the open space. The following surveys shall be conducted every 5 years for special-status plant and wildlife species.

- **California gnatcatcher.** Surveys shall follow the USFWS California gnatcatcher 1997 presence/absence survey protocol (USFWS 1997), or the most current protocol available. A minimum of three surveys are required within suitable habitat.
- **Rare plant surveys.** Rare plant surveys shall be conducted within open space, with emphasis on surveying the known locations of rare plants. Additional locations of plants that are state- or federally listed, have a CRPR 1B and 2, and/or are County lists A–D will be recorded. All special-status species locations will be mapped and the population estimated.

### 4.2.5 Species Management

Based on the species surveys described earlier, management tasks for the rare plant populations and special-status wildlife species may be required. This includes weed control and predator control. Predator control is not anticipated at this time; however, if predators such as feral cats, raccoons, or other species cause nest failure or other detrimental effects on wildlife species, trapping or other predator control methods may be used.

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### **4.2.6 Monitoring**

This plan includes monthly monitoring of the open space preserve. The County requires monthly monitoring of the open space. The Resource Manager shall visit the open space each month in order to monitor the overall conditions of the open space and determine if any management tasks are required.

### **4.3 Adaptive Management**

The resource manager is responsible for interpreting the results of site monitoring to determine the ongoing success of the RMP. If it is necessary to modify the plan between regularly scheduled updates, plan changes shall be submitted to the County and wildlife agencies for approval, as required.

### **4.4 Operations, Maintenance, and Administrative Tasks**

Table 2 and Section 4.2 describe a list of tasks such as baseline inventory, vegetation mapping, and regular visits to be conducted by the resource manager. Regular visits will occur monthly and annually.

#### **4.4.1 Goals**

**Goal: To manage, maintain, and administer the proposed project in an ongoing setting to ensure the integrity of the preserved Open Space Preserve.**

#### **4.4.2 Tasks**

The general operations, maintenance, and administrative tasks to be conducted by the resource manager will include the following tasks:

##### **4.4.2.1 Annual Monitoring Reports**

A letter report will be submitted to the County that will summarize the overall condition of vegetation communities and sensitive species in the Open Space Preserve, outline proposed management tasks for the following year, and provide results of management activities proposed in the previous report. Submitted annually by the end of January, this letter report will compare the most recent data with those collected in previous years, evaluate sensitive species status and local wildlife corridor use, and outline appropriate remedial measures, per County guidelines. The report will also address any adaptive management (changes) resulting from previous monitoring results, and provide a methodology for measuring the success of adaptive management. Copies of California Natural Diversity Database forms submitted to the State for



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any new sensitive species observations or significant changes to species previously reported will be included, as will copies of invasive plant species forms submitted to the State or County. Fees for County review will also be included with submittal of the annual report.

The results of all updated vegetation mapping (every 5th year) and sensitive species monitoring will be included in the appropriate annual letter reports.

### **4.4.2.2 Management Plan Review**

This RMP will be reviewed every 5 years to determine the need for revisions or updates. Due to changing conditions within the Open Space Preserve, it may be necessary to revise the tasks outlined in this plan to ensure continued success of the stated goals.

### **4.4.2.3 Access Control**

To prevent human-induced degradation of the Open Space Preserve due to illegal occupancy, trespassing (especially off-highway vehicle [OHV] activity), removal of resources, or dumping of trash or debris, the resource manager will restrict public access to the Open Space Preserve. Permanent signage will be posted consistent with California Penal Code requirements at locations of unauthorized trails entering the Open Space Preserve and shall be maintained by the resource manager. Open space signage shall be installed where open space is adjacent to roadways and recreational areas and shall be corrosion resistant, a minimum of 6 inches by 9 inches, on posts not less than 3 feet in height from the ground surface, and must state the following:

#### **Sensitive Environmental Resources**

##### **Area Restricted by Easement**

Entry without express written permission from the County of San Diego is prohibited. To report a violation or for more information about easement restrictions and exceptions, contact the County of San Diego,  
Planning & Development Services  
Reference: (PDS2015-ER-15-08-001)

Proposed sign locations are shown in Figure 7.

### **4.4.2.4 Fencing/Barriers**

Because the Open Space Preserve parcels are located adjacent to other undeveloped land, perimeter fencing around the Open Space Preserve is not planned. However, some barriers will be constructed at select areas along the preserve boundary and within the Open Space Preserve in

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order to prevent access to certain areas of the Open Space Preserve (Figure 7). These barriers may consist of large boulders, K-Rail, fencing, or similar material that will prevent OHV use.

### **4.4.2.5 *Illegal Occupancy***

There is some illegal use of the proposed project Site. The resource manager will survey the Open Space Preserve for evidence of illegal access concurrently with other site management activities and file a report with the local sheriff and/or Border Protection, if necessary, to ensure the Open Space Preserve remains free of human occupancy.

### **4.4.2.6 *Removal of Resources***

Removal of any plants, animals, rocks, minerals, or other natural resources from the Open Space Preserve is prohibited unless determined to be beneficial to the management of the Open Space Preserve and allowed by the wildlife agencies. No archaeological artifacts shall be removed from the Open Space Preserve, and no archaeological resources shall be damaged during removal of plants or habitat remediation without formal significance evaluation and mitigation, if necessary prior to the undertaking. The resource manager will maintain a log of illegal collecting and may report individuals caught removing natural resources from the Open Space Preserve to the USFWS, CDFW, County, and/or sheriff's office. The resource manager may allow and supervise seed collection and plant cuttings as part of revegetation efforts within the Open Space Preserve and/or in nearby areas. Any such collected plant materials should be limited to such that is necessary and in accordance with state law to ensure successful revegetation while not adversely affecting local plant populations.

### **4.4.2.7 *Trash Removal and Vandalism Repair***

The resource manager will also conduct general trash removal within the Open Space Preserve during regular management site visits. Additionally, damage caused by vandalism will be repaired. Trash removal and vandalism repair will occur as needed during regular site visits every other month. Upon initiation of the Open Space Preserve, existing trash will be removed to provide for a clean baseline.

### **4.4.2.8 *Flood Management***

As a component of general monitoring responsibilities, and especially following severe storms, fires, floods or other significant disturbance events, the Resource Manager shall inspect the preserve for erosion problems. For the purposes of this CRMP, significant unnatural erosion is erosion that affects an area that is greater than 100 square feet and over 6 inches in depth, and/or erosion that may affect water quality and wetland resources or lead to instability of slopes or the

## **On-Site Conceptual Resource Management Plan for the Newland Sierra Project**

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loss/conversion of habitat. Should significant erosion be detected, the Resource Manager will evaluate the need for repair; the Resource Manager's investigation will include an attempt to identify the cause(s) and means by which the damage has occurred. The PAR provides a lump sum budget to address potential post-fire erosion issues in the event of a wildfire. In the event of severe erosion with potentially costly remedies not anticipated by the RMP or PAR, funding to implement erosion control will not be derived from annual management funds. In this case, the Resource Manager will consult with the County to determine a plan of action that will include the identification of funding sources. Minor incidents of erosion (e.g., the formation of rivulets through upland areas) shall be left untreated unless it is perceived that the erosion will cause the loss of sensitive habitat and/or create a hazardous situation that would constitute a threat to human health and safety.

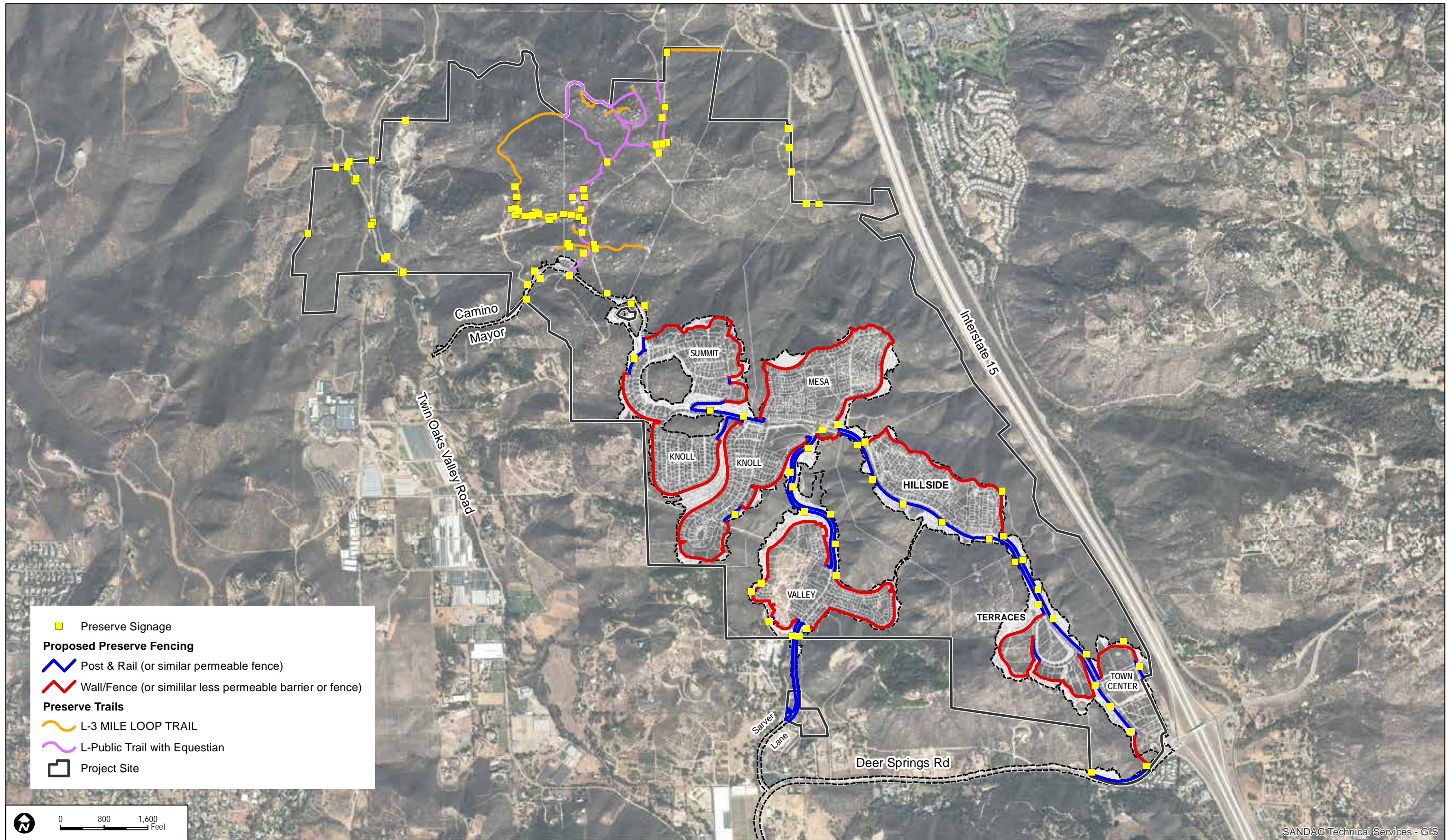
The degree of urgency to remediate erosion problems within the preserve will depend on the severity of the erosion, how quickly it is progressing, and what will happen until it is remediated. Erosion that undercuts riparian vegetation will need to be addressed as soon as possible, that is, soon enough to prevent the problem from worsening and under no circumstances later than 60 days from identification.

In the event that erosion becomes a recurring problem or periodic but severe, the Resource Manager will develop an erosion control plan. The plan will address (1) erosion causes and (2) the type and placement of physical features to counteract or stem erosive forces, and (3) may include preparation of a conceptual plan to revegetate affected areas with native seed. If the source of an erosion problem within the preserve lies outside of the preserve, the cause shall be identified and the responsible party or parties made accountable.

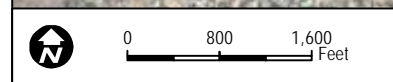
### **4.5 Public Use Tasks**

The Open Space Preserve will have public trails located along pre-existing dirt roads and trails; there will be no facilities (Figure 8). The Open Space Preserve is intended to serve primarily as a habitat preserve and as such is not compatible with most activities.





SANDAG Technical Services - GIS



SOURCE: Bing 2016; Fuscoe Engineering 2016

DUDEK

Newland Sierra Project Draft On-Site Conceptual Resource Management Plan

**FIGURE 7**  
**Proposed Biological Open Space/Conceptual Signage and Fencing**



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Activities that will be specifically prohibited include:

- Use of herbicides (except to remove non-native species, as necessary), pesticides, rodenticides, biocides, fertilizers, or other agricultural chemicals
- Use of OHVs and any other motorized vehicles except in the execution of management duties
- Grazing or other agricultural activity of any kind
- Recreational activities including, but not limited to, horseback riding would only be acceptable on specified multi-use trails, biking, target shooting, hunting, or fishing
- Commercial or industrial uses
- Construction, reconstruction, or placement of any building or other improvement, billboard, or sign
- Depositing or accumulation of soil, trash, ashes, refuse, waste, bio-solids or any other material
- Planting, introduction, or dispersal of non-native or exotic plant or animal species
- Altering the general topography of the Open Space Preserve, including but not limited to building of roads and flood control work
- Removing, destroying, or cutting of trees, shrubs, or other vegetation, except as required by federal, state, or local law or by governmental order for (1) emergency fire breaks, (2) maintenance of existing roads, (3) prevention or treatment of disease, or (4) required mitigation programs
- Manipulating, impounding, or altering any natural watercourse, body of water, or water circulation on the open space, except as specified for restoration activities, and activities or uses detrimental to water quality, including but not limited to degradation or pollution of any surface or subsurface waters.

### 4.6 Fire Management Element

Fire is a natural ecological component of the Mediterranean-type climate of San Diego County. The Resource Manager will coordinate with the fire department on an annual basis to plan for fire prevention and control. The Resource Manager could implement prescribed burning if it is part of a regional effort coordinated with the California Department of Forestry and Fire Protection and the future NC MSCP or San Diego Management and Monitoring Programs. If areas within the preserve burn, there will be no initial reseeding of areas, but there will be careful monitoring for the need for weed or erosion controls. The Resource Manager will decide if reseeding is necessary if the natural revegetation process is deemed unsatisfactory. During the vegetation recovery period, the burned areas will be monitored by preserve management staff to

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control non-native invasive weed species. Weed control measures will be initiated as necessary to prevent these species from replacing native vegetation.

This task includes post-fire erosion and sediment removal activities and revegetation in the event that these activities are necessary. If reseeding of areas is required, the Resource Manager will coordinate and perform this activity. The post-fire tasks are limited to a sum of \$15,000 every 15 years for erosion control and sediment removal, and \$7,500 every 15 years for revegetation. These sums are based on the assumption that a fire that requires erosion control and sediment removal and approximately 3 acres of revegetation would occur once every 15 years.