REVISED HABITAT ASSESSMENT REPORT

PERRIS VALLEY LINE
RIVERSIDE, CALIFORNIA

Project Location:
The project is located in western Riverside County, extending 24 miles between the Cities of Riverside and Perris.
U.S. Geological Survey (USGS) 7.5-minute topographical quadrangle maps:
Riverside East, San Bernardino South, Steele Peak, and Perris

Prepared for:

County of Riverside
Environmental Programs Department
4080 Lemon Street, 12th Floor
Riverside, California 92502

On Behalf of:

Riverside County Transportation Commission
4080 Lemon Street, 3rd Floor
Post Office Box 12008
Riverside, California 92502-2208

Prepared by:

KLEINFELDER
5015 Shoreham Place
San Diego, California 92122
(858) 320-2000

December 22, 2009

TABLE OF CONTENTS

Section **Page**

1.0 INTRODUCTION 1-1
1.1 PURPOSE AND NEED 1-1
1.2 STUDY AREA 1-1
1.3 PROJECT DESCRIPTION 1-8
1.4 ENVIRONMENTAL SETTING 1-9
1.5 HYDROLOGICAL CHARACTERISTICS 1-9
1.6 PROJECT AREA SOILS 1-10
2.0 MSHCP SETTING 2-1
2.1 PROJECT RELATIONSHIP TO THE MSHCP 2-2
2.2 LOCATION OF THE STUDY AREA WITHIN MSHCP CRITERIA CELLS 2-2
2.3 PROJECT RELATIONSHIP TO MSHCP CORES AND LINKAGES 2-4
2.4 OTHER MSHCP FEATURES 2-7
3.0 LITERATURE AND DATABASE REVIEW 3-1
3.1 SPECIAL-STATUS PLANT SPECIES 3-1
3.2 SPECIAL-STATUS WILDLIFE SPECIES 3-4
3.3 STEPHENS' KANGAROO RAT HABITAT CONSERVATION PLAN 3-7
4.0 FIELD RECONNAISSANCE 4-1
4.1 METHODOLOGY 4-1
4.2 HABITAT COMMUNITIES 4-1
5.0 RESULTS 5-1
5.1 POTENTIAL TO OCCUR SENSITIVE PLANT SPECIES 5-1
5.2 POTENTIAL TO OCCUR SENSITIVE WILDLIFE SPECIES 5-3
6.0 RECOMMENDATIONS 6-1
7.0 REFERENCES 7-1

TABLES

Table 1.2-1 Project USGS 7.5-Minute Topographical Quadrangle Maps Information 1-7
Table 1.2-2 Proposed Station and Connection Sites 1-7
Table 1.6-1 PVL Corridor Soil Mapping Units 1-12
Table 2.2-1 MSHCP Conservation Criteria for PVL Project Applicable Criteria Cells 2-3
Table 2.3-1 PVL Project Applicable MSHCP Cores and Linkages 2-6
Table 3.1-1 Listed Sensitive Plant Species 3-2
Table 3.2-1 Listed Special Status Wildlife Species 3-4

FIGURES

Figure 1.2-1 Regional and Vicinity Map 1-2
Figure 1.2-2 San Bernardino South USGS 7.5' Quadrangle 1-3
Figure 1.2-3 Riverside East USGS 7.5' Quadrangle 1-4
Figure 1.2-4 Steele Peak USGS 7.5' Quadrangle 1-5
Figure 1.2-5 Perris USGS 7.5' Quadrangle 1-6

APPENDIX

A Project APN List (In Progress: working with Epic Land Solutions to Finalize)

ACRONYMS AND ABBREVIATIONS

APNs	Assessor's Parcel Numbers
BNSF	Burlington Northern Santa Fe
CDFG	California Department of Fish and Game
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
DBESP	Determination of Biologically Equivalent or Superior Preservation
HCP	Habitat Conservation Plan
I-215	Interstate 215
NRCS	Natural Resource Conservation Service
MP	Mile Post
MSHCP	Multiple Species Habitat Conservation Plan
MSL	Mean Sea Level
NEPS	Narrow Endemic Plant Species
PVL	Perris Valley Line
RCTC	Riverside County Transportation Commission
ROW	Right-of-Way
SCRRA	Southern California Regional Rail Authority
SJBL	San Jacinto Branch Line
SKR	Stephens' Kangaroo Rat
SKRHCP	Stephens' Kangaroo Rat Habitat Conservation Plan
SR	State Route
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 INTRODUCTION

The Riverside County Transportation Commission (RCTC) proposes to extend commuter rail service from the existing Riverside Downtown Station approximately 24 miles to south of the City of Perris in western Riverside County, California. This new rail extension, known as the Perris Valley Line (PVL), will be operated by the Southern California Regional Rail Authority (SCRRA), the operators of the SCRRA/Metrolink commuter rail system in southern California. The PVL would utilize the existing Burlington Northern Santa Fe (BNSF) railroad mainline to the San Jacinto Branch Line (SJBL). To connect the BNSF and the SJBL a new connection, called the Citrus Connection, will be created to streamline operations using a curved segment of new connecting rail on parcels to be acquired in the City of Riverside.

Four stations would be provided at Hunter Park (one of three proximate sites), Moreno Valley/March Field, Downtown Perris and South Perris. A Layover Facility for overnight storage and light maintenance of trains would also be provided near the South Perris station.

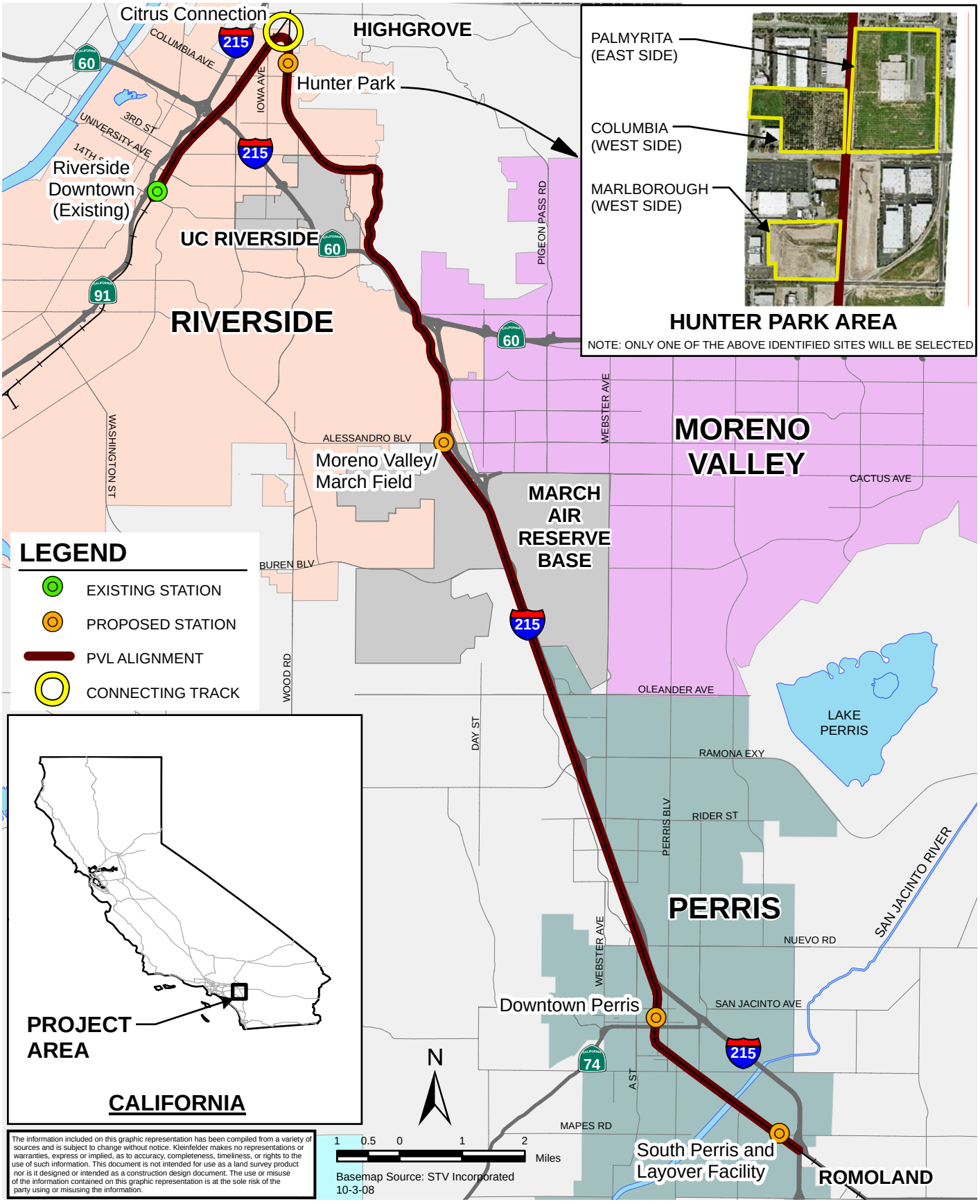
Replacement and rehabilitation of existing rail and railroad ties would be undertaken along with installation of a second track along a nine-mile segment of existing track parallel to Interstate 215 (I-215) and the existing freight track between Mile Post (MP) 7.9 and 16.9. There would be replacement of two bridges, one over the San Jacinto River (MP 20.70) and the other at the San Jacinto River Overflow Channel (MP 20.80). Along the SJBL corridor, there would be culvert extension or replacement at approximately designated locations.

1.1 PURPOSE AND NEED

This Habitat Assessment was prepared to assess the potential presence of biological and natural resources along the proposed Perris Valley Line (PVL) project in Riverside County, California. The information in this report will be used to assist in the evaluation of potential project impacts to biological resources. Additionally, the proposed project falls within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Conservation Area. Under the MSHCP, Habitat Assessments are required to be prepared for activities proposed within the Conservation Area to assess whether special status species and/or habitats covered under the MSHCP have the potential to occur within the project area. This Habitat Assessment will also be used as a basis for completion of the Determination of Biologically Equivalent or Superior Preservation (DBESP) report and the MSHCP Consistency Determination, as required under the MSHCP regulations.

1.2 STUDY AREA

The PVL project is located in western Riverside County, California. The project proposes to extend commuter rail service into the I-215 corridor between the Cities of Riverside, Moreno Valley, and Perris as shown in Figure 1.2-1. The study area can be found in four of the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps: Riverside East, San Bernardino South, Steele Peak, and Perris and are shown in Figure 1.2-2, Figure 1.2-3, Figure 1.2-4, and Figure 1.2-5. The township, range, and sections for the 7.5-minute topographic quadrangle maps information are listed in Table 1.2-1.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

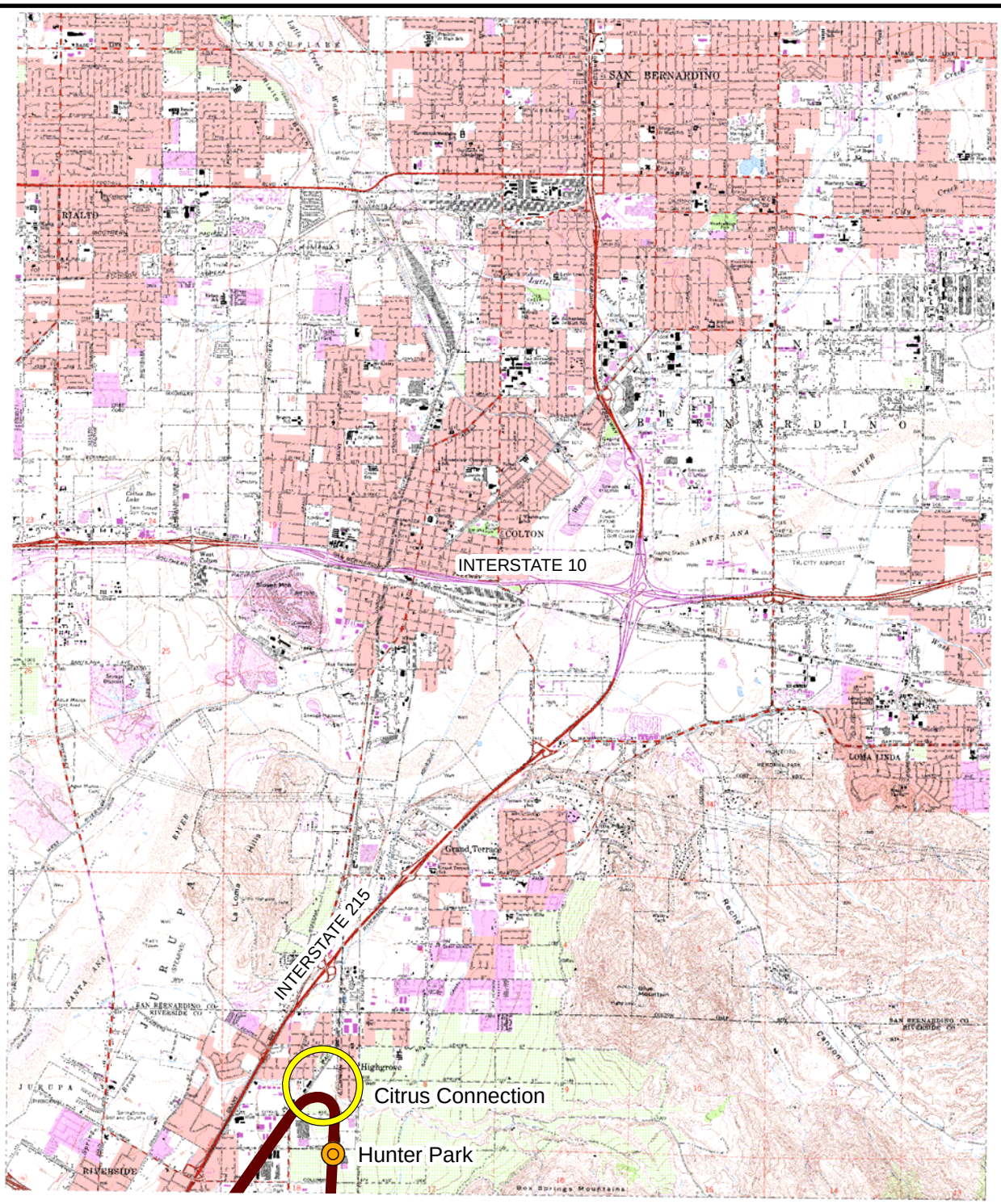
KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	92666
DRAWN:	9/15/09
DRAWN BY:	JP
CHECKED BY:	RM
FILE NAME:	92666vicHAR_EIR.MXD

REGIONAL AND VICINITY MAP

HABITAT ASSESSMENT REPORT
RIVERSIDE COUNTY TRANSPORTATION COMMISSION
ENVIRONMENTAL IMPACT REPORT
RIVERSIDE, CALIFORNIA

FIGURE
1.2-1



RIVERSIDE EAST

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

0 6,000 12,000 Feet

N

LEGEND

- PROPOSED STATION
- PVL ALIGNMENT

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

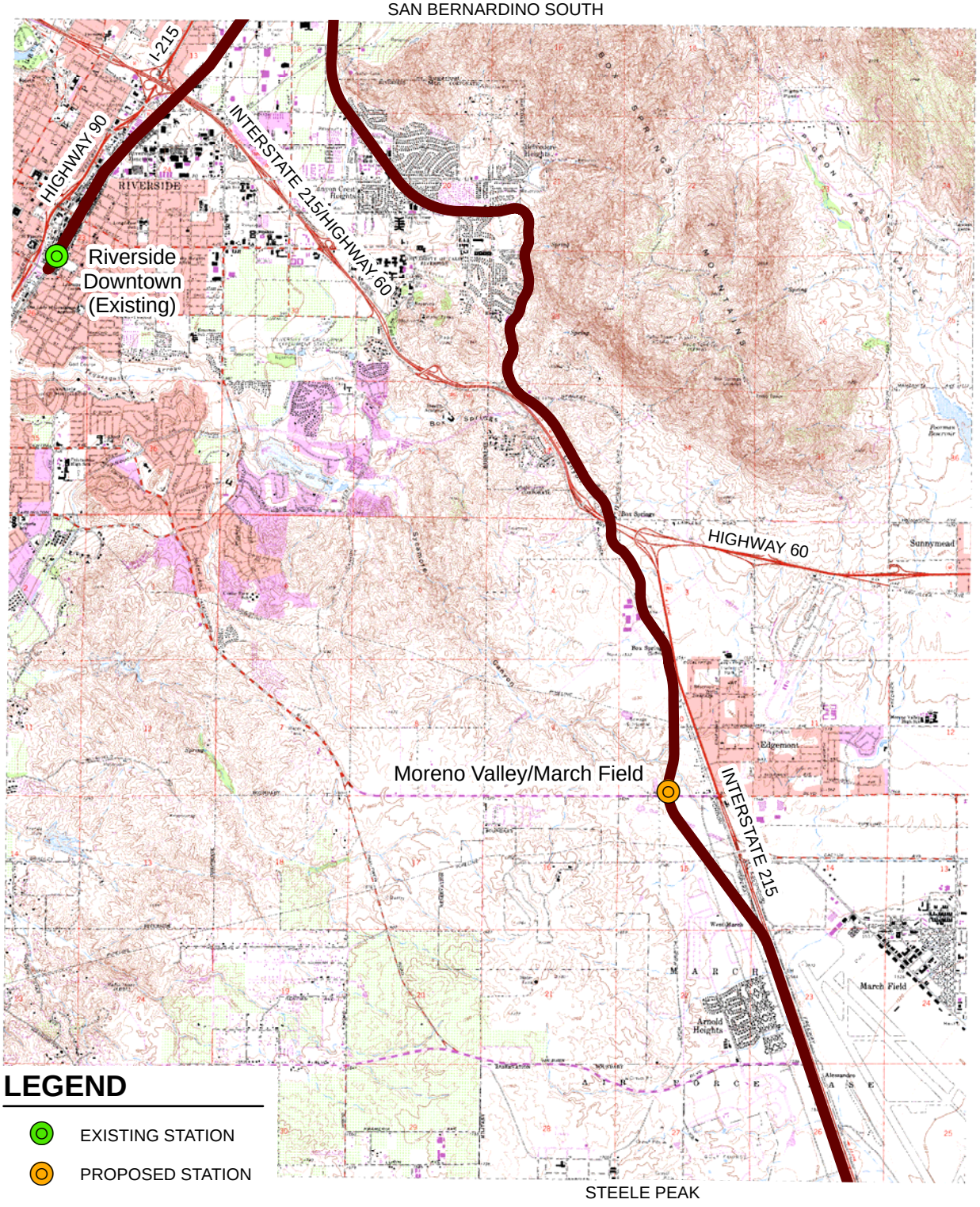
PROJECT NO.	92666
DRAWN:	9/15/09
DRAWN BY:	JP
CHECKED BY:	RM
FILE NAME:	92666quad1EIR.MXD

SAN BERNARDINO SOUTH
USGS 7.5' QUADRANGLE

HABITAT ASSESSMENT REPORT
RIVERSIDE COUNTY TRANSPORTATION COMMISSION
ENVIRONMENTAL IMPACT REPORT
RIVERSIDE, CALIFORNIA

FIGURE
1.2-2

SAN BERNARDINO SOUTH



STEELE PEAK

LEGEND

- EXISTING STATION
- PROPOSED STATION
- PVL ALIGNMENT

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

0 6,000 12,000 Feet

N

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

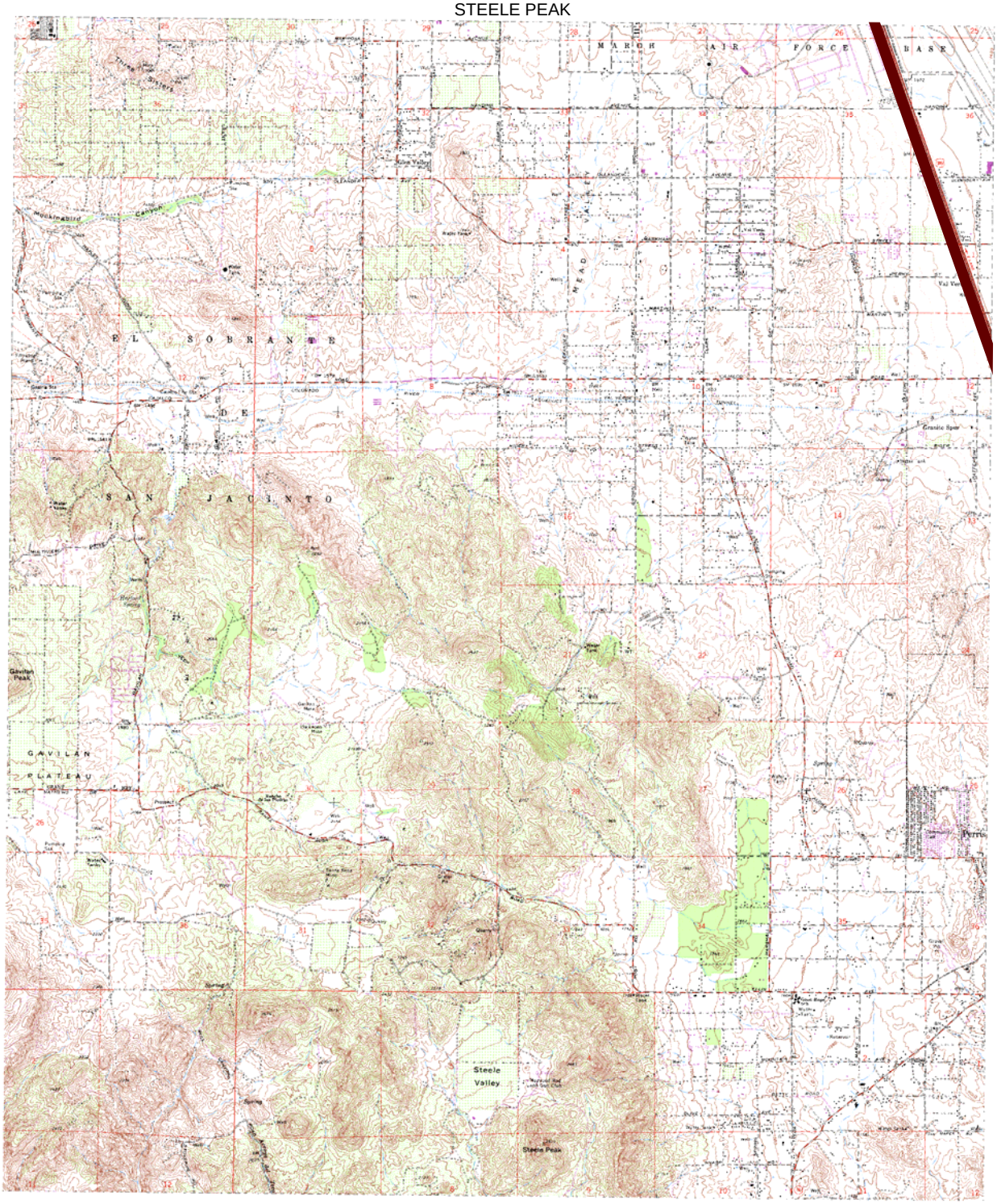
PROJECT NO.	92666
DRAWN:	12/21/09
DRAWN BY:	JP
CHECKED BY:	CC
FILE NAME:	92666quad2EIR.MXD

RIVERSIDE EAST
USGS 7.5' QUADRANGLE

HABITAT ASSESSMENT REPORT
RIVERSIDE COUNTY TRANSPORTATION COMMISSION
ENVIRONMENTAL IMPACT REPORT
RIVERSIDE, CALIFORNIA

FIGURE
1.2-3

STEELE PEAK



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

0 6,000 12,000 Feet

N

LEGEND

PVL ALIGNMENT

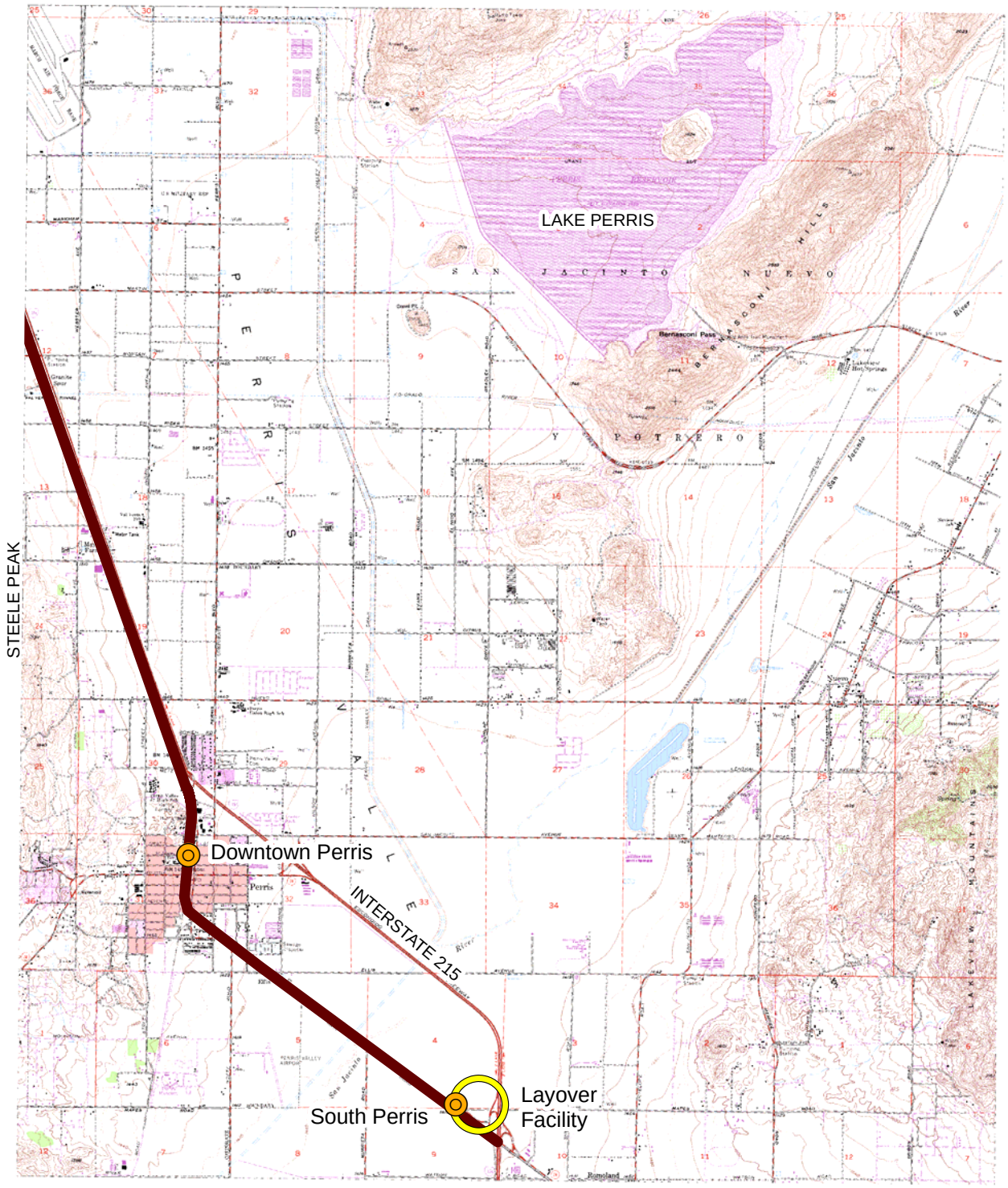
KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	92666
DRAWN:	9/18/09
DRAWN BY:	JP
CHECKED BY:	RM
FILE NAME:	92666quad3EIR.MXD

STEELE PEAK
USGS 7.5' QUADRANGLE

HABITAT ASSESSMENT REPORT
RIVERSIDE COUNTY TRANSPORTATION COMMISSION
ENVIRONMENTAL IMPACT REPORT
RIVERSIDE, CALIFORNIA

FIGURE
1.2-4



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

0 6,000 12,000 Feet

N

LEGEND

- PROPOSED STATION
- PVL ALIGNMENT

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	92666
DRAWN:	9/18/09
DRAWN BY:	JP
CHECKED BY:	RM
FILE NAME:	92666quad4EIR.MXD

PERRIS
USGS 7.5' QUADRANGLE

HABITAT ASSESSMENT REPORT
RIVERSIDE COUNTY TRANSPORTATION COMMISSION
ENVIRONMENTAL IMPACT REPORT
RIVERSIDE, CALIFORNIA

FIGURE
1.2-5

Table 1.2-1

Project USGS 7.5-minute Topographical Quadrangle Maps Information

Quadrangle Map	Township and Range	Section
Riverside East	T3S-R4W T2S-R4W T2S-R5W	3, 4, 10, 14, 15, 23, 26 18, 19, 20, 21, 28, 33 13, 23, 24, 26
San Bernardino South	T2S-R4W	7, 18
Steel Peak	T3S-R4W	26, 35, 36
Perris	T4S-R3W T4S-R4W T5S-R3W	18, 19, 30, 31, 32 12, 13 4, 5, 9

The study area consists of approximately 527 acres that include the existing right-of-way (ROW) for the BNSF and SJBL alignments, four stations and associated parking lots, and a layover facility. Detailed information regarding the project features, location, current ownership and land use, and project mile post (MP) locations are provided in Table 1.2-2. The MPs for the PVL project along the SJBL, as shown in Figure 1.2-6. A list of the Assessor's Parcel Numbers (APNs) can be found in Appendix A.

Table 1-1

Proposed Station and Connection Sites

Project Feature	Location	Current Ownership and Land Use	MP
BNSF mainline	From the Existing Riverside Downtown station, adjacent to Vine Street, to the Citrus Connection, immediately south of Villa Street	Owned by BNSF, currently used for rail operations	10.4 to 8.9 BNSF
Citrus Connection	Bounded by Citrus Street (south), Villa Street (north), BNSF (southwest) and SJBL (southeast) mainlines; in the City of Riverside	Privately owned vacant parcels	8.9 and 0.4 BNSF and SJBL, respectively
SJBL mainline	Bounded by the Citrus Connection at Villa Street to the intersection of Case Road and Mapes Road prior to the ramp for I-215	Owned by RCTC, currently used for freight operations	0.4 to 22.0 SJBL
Hunter Park Station sites: Palmyrita, Columbia, and Marlborough	Bounded by Palmyrita Avenue, Columbia Avenue, SJBL, Northgate Street for Palmyrita site; bounded by SJBL and Columbia Avenue for Columbia site; bounded by SJBL and Marlborough Avenue for Marlborough site	Palmyrita is privately owned parcel with abandoned warehouse facility Columbia currently has citrus trees and Marlborough is vacant.	1.2 SJBL
Moreno Valley/ March Field Station	Bounded by Alessandro Boulevard, Meridian Parkway, Cactus Avenue, and SJBL	Owned by the March Joint Power Authority, to be donated to RCTC, currently vacant	8.6 SJBL
Downtown Perris Station	Bounded by San Jacinto Avenue, 1st Street, 2nd Street, 3rd Street, 4th Street, C Street, D Street, and SJBL	RCTC owned but site partially developed by the Perris Intermodal Center development	18.2 SJBL
South Perris Station and Layover Facility	Bounded by Murrieta Road, Bonnie Drive, and Mapes, east of Case Road, prior to the ramp for I-215	One parcel owned by RCTC numerous others one privately owned, vacant parcels	20.9 SJBL South Perris 21.6 SJBL Layover Facility

1.3 PROJECT DESCRIPTION

The 2012 opening year of the PVL is proposing the construction of four stations, the Citrus Connection, a Layover Facility, and short stub-ended side tracks to be built now as part of the Maintenance-of-way Facility that will be eventually built. Each of the stations would be constructed at-grade, with 680-feet long side platforms. In addition to the platform, there will be a track-side canopy structure, ticket kiosks, schedule information, a shelter comprised of mast-supported roof planes (sloped to facilitate drainage), and decorative fencing to direct riders to the appropriate areas for either boarding or disembarking from trains. All parking areas would be at-grade. Each station and facility is described below in greater detail.

- Citrus Connection will connect the BNSF to the SJBL, a new approximately 2,000-foot long track will be constructed north of Springbrook Wash. It is located near the Highgrove area at Citrus Street.
- Hunter Park Station will be located at one of three proximate sites. The Palmyrita Station option is proposed for the east side of the SJBL main track at Iowa Avenue between Palmyrita and Columbia Streets. The Columbia and Marlborough Station options have been identified along the west side of the main track, with entry and exit from Columbia and Marlborough Streets, respectively. Any of these station options can accommodate parking for approximately 480 vehicles. Selection of the Palmyrita Station option also will require a new main track to be constructed east of the existing SJBL between Citrus Street and Marlborough Avenue to accommodate the station.
- Moreno Valley/March Field Station will be located south of Alessandro Boulevard on property owned by the March Joint Powers Authority and donated to RCTC for the purpose of constructing the station and parking lot. The associated parking area will have a capacity of approximately 445 vehicles.
- Downtown Perris Station is to be located between C and Fourth Streets at the existing Perris Multimodal Transit Facility. The only improvements to be undertaken by RCTC will include the expansion of the existing parking capacity by approximately 441 spaces and track realignment within the ROW to allow for proper spacing between the platform and the train. The Perris Multimodal Transit Facility currently includes eight bus bays and five canopies.
- South Perris Station will be located north of I-215 near the intersection of the SJBL ROW and State Route 74 (SR-74). Parking at this station will be provided for approximately 880 vehicles.
- Layover Facility will be located south of the South Perris Station and north of I-215. The Layover Facility will accommodate four 8-car trains arriving from Riverside in the afternoon. Trains will be stored overnight on the four storage tracks (approximately 800 feet in length), and will receive service, cleaning, and operational testing prior to morning departures. The Layover Facility will include an employee support building with modular offices, storage, parking, and a crew restroom and break room. The employee support building will be raised by six feet to remain out of the 100-year floodplain.
- Culvert Replacement and Extension: There are approximately 53 drainage culverts along the SJBL that were evaluated in an Existing Conditions Report (JL Patterson & Associates, Inc., 2008). Within this evaluation, it was identified that 30 drainage culverts will be replaced or extended as part of the project. Of the 30 identified for replacement, eight are treated wood box culverts and will be replaced with reinforced concrete boxes.

- Bridge Replacements: There are two bridges along the PVL corridor that require replacement, one at the San Jacinto River (MP 20.7) and a second at the San Jacinto River Overflow Channel (MP 20.8). The current San Jacinto River single track bridge is an open deck pile wooden trestle of 142 feet in length. The replacement bridge will be a pre-stressed concrete box girder superstructure with new abutments that will be precast concrete on steel piles. The San Jacinto Overflow Channel single track bridge (MP 20.8) is an open-deck pile wooden trestle. The existing structure is approximately 56 feet long. The replacement bridge will consist of precast pre-stressed concrete slabs with new abutments that will be precast concrete on steel piles.
- Grade Crossings: As required by the California Public Utilities Commission, modifications will be made to several grade crossings to ensure public safety and facilitate safe train movements. These modifications include improvements to several grade crossings, as well as the closure of other grade crossings. The proposed improvements include flashing warning devices and gates, raised center medians, striping, signage and pavement markings, crossing safety lighting, and pedestrian safety improvements.

1.4 ENVIRONMENTAL SETTING

The project study area is approximately 527 acres and includes approximately 24 miles of rail alignment between the Cities of Riverside, Moreno Valley, and Perris. The project features will include four proposed station sites, a layover facility, a maintenance-of-way facility (within the SJBL ROW), replacement of two bridges, and the Citrus Connection. The climate is relatively arid due to the rain shadow caused by the Santa Ana Mountains located west of the area. The climate in the County of Riverside is characterized by mild winters, hot and dry summers, and low average annual rainfall. The annual total precipitation has ranged from 2.15 inches to 7.35 feet in Riverside for seasons 2005 to 2009 (Weather Currents, 2009).

Topographically, the project area can generally be characterized as gently ascending from approximately 960 feet above mean sea level (MSL) in the northern end and rises to an approximate elevation of 1200 feet MSL near the University of California Riverside area. The elevation then increases to approximately 1500 feet MSL at Box Springs and continues to gently rise to approximately 1540 feet MSL. Topography remains generally level for the remaining project area with a gentle descent in elevation to 1415 MSL near the terminus in south Perris.

The existing railroad was built in the late 1880s and railroad related activities have occurred within the ROW since that time. Areas adjacent to the railroad right-of-way vary greatly, and range from relatively undisturbed parkland to developed residential areas, commercial and agricultural land uses. This chapter provides a description of the factors effecting habitat distribution and availability.

1.5 HYDROLOGICAL CHARACTERISTICS

The general drainage pattern within the study area of western Riverside County and its relation to the existing rail alignment is as follows. As the PVL alignment leaves the Citrus Connection and travels south, it forms the boundary between Islander Park and Box Springs Mountain and enters Box Springs Canyon. The general drainage is flowing east to west, out of Box Springs Mountains under the alignment onto lower ground towards the west. In Box Springs Canyon the general flow is along the canyon, parallel to the alignment. The alignment then exits Box

Springs Canyon and travels south into Perris Valley. In this area the alignment topography is relatively flat and runs along a set of hills on the western side of the valley. The drainage flows out of the hills from west to east across the alignment, then southwest towards the San Jacinto River. The San Jacinto River flows from the San Jacinto Mountains in the east, crosses under the alignment at the south end of Perris Valley and continues to flow down Railroad Canyon, into Canyon Lake, and on to Lake Elsinore.

1.5.1 *San Jacinto River*

The San Jacinto River originates in the San Jacinto Mountains and passes through the cities of San Jacinto, Perris, Canyon Lake, and Lake Elsinore and eventually to the Santa Ana River. The river is an important regional resource that provides water supply, wildlife habitat, drainage and recreation to the region. Flood control structures on the river consist of levees in the City of San Jacinto built by the Army Corps of Engineers in the early 1960s. In the 30-mile reach of the river between the City of San Jacinto and Lake Elsinore, only minor channelization exists. The river is characterized by expansive overflow areas, including Mystic Lake, in the upper watershed.

The San Jacinto River watershed upstream of the existing railroad bridges on the SJBL (MP 20.70 and 20.80) covers approximately 518 square miles (AECOM, 2009). Flow rates in the project area are significantly influenced by upstream detention provided by Mystic Lake and the wide flat topography that makes up the Perris Valley. The Perris Valley is extremely flat causing flood waters to move slowly and spread out over a broad area. The expanse of flooding in Perris Valley is further affected by the sudden constriction presented at the entrance to the upper end of Railroad Canyon located southwest of the City of Perris. The restriction of flow and flat topography of the valley causes a ponding situation and flood waters backup for a distance of over seven miles upstream.

Runoff in the upper valley flows to Mystic Lake, a natural sump formed by local subsidence. During large storms when water from the upper San Jacinto River overflows into the depression a lake forms. The lake is relatively shallow and has a large surface area. When full, Mystic Lake has been observed to maintain a substantial amount of volume with little or no transport back to the San Jacinto River. During torrential rainfall events or periods of extended rain, the storage capacity of the lake is exceeded resulting in outlflow to the San Jacinto River.

1.6 PROJECT AREA SOILS

The U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS), provide soil survey mapping units characterizing the types and distribution of soils within the PVL corridor. This information was taken from the Soil Survey of Western Riverside Area, California (NRCS, 1971). Detailed soil descriptions were developed from the soil survey publications (NRCS, 1971 and National Cooperative Soil Survey, 2008) and from the Official Soil Descriptions (NRCS, 2008). Specific site soils and their characteristics are shown in Table 1.6-1.

1.6.1 *BNSF Alignment*

According to the Soil Survey of Western Riverside Area California, there were five soil mapping units present within the BNSF Alignment. Four out of the five soils mapped in this area were

characterized as sandy loams including the Arlington fine (AoC), Buren fine (BuC2), Greenfield (GyC2), and Hanford Coarse (HcC). Each of the sandy loam soils were described as having 2 to 8 percent slopes, and eroded. Terrace escarpments (TeG) were also mapped within the BNSF alignment. Terrace escarpments are typically described with 30 to 75 percent slopes, and highly susceptible to water erosion.

1.6.2 *SJBL Alignment*

There are 38 soil mapping units present within the SJBL corridor. The majority of the soil types (approximately 80 percent) are classified as sandy loams, which generally have slow to moderately slow runoff and exhibit slight erosion potential; however, some hydric soils have formed in local areas due to soil saturation. There are two soil mapping units with a high susceptibility to erosion, Cieneba rocky sandy loam (CkF2) and Terrace escarpments (TeG). One soil series, Willow silty clay (Wf, Wg, Wm, and Wn), found within a one mile radius of the San Jacinto River crossing has a high shrink-swell potential.

1.6.3 *Citrus Connection*

Two soil mapping units are present within the Citrus Connection of the PVL corridor, (HcC) Hanford Coarse Sandy Loam and (TeG) Terrace Escarpments. HcC (2 to 8 percent slope) is prime farmland with slow runoff and slight erosion potential, while TeG (30 to 75 percent slope) presents severe water erosion potential.

1.6.4 *Hunter Park Station*

There were five soil mapping units present within the Hunter Park Station, which includes the sites at Palmyrita, Marlborough, and Columbia, all loams: Arlington fine sandy loam (AoC), Buren fine sandy loam (BuC2), Cieneba rocky sandy loam (CkF2), Greenfield sandy loam (GyC2), and Hanford coarse sandy loam (HcC). Three soils (AoC, BuC2, and CkF2) present moderate or moderate to severe erosion potential. All types are two to eight percent slopes, except for CkF2, which is 15 to 30 percent slope and present only at the Marlborough station option site.

1.6.5 *March Field / Moreno Valley Station*

There were four soil mapping units present on the March Field / Moreno Valley Station site, all loams: Cieneba rocky sandy loam (CkF2), which presents a moderate to severe erosion potential, and Monserate sandy loams (MmB, MmC2, and MmD2), for which erosion potential is slight. Slopes range from 15 to 30 percent with the Cieneba rocky sandy loam, and are 15 percent or less in the Monserate sandy loams.

1.6.6 *South Perris Station*

There are three soil mapping units present on the South Perris Station site are all Willows silty clays (Wg, Wm, and Wn). While water erosion potential is slight, these poorly to very poorly drained soils have high shrink-swell potential.

1.6.7 *Layover Facility*

There were two soil mapping units present on the Layover Facility site, both loams, are Exeter very fine sandy loam (EwB) and Madera fine sandy loam (MaA). Both present slight to moderate erosion potential. EwB exhibits very slow to moderate runoff, and MaA, which exhibits slow to moderate runoff, is an NRCS classified hydric soil.

Table 1.6-1

PVL Corridor Soil Mapping Units

Map Unit Symbol	Map Unit Name
AnC	Arlington fine sandy loam, 2 to 8 percent slopes
AoC	Arlington fine sandy loam, deep, 2 to 8 percent slopes (H)
BuC2	Buren fine sandy loam, deep, 2 to 8 percent slopes (H) *
ChF2	Cieneba sandy loam, 15 to 50 percent slopes, eroded
CkF2	Cieneba rocky sandy loam, 15 to 50 percent slopes eroded (H,M)
Dv	Domino silt loam, saline-alkali, hydric
Dw	Domino silt loam, strongly saline-alkali, hydric
EnA	Exeter sandy loam, 0 to 2 percent slopes
EnC2	Exeter sandy loam, 2 to 8 percent slopes, eroded
EpA	Exeter sandy loam, deep, 0 to 2 percent slopes
EpC2	Exeter sandy loam, deep, 2 to 8 percent slopes, eroded (D)
EwB	Exeter very fine sandy loam, 0 to 5 percent slopes (H) *
FbF2	Fallbrook fine sandy loam, shallow, 15 to 35 percent slopes, eroded
FkD2	Fallbrook fine sandy loam, shallow, 8 to 15 percent slopes, eroded
GyA	Greenfield sandy loam, 2 to 8 percent slopes
GyC2	Greenfield sandy loam, 2 to 8 percent slopes, eroded (H)
GyD2	Greenfield sandy loam, 8 to 15 percent slopes, eroded
HcC	Hanford coarse sandy loam, 2 to 8 percent slopes (C)
HcD2	Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
HgA	Hanford fine sandy loam, 0 to 2 percent slopes
MaA	Madera fine sandy loam, 0 to 2 percent slopes, hydric (L)
MmB	Monserate sandy loam, 0 to 5 percent slopes (M)
MmC2	Monserate sandy loam, 5 to 8 percent slopes, eroded (M)
MmD2	Monserate sandy loam, 8 to 15 percent slopes, eroded (M)
MmE3	Monserate sandy loam, 15 to 25 slopes, severely eroded
MnD2	Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded
PaA	Pachappa fine sandy loam, 0 to 2 percent slopes
PaC2	Pachappa fine sandy loam, 2 to 8 percent slopes, eroded
RaA	Ramona sandy loam, 0 to 2 percent slopes
RaB2	Ramona sandy loam, 2 to 5 percent slopes, eroded
RaB3	Ramona sandy loam, 0 to 5 percent slopes, severely eroded
RaD2	Ramona sandy loam, 8 to 15 percent slopes, eroded
RtF	Rockland
TeG	Terrace escarpments (C)
Wf	Willows silty clay
Wg	Willows silty clay, saline-alkali (S)
Wm	Willows silty clay, deep, saline-alkali (S)
Wn	Willows silty clay, deep, strongly saline-alkali (S)
Notes:	*All soils are found throughout the corridor along the SJBL alignment, except where indicated by an asterisk; such soils are found only at the indicated locations; Hunter Park Station options (H), Downtown Perris Station (D), March Field/Moreno Valley Station (M), South Perris Station (S), Layover Facility (L), and the Citrus Connection (C).*
Source: Soil Survey of Western Riverside Area California (NRCS, 2008)	

2.0 MSHCP SETTING

The Western Riverside County MSHCP is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on conservation of species and their associated habitats in Western Riverside County. The MSCHP is one of several large, multi-jurisdictional habitat-planning efforts in southern California with the overall goal of maintaining biological and ecological diversity within a rapidly urbanizing region. The MSHCP was created to allow Riverside County and its Cities to better control local land-use decisions and maintain a strong economic climate in the region while addressing the requirements of the state and federal Endangered Species Acts.

The MSHCP Plan Area encompasses approximately 1.26 million acres (1,966 square miles); it includes all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line, as well as the jurisdictional areas of the Cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, and San Jacinto. It covers multiple species and multiple habitats within a diverse landscape, from urban centers to undeveloped foothills and montane forests, all under multiple jurisdictions. It extends across many Bioregions as well, including the Santa Ana Mountains, Riverside Lowlands, San Jacinto Foothills, San Jacinto Mountains, Agua Tibia Mountains, Desert Transition, and San Bernardino Mountains. It seeks to provide a coordinated MSHCP Conservation Area and implementation program to preserve biological diversity and maintain the region's quality of life.

The MSHCP serves as an HCP pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act of 1973, as well as a Natural Communities Conservation Planning (NCCP) Act of 2001. The MSHCP is used to allow the participating jurisdictions to authorize "Take" of plant and wildlife species identified within the MSHCP area. The United States Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) have authority to regulate the take of Threatened, Endangered, and rare Species. Under the MSHCP, the USFWS and CDFG will grant "Take Authorization" for otherwise lawful actions -- such as public and private development that may incidentally Take or harm individual species or their Habitat outside of the MSHCP Conservation Area -- in exchange for the assembly and management of a coordinated MSHCP Conservation Area.

The MSHCP is an element of Riverside County Integrated Plan to conserve open space, nature preserves and wildlife to be set aside in some areas. It is designed to protect over 150 species and conserve over 500,000 acres in Western Riverside County.

Area Plan boundaries were selected to provide the broad organizational framework for the criteria within a defined area. According to the MSHCP the Area Plan boundaries are based on the following three criteria: identification of (1) planning species, (2) biological issues and consideration, and (3) reserve configuration and management issues. For each Area Plan, several wildlife and plant species known to occur within the Area Plan were selected as planning species. Listed species and species with specific habitat requirements were generally selected as planning species. Biological issues and considerations, such as maintenance of key habitat blocks (cores) and/or connections between habitat blocks (linkages), were also identified for each Area Plan. Reserve configuration issues pertain to the cores and linkages within that boundary.

The MSHCP requires that a project applicant relate the project to the MSHCP Conservation Area description and applicable cores and linkages, and identify the specific Area Plan(s) and Subunit(s) as well as the specific planning species, biological issues and considerations that may apply to the proposed project. The MSHCP further stipulates that the specific criteria for the identified cell(s) or cell group(s) the project is located in should be reviewed.

2.1 PROJECT RELATIONSHIP TO THE MSHCP

The study area resides in the Riverside Lowlands Bioregion. This Bioregion is characterized by the Riversidian sage scrub and annual grassland vegetation along with high levels of disturbance with habitat fragmentation and urbanization. The Riverside Lowlands Bioregion accounts for 55% of the MSHCP area. The Riverside Lowlands Bioregion supports more existing development and agriculture than the other Bioregions, accounting for approximately 50% of the total vegetation community, yet the other natural vegetation types account for a substantial acreage of the Bioregion (MSHCP, 2003).

Upon review of the MSHCP Area Plans, the PVL project appears to transect multiple Area Plans to include the Cities of Riverside and Norco Area Plan, Highgrove Area Plan, March Area Plan, Mead Valley Area Plan, and the Harvest Valley / Winchester Area Plan.

Portions of Area Plans contain Area Plan Subunits that have targeted conservation acreages established based on planning species, biological issues and considerations, and criteria. Several Area Plan Subunits also appear to apply to the PVL project. Within the Cities of Riverside and Norco Area Plan, the Sycamore Canyon West, Subunit 2 is located adjacent to the PVL alignment. Within the Highgrove Area plan the PVL project bisects the Sycamore Canyon/Box Springs Central, Subunit 1. Lastly, within the Mead Valley Area Plan, the PVL alignment intersects the San Jacinto River Lower, Subunit 4.

2.2 LOCATION OF THE STUDY AREA WITHIN MSHCP CRITERIA CELLS

Criteria Cells are units within a Criteria Area generally 160 acres in size that have specific conservation objectives to meet. The study area borders and bisects a total of five Criteria Cells in two of the five Area Plans, the Highgrove Area Plan and the Mead Valley Area Plan . Criteria Cells within the Highgrove Area Plan, Sycamore Canyon/Box Springs Central Subunit 1 includes 545, 635 and 721; and within the Mead Valley Area Plan, San Jacinto River Lower Subunit 4 are cells 3276 and 3378. Table 2.2-1 summarizes the conservation criteria for each Criteria Cell in the study area and the PVL project's relationship to the Cell.

Table 2.2-1
MSHCP Conservation Criteria for PVL Project Applicable Criteria Cells

Cell Number	Conservation Criteria	PVL Study Area Relationship
Highgrove Area Plan: Sycamore Canyon/Box Springs Central Subunit 1		
545	Conservation within Cell# 545 will contribute to assembly of Proposed Constrained Linkage 7. Conservation within this Cell will focus on coastal sage scrub habitat. Areas conserved within this Cell will be connected to coastal sage scrub habitat proposed for conservation to the south in Cell# 635. Conservation within Cell# 545 will range from 15%-25% of the southeastern portion of the Cell.	The existing railroad tracks have historically bisected the cell. The PVL project does not propose to alter the existing rail footprint in this area; therefore the project does not conflict with the conservation objectives of the cell.
635	Conservation within Cell# 635 will contribute to assembly of Proposed Constrained Linkage 7. Conservation within this Cell will focus on coastal sage scrub habitat. Areas conserved within Cell# 635 will be connected to coastal sage scrub habitat proposed for conservation to the south in Cell# 721 and to the north in Cell# 545. Conservation within this Cell will range from 25%-35% of the central portion of the Cell.	The existing railroad tracks have historically bisected the cell. The PVL project does not propose to alter the existing rail footprint in this area; therefore the project does not conflict with the conservation objectives of the cell.
721	Conservation within Cell# 721 will contribute to assembly of Proposed Constrained Linkage 7. Conservation within this Cell will focus on coastal sage scrub habitat and riparian scrub, woodlands and forests. Areas conserved within this Cell will be connected to coastal sage scrub habitat proposed for conservation to the north in Cell# 635 and to the west in Cell# 719 in the City of Riverside. Conservation within Cell# 721will range from 35%-45% of the northeastern and central portions of the Cell.	The existing railroad tracks have historically bisected the cell. The PVL project does not propose to alter the existing rail footprint in this area; therefore the project does not conflict with the conservation objectives of the cell.
Mead Valley Area Plan: San Jacinto River Lower Subunit 4		
3276	Conservation within Cell# 3276 will contribute to assembly of Proposed Constrained Linkage 19. Conservation within Cell# 3276 will focus on assembly of grassland habitat associated with the San Jacinto River. Areas conserved within Cell# 3276 will be connected to grassland habitat and agricultural land proposed for conservation in Cell# 3277 to the east and to agricultural land proposed for conservation in Cell# 3378 to the south. Conservation within Cell# 3276 will range from 45%-55% of the Cell focusing in the southern portion of the Cell.	The existing railroad tracks have historically intersected this cell. The project proposes track upgrades in this cell area and the replacement of two bridges over the San Jacinto River and Overflow Channel. The track upgrades proposed do not change the footprint of the existing track, and the bridges are proposed as replacements of existing structures; therefore the project does not conflict with the conservation objectives of the cell.
3378	Conservation within Cell# 3378 will contribute to assembly of Proposed Constrained Linkage 19. Conservation within Cell# 3378 will focus on assembly of agricultural land associated with the San Jacinto River. Areas conserved within this Cell will be connected to agricultural land proposed for conservation in Cell# 3377 to the west, to grassland habitat proposed for conservation in Cell# 3276 to the north, and to agricultural land proposed for conservation in Cell# 3277 to the northeast. Conservation within Cell# 3378 will range from 30%-40% of the Cell focusing in the northwestern portion of the Cell.	The existing railroad tracks have historically intersected this cell. The project proposes track upgrades in this cell area and the replacement of two bridges over the San Jacinto River and Overflow Channel. The track upgrades proposed do not change the footprint of the existing track, and the bridges are proposed as replacements of existing structures; therefore the project does not conflict with the conservation objectives of the cell.

2.3 PROJECT RELATIONSHIP TO MSHCP CORES AND LINKAGES

The MSHCP defines a Core as being a block of habitat of appropriate size, configuration, and vegetation characteristics to generally support one or more covered species. A Linkage is defined as a connection between Core areas with adequate size, configuration and vegetation characteristics to generally provide for "Live-In" habitat and/or provide for genetic flow for identified planning species. Live-In habitat contains the necessary components to support key life history requirements of a species; e.g., year-round habitat for permanent residents or breeding Habitat for migrant species.

The MSHCP identified Existing Noncontiguous Habitat Block A within the study area 1,400 feet east of the SJBL line between Marlborough and Spruce Streets. Proposed Constrained Linkage 7 and 8 are within the study area crossing the I-215 and SJBL line at Poarch Road and located 1,000 feet east of SJBL line at Big Springs Road, respectively. The MSHCP also identified Existing Core D at two locations within the study area; to the west of I-215 and SJBL line at Central Avenue and Gernert Road, and less than 500 feet south of the Moreno Valley / March Field Station site. The southern portion of the study area, within the City of Perris, identified Proposed Noncontiguous Habitat Block 4 is located approximately 1,500 feet west of I-215 and the SJBL line. Also in the southern portion MSHCP identified Proposed Constrained Linkage 19 that crosses the SJBL line (east and west of I-215) at the San Jacinto River. Below provides a short description of each Core and Linkage, including connections and species provided for with live-in and/or movement habitat. MSHCP Cores and Linkages within the PVL project study. Table 2.3-1 summarizes the MSHCP Cores and Linkages within or adjacent to the PVL corridor and the PVL project's relationship to them, as well as the planning species involved.

Existing Noncontiguous Habitat Block A consists of the Box Springs Mountains, located in the extreme northern region of the Cities of Riverside and Norco Area Plan. This Block includes two pieces of land connected to each other by Proposed Constrained Linkage 8 and in turn connected to other MSHCP conserved lands via Proposed Constrained Linkage 7 and Proposed Linkage 4. It provides Live-In Habitat for species, and it likely contains movement Habitat for common mammals such as bobcat. It is partially constrained by existing urban development and is surrounded by a city planned land use designation.

Proposed Constrained Linkage 7 is comprised of upland Habitat in the vicinity of Central Avenue. It is the only connection from Sycamore Canyon Park to Box Springs Reserve. This Linkage is important for species dispersal and would reduce the likelihood of species extinction as a result of population isolation. Habitat Planning Species such as cactus wren and Bell's sage sparrow occurs within this Linkage. This Linkage likely provides for movement of common mammals such as bobcat. The Linkage is constrained by existing urban development and roadways.

Proposed Constrained Linkage 8 is comprised of upland Habitat in the Pigeon Pass Valley and connects to two existing Noncontiguous Habitat Blocks in the Box Springs Mountain area. Planning species such as cactus wren and bobcat may occur. This Linkage likely provides for movement of common mammals such as bobcat. Maintenance of contiguous Habitat with appropriate refugia for resting, such as rockpiles, brushpiles, windfalls, hollow snags and hollow trees, is important for dispersal of juveniles. This Linkage is constrained by planned Rural Mountainous development to the north.

Existing Core D consists of Sycamore Canyon Park and is the most isolated of all proposed and existing cores. It is connected to Existing Noncontiguous Habitat Block A via Proposed Constrained Linkage 7. The Core provides Live-In Habitat for the granite spiny lizard and likely provides movement Habitat for bobcat. Management entities in this existing Core include March Joint Powers Authority and the City of Riverside Park and Recreation Department.

Proposed Noncontiguous Habitat Block 4 is comprised of the Motte Rimrock Reserve. It provides habitat for a number of Planning Species, including Quino checkerspot butterfly, coastal California gnatcatcher, and Stephens' kangaroo rat (SKR). Maintenance of large intact interconnected habitat blocks is important for these species. Activities associated with proposed adjacent land uses such as fire, fire suppression, off-road vehicle use and landscaping with exotic invasive species may be harmful to SKR.

Proposed Constrained Linkage 19 (Lower San Jacinto River) is located approximately in the center of the Mead Valley Area Plan. This Linkage connects Proposed Linkage 7 in the southwest with Proposed Extension of Existing Core 4 (San Jacinto River Core) in the northeast. Existing agricultural use and a small amount of existing urban development constrain the Linkage along much of its length. Although the river will be channelized for flood control, the Linkage will nonetheless maintain connectivity along the river and provide for movement of common mammals such as bobcat. Narrow Endemic Plant Species (NEPS) are known to occur near San Jacinto River.

Table 2.3-1
PVL Project Applicable MSHCP Cores and Linkages

Feature	Planning Species	PVL Study Area Relationship to Feature	Adjacent General Plan Land Use	Covered Activities Potentially Affecting Feature
Existing Noncontiguous Habitat Block A	southern California rufous-crowned sparrow, Bell's sage sparrow, cactus wren, loggerhead shrike, SKR, bobcat, and Nevin's barberry	1,400 ft east of SJBL Line between Marlborough and Spruce Streets (Box Springs Mountain Reserve)	Rural Mountainous, City (Riverside, Moreno Valley), Open Space/ Conservation	Pigeon Pass Road, San Bernardino to Moreno Valley CETAP Corridor
Proposed Constrained Linkage 7	Bell's sage sparrow, cactus wren, and bobcat	Crosses SJBL Line and I-215 at Poarch Road	City (Riverside) and Community Development	I-215
Proposed Constrained Linkage 8	southern California rufous-crowned sparrow, Bell's sage sparrow, cactus wren, loggerhead shrike, and bobcat	1,000 ft east of SJBL Line at Big Springs Road	Rural Mountainous and Open Space/ Conservation	None
Existing Core D	Wilson's warbler	West of I-215 and SJBL Line at Central Avenue and Gernert Road; Less than 500 ft south of the Moreno Valley/ March Field Station (Sycamore Canyon Park)	City (Riverside), Community Development	Alessandro Boulevard
Proposed Constrained Linkage 19	mountain plover, loggerhead shrike, white-faced ibis, bobcat, Los Angeles pocket mouse, San Jacinto Valley crownscale, Davidson's saltscale, thread-leaved brodiaea, vernal barley, Coulter's goldfields, spreading navarretia, and Wright's trichocoronis	Crosses the SJBL Line along the Lower San Jacinto River	City (Perris)	Ethanac Road, I-215
Proposed Noncontiguous Habitat Block 4	Bell's sage sparrow, cactus wren, coastal California gnatcatcher, SKR, and long-spined spine flower	1,500 ft west of I-215 and SJBL Line (Motte Rimrock Reserve)	Community Development and Rural	None

2.4 OTHER MSHCP FEATURES

The southern portion of the study area (within Perris) is located within the MSHCP NEPS Survey Area. However, this portion of the NEPS Survey Area is also included within the boundary of Covered Activity for the San Jacinto River project. The study area is also located within the Burrowing Owl Survey Area. The study area is not located within any other special survey areas under the MSHCP. The proposed PVL project is considered a covered activity under MSHCP Section 7.0, *Covered Activities*, Section 7.3.7, *Flood Control Facilities, San Jacinto River Flood Control Project*, of the MSHCP.

3.0 LITERATURE AND DATABASE REVIEW

Assessment of the potential occurrence of special-status species along the project study area was based on available information on species-specific distribution and the presence of suitable habitat. Prior to conducting the field reconnaissance, a review of reasonably available literature and databases was performed to identify special-status species and/or sensitive habitats that may be present at or adjacent to the site, as well as identify habitat conservation plans (HCPs) or natural community conservation plans that may apply to the study area beyond the MSHCP. Special-status species in this report are those listed as endangered, threatened, rare, or candidates for listing by the USFWS, CDFG and/or the California Native Plant Society (CNPS). The following sections provide a description of the findings from the literature and database review. The MSHCP setting was previously discussed in Chapter 2.0.

3.1 SPECIAL-STATUS PLANT SPECIES

The 7.5-minute topographical quadrangle maps provided the boundaries for listed species for database searches of the California Natural Diversity Database (CNDDB), the USFWS electronic database, and the CNPS Online Inventory of Rare Plants. The MSHCP was reviewed for listed special-status plant species along the PVL study area within: Area Plans and Subunits, Criteria Cells, Cores and Linkages, Narrow Endemic Plant Species (NEPS), and Riparian/Riverine Areas. These database searches resulted in thirty-two special-status plant species with listed occurrences or potential to occur within the study area. Search results are summarized in Table 3.1-1.

3.1.1 *Narrow Endemic Plant Species*

The southern portion of the study area, which resides within the City of Perris, is located within NEPS Survey Area 3 of the MSHCP. The MSHCP NEPS list includes fourteen species; however, only seven species are listed as potentially occurring within the PVL study area. These seven special-status plant species include: California Orcutt grass (*Orcuttia californica*), Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), slender-horned spin flower (*Dodecahema leptoceras*), spreading navarretia (*Navarretia fossalis*), vernal barley (*Hordeum intercedens*), and Wright's trichocoronis (*Trichocoronis wrightii var. wrightii*). These plant species are identified in Table 3.1-1, and noted with 'NEPS'.

3.1.2 *Riparian / Riverine Plant Species*

The MSHCP also protects riparian/riverine areas and vernal pools within its boundaries. Protection of these areas is important to the conservation of twenty-three identified plant species. Eight of these species have the potential to occur within the PVL study area and include: California Orcutt grass (*Orcuttia californica*), San Jacinto Valley crownscale (*Atriplex coronata var. notatior*), Santa Ana River woollystar (*Eriastrum densifolium ssp. sanctorum*), slender-horned spineflower (*Dodecahema leptoceras*), smooth tarplant (*Centromadia pungens ssp. laevis*), spreading navarretia (*Navarretia fossalis*), thread-leaved brodiaea (*Brodiaea filifolia*), and vernal barley (*Hordeum intercedens*). These plant species are identified in Table 3.1-1, and noted with an 'R'.

Table 3.1-1

Listed Sensitive Plant Species

Plant Species	Recorded in the CNDDB	Recorded in the CNPS	Federal/ State Covered Species	MSHCP Covered Species
California Orcutt grass *Orcuttia californica*		1B.1	FE/SE	X[R, NEPS]
Chaparral ragwort *Senecio aphanactis*		2.2		
Chaparral sand verbena Abronia villosa var. aurita	X	1B.1		
Coachella Valley milk-vetch *Astragalus lentiginosus var. coachellae*		1B.2	FE	
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	X	1B.1		X
Davidson's saltscale *Atriplex serenana var. davidsonii*		1B.2		X
Gambel's water cress *Nasturtium gambelii*	X	1B.1	FE/ST	
Little mousetail *Myosurus minimus ssp. Apus*	X	3.1		X
Long-spined spine flower *Chorizanthe polygonoides var. longispina*	X	1B.2		X
Marsh sandwort *Arenaria paludocola*	X	1B.1	FE/SE	
Moran's navarretia *Navarretia fossalis*	X	1B.1	FE	
Munz's Onion *Allium munzii*	X	1B.1	FE/ST	X[NEPS]
Nevin's barberry *Berberis nevinii*	X	1B.1	FE/SE	X
Palmer's grapplinghook *Harpagonella palmeri*	X	4.2		X
Parish's brittlescale *Atriplex parishii*	X	1B.1		X
Parish's desert-thorn *Lycium parishii*	X	2.3		
Parry's spine flower *Chorizanthe parryi var. parryi*	X	1B.1		X
Payson's jewelflower *Caulanthus simulans*	X	4.2		X
Plummer's mariposa lily *Calochortus plummerea*	X	1B.2		X
Robinson's pepper-grass *Lepidium virginicum var. robinsonii*	X	1B.2		X
Salt marsh bird's-beak *Cordylanthus maritimus ssp. Maritimus*	X	1B.2	FE/SE	
San Diego ambrosia/dwarf burr ambrosia *Ambrosia pumila*		1B.1	FE	X[NEPS]

Table 3.1-1 (Continued)
Listed Sensitive Plant Species

Plant Species	Recorded in the CNDDB	Recorded in the CNPS	Federal/ State Covered Species	MSHCP Covered Species
San Jacinto Valley crownscale *Atriplex coronata var. notatior*	X	1B.1	FE	X^{R}
Santa Ana River woollystar *Eriastrum densifolium ssp. sanctorum*	X	1B.1	FE/SE	X^{R}
Slender-horned spine flower *Dodecahema leptoceras*	X	1B.1	FE/SE	$X^{R, NEPS}$
Smooth tarplant *Centromadia pungens ssp. laevis*	X	1B.1		X^{R}
South Coast saltscale *Atriplex pacifica*	X	1B.2		
Spreading navarretia *Navarretia fossalis*		1B.1	FT	$X^{R, NEPS}$
Thread-leaved brodiaea *Brodiaea filifolia*	X	1B.1	FT/ SE	X^{R}
Triple-ribbed milk-vetch *Astragalus tricarinatus*		1B.2	FE	
Wright's trichocoronis *Trichocoronis wrightii var. wrightii*	X	2.1		X^{NEPS}
Vernal Barley *Hordeum intercedens*		3.2		X^{R}

Notes:

California Native Plant Society:
1B – Plants rare and endangered in California
2 – Plants rare, threatened or endangered in California, but more common elsewhere
3 – Plants need more information, a review list
4 – Plants of limited distribution, a watch list
.1 – Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 – Fairly endangered in California (20-80% of occurrences threatened)
.3 – Not very endangered in California (less than 20% of occurrences threatened or no current threats known)

Federal and State Designations:
FE – Federally-listed Endangered
FT – Federally-listed Threatened
SE – State-listed Endangered
ST – State-listed Threatened

Western Riverside County Multiple Species Habitat Conservation Plan:
X^{R} – Riparian/Riverine Areas
X^{NEPS} – Narrow Endemic Plant Species (NEPS)

Sources: USFWS, CNDDB, CNPS, and MSHCP

3.2 SPECIAL-STATUS WILDLIFE SPECIES

The 7.5-minute topographical quadrangle maps provided the boundaries for listed species for database searches of the CNDDB, and the USFWS electronic database. The MSHCP was reviewed for listed special-status species along the PVL study area within: Area Plans and Subunits, Criteria Cells, Cores and Linkages, and Riparian/Riverine Areas. The database searches resulted in thirty-two special-status wildlife species listed as occurring or having the potential to occur within the PVL corridor, and are listed in Table 3.2-1. Note that the table also includes species that may not be specifically special-status species but are considered in this review because they are components of the MSHCP criteria.

Table 3.2-1
Listed Special-Status Wildlife Species

Wildlife Species	Recorded in the CNDDB	Federal/ State Covered Species	MSHCP Covered Species	Area Plans Planning Species	Cores & Linkages Planning Species
Invertebrates/Insects					
Quino checkerspot butterfly *Euphydryas editha quino*		FE	X		
Riverside fairy shrimp *Streptocephalus woottoni*		FE	X^{R}		
Vernal pool fairy shrimp *Branchinecta lynchi*		FT	X^{R}	$X^{MV,4}$	
Fish					
Arroyo chub *Gila orcutti*	X	SSC	X		
Santa Ana sucker *Catastomus santaanae*	X	FT/SSC	X^{R}		
Amphibians					
Arroyo toad *Bufo californicus*		FE/SSC	X^{R}		
California red-legged frog *Rana aurora draytonii*		FT/SSC	X^{R}		
Mountain yellow-legged frog *Rana aurora draytonii*		FE/SP, SSC	X^{R}		
Western spadefoot toad *Scaphiopus hammondii*	X	SSC	X		
Reptiles					
Belding's orange-throated whiptail *Cnemidophorus hyperythrus beldingi*	X	SSC	X		
Coastal western whiptail *Cnemidophorus tigris multiscutatus*	X		X		
Northern red-diamond rattlesnake *Crotalus rubber ruber*	X	SSC	X		
San Diego horned lizard *Phrynosoma coronatum*	X	SSC	X		
Southwestern pond turtle *Actinemys marmorata pallida*	X	SSC	X		

Table 3.2-1 (Continued)
Listed Special-Status Wildlife Species

Wildlife Species	Recorded in the CNDDB	Federal/ State Covered Species	MSHCP Covered Species	Area Plans Planning Species	Cores & Linkages Planning Species
Birds					
Bald eagle *Haleaeetus leucocephalus*	X	FT/SE, SP	X[R]		
Bell's sage sparrow *Amphispiza belli belli*	X	SSC	X	X[HG,1 MV,1]	X[1, 2, 3, 5]
Burrowing owl *Athene cunicularia hypugaea*	X	SSC	X		
Cactus wren *Campylorhynchus brunneicapillus*		SSC	X	X[HG,1 MV,1]	X[1, 2, 3, 5]
California horned lark *Eremophila alpestris actia*	X	SSC	X		
Coastal California gnatcatcher *Polioptila californica californica*	X	FT/SSC	X	X[MV,1]	X[5]
Cooper's hawk *Accipiter cooperii*	X	SSC	X		
Least Bell's vireo *Vireo bellii pusillus*	X	FE/SE	X[R]		
Loggerhead shrike *Lanius ludovicianus*	X	SSC	X	X[MV,4]	X[1, 3, 6]
Long-eared owl *Asio otus*	X	SSC	X		
Mountain plover *Charadrius montanus*		PT/SSC	X	X[MV,4]	X[6]
Peregrine falcon *Falco peregrinus*		SE/SSC	X[R]		
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	X	SSC	X		X[1, 3]
Southwestern willow flycatcher *Empidonax traillii extimus*		FE/SE	X[R]		
Tricolored blackbird *Agelaius tricolor*	X	SSC	X		
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	X	SE	X[R]		
White-faced ibis *Plegadis chihi*		SSC	X	X[MV,4]	X[6]
White-tailed kite *Elanus leucurus*	X	SP	X		
Wilson's warbler *Wilsonia pusilla*			X		X[4]
Yellow-breasted chat *Icteria virens*	X	SSC	X		

Table 3.2-1 (Continued)
Listed Special-Status Wildlife Species

Wildlife Species	Recorded in the CNDDB	Federal/ State Covered Species	MSHCP Covered Species	Area Plans Planning Species	Cores & Linkages Planning Species
Mammals					
American badger *Taxidea taxus*	X	SSC	X		
Bobcat *Lynx rufus*			X	$X^{HG,1}$	$X^{1, 2, 3, 6}$
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	X	SSC	X	$X^{MV,4}$	X^{6}
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	X	SSC	X		
Pocketed free-tailed bat *Nyctinimops femorosaccus*	X	SSC	X		
San Bernardino kangaroo rat *Dipodomys merriami parvus*	X	FE/SSC	X		
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	X	SSC	X		
San Diego desert woodrat *Neotoma lepida intermedia*	X	SSC	X		
Southern grasshopper mouse *Onychomys torridus Ramona*	X	SSC	X		
SKR *Dipodomys stephensi*	X	FE/ST	X	$X^{MV,1}$	$X^{1, 5}$
Western mastiff bat Eumops perotis californicus	X	SSC	X		

Notes:

Federal and State Designations:
FE – Federally-listed Endangered
FT – Federally-listed Threatened
SE – State-listed Endangered
ST – State-listed Threatened
SSC – California or CDFG Species of Special Concern
SP – Fully Protected by Fish and Game Commission and/or the CDFG

Western Riverside County Multiple Species Habitat Conservation Plan:
X^{R} – Riparian/Riverine Areas
$X^{RN,2}$ – Cities of Riverside and Norco Area Plan, Subunit 2: Sycamore Canyon – West
$X^{HG,1}$ – Highgrove Area Plan, Subunit 1: Sycamore Canyon / Box Springs – Central
$X^{MV,1}$ – Mead Valley Area Plan, Subunit 1: Motte-Rimrock
$X^{MV,4}$ – Mead Valley Area Plan, Subunit 4: San Jacinto River – Lower
X^{1} – Existing Noncontiguous Habitat Block A
X^{2} – Proposed Constrained Linkage 7
X^{3} – Proposed Constrained Linkage 8
X^{4} – Existing Core D
X^{5} – Existing Noncontiguous Habitat Block 4
X^{6} – Proposed Constrained Linkage 19

Sources: USFWS, CNDDB and MSHCP

3.3 STEPHENS' KANGAROO RAT HABITAT CONSERVATION PLAN

The Stephens' Kangaroo Rat Habitat Conservation Plan (SKRHCP) has been administered by the Riverside County Habitat Conservation Agency, a joint exercise of powers agency comprised of Riverside County, and the Cities of Hemet, Lake Elsinore, Moreno Valley, Perris, Riverside, Corona, Murrieta, and Temecula since 1996. The SKRHCP area encompasses approximately 533,954 acres including areas of open space, developed areas, and agricultural land uses.

The SKRHCP established seven permanent core area reserves for SKR, one of which is in the vicinity of the proposed PVL project. The Sycamore Canyon-March Air Force Base Core Reserve is located west of I-215 and the existing rail corridor. The SKR area reserve covers approximately 2,502 acres across two components. The proposed Moreno Valley / March Field Station is situated south of Alessandro Boulevard, and therefore falls outside of the SKR Core Reserve Area. Although the project corridor and station site are outside the SKR Core Reserve Area, they are located within the SKR Fee Area. Projects located within the fee area may be required to pay mitigation fees based on the area impacted.

4.0 FIELD RECONNAISSANCE

4.1 METHODOLOGY

Kleinfelder biologists conducted a series of reconnaissance level field surveys along the PVL study area April 14 through April 18, 2008; October 29, 2008; February 18 through February 20, 2009, May 14, 2009; and May 27 through May 28, 2009. The study area included evaluation of the BNSF and SJBL alignments, as well as each of the four station sites and facilities. Pedestrian surveys were conducted along the perimeter and within the interior of the proposed station sites using several randomly chosen transects. The length of the existing BNSF and SJBL alignments were surveyed along the ROW, via vehicle where habitat communities were developed and/or highly disturbed, and on foot in areas which exhibited potential for sensitive resources.

During the field reconnaissance, biologists recorded observed plant and animal species and classified vegetation communities and habitats. Plant species were identified in the field using the best observed samples or collected and later inspected and keyed to species level where possible. Scientific nomenclature and common names of plants follow *The Jepson Manual – Higher Plants of California* (Hickman, 1993). Aerial photographs were utilized in the field to aid in mapping vegetation communities and observed species. Presence of wildlife species was assessed through direct observation aided by binoculars or by calls, tracks, scat, pellets or other sign. Scientific nomenclature and common names for vertebrate species followed *Field Guide to Western Reptiles and Amphibians* (Stebbins, 2003), *The Sibley's Guide to Birds* (Sibley, 2000), and *A Field Guide to Mammals* (Burt, 1998).

This habitat assessment was performed to assess potential habitat for special-status species along the PVL study area. Focused, protocol level, or nocturnal surveys were not conducted as a part of this general habitat assessment. Multiple reconnaissance surveys during various seasons were also not conducted; therefore, some annual plant species may not have been identifiable and migratory species which could potentially use the sites on a seasonal basis may not have been detected during this evaluation.

Habitat present at each of the PVL study area locations or reaches are presented in the following format: General Habitat Description, Observed Sensitive Plant Species, and Observed Sensitive Wildlife Species.

4.2 HABITAT COMMUNITIES

Habitat communities observed along the site were described using the vegetation communities as defined in the MSHCP. Detailed vegetation community descriptions can be found in the MSHCP. A brief summary of vegetation community descriptions used in this report is presented below.

4.2.1 *Developed/Disturbed Land*

Developed or disturbed lands consist of areas that have been disced, cleared, or otherwise altered. Developed lands may include roadways, existing buildings, and structures. Disturbed lands may include ornamental plantings for landscaping, escaped exotics, or ruderal vegetation

dominated by non-native, weedy species such as mustard (*Brassica* sp.), fennel (*Foeniculum vulgare*), tocalote (*Centaurea melitensis*), and Russian thistle (*Salsola tragus*).

4.2.2 *Agriculture*

Agricultural lands include areas occupied by dairies and livestock feed yards or areas that have been tilled for use as croplands or groves/orchards. Approximately 13.5 percent of the Plan Area (169,480 acres) consists of agricultural lands. The largest areas of dairy and livestock feed yards are located north of San Jacinto and north of Juniper Flats in the communities of Lakeview, Mystic Lake, Nuevo, southeast Perris, Eastvale, Lake Norconian off of Bellegrave Avenue, Norco, and in Glen Avon. Field croplands are mapped extensively throughout the Plan Area. The largest areas are around SR-371 in the vicinity of Anza; in an east-west strip from Murrieta Hot Springs; through French Valley; Antelope Valley; Paloma Valley; Menifee Valley; Winchester; Domenigoni Valley to West Hemet; the Diamond Valley area; and in Eastvale. The largest area of grove/orchard is in Santa Rosa East between Gavilan Mountain and Mesa de Colorado.

4.2.3 *Coastal Sage Scrub*

Coastal sage scrub is distributed throughout Western Riverside County, occupying approximately 12% (156,450 acres) of the Plan Area (PSBS 1995). It occurs from the eastern slopes of the Santa Ana Mountains to elevations in the San Jacinto Mountains less than 1,500 m (5,000 ft). Sage scrub often is distributed in patches throughout its range (O'Leary 1992); over a scale of several miles, it can be found in diverse Vegetation Community mosaics with other plant communities, particularly grassland and chaparral, and oak/riparian woodland in wetter areas. In Western Riverside County coastal sage scrub is found both in large contiguous blocks scattered throughout the County as well as integrated with chaparral and grasslands.

Coastal sage scrub is dominated by a characteristic suite of low-statured, aromatic, drought-deciduous shrubs and subshrub species. Composition varies substantially depending on physical circumstances and the successional status of the Vegetation Community; however, characteristic species include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), California encelia (*Encelia californica*), and several species of sage (e.g., *Salvia mellifera, S. apiana*) (Holland 1986; Sawyer-Wolf 1995). Other common species include brittlebush (*E. farinosa*), lemonadeberry (*Rhus integrifolia*), sugarbush (*Rhus ovata*), yellow bush penstemon (*Keckiella antirrhinoides*), Mexican elderberry (*Sambucus mexicana*), sweetbush (*Bebbia juncea*), boxthorn (*Lycium* spp.), shore cactus (*Opuntia littoralis*), coastal cholla (*O. prolifera*), tall prickly-pear (*Opuntia oricola*), and species of *Dudleya*.

4.2.4 *Riversidian Alluvial Fan Sage Scrub*

Riversidean alluvial fan sage scrub occurs throughout many drainages in the Plan Area and comprises approximately 0.6% (7,940 acres) of the Plan Area. Large acreages of the vegetation occur on the Santa Ana River near Lake Evans in the City of Riverside; along the San Gorgonio River and tributaries near Banning; on the San Jacinto River from the National Forest to the Soboba Indian Reservation; near Temecula along Temecula Creek; the Aguanga area; Bautista Creek south of Hemet; and near Murrieta and Glen Ivy in the Temescal Valley.

Riversidean alluvial fan sage scrub is a Mediterranean shrubland type that occurs in washesand on gently sloping alluvial fans. Alluvial scrub is made up predominantly of drought-deciduous soft-leaved shrubs, but with significant cover of larger perennial species typically found in chaparral (Kirkpatrick and Hutchinson 1977). Scalebroom generally is regarded as an indicator of Riversidian alluvial scrub (Smith 1980; Hanes *et al.* 1989). In addition to scalebroom, alluvial scrub typically is composed of white sage (*Salvia apiana*), redberry (*Rhamnus crocea*), flat-top buckwheat (*Eriogonum fasciculatum*), our lord's candle (*Yucca whipplei*), California croton (*Croton californicus*), cholla (*Opuntia* spp.), tarragon (*Artemisia dracunculus*), yerba santa (*Eriodictyon* spp.), mule fat (*Baccharis salicifolia*), and mountainmahogany (*Cercocarpus betuloides*) (Hanes *et al.* 1989; Smith 1980). Annual species composition has not been studied but is probably similar to that found in understories of neighboring shrubland vegetation. Two sensitive annual species are endemic to alluvial scrub vegetation in the Plan Area: slender-horned spine lower (*Dodecahema leptocerus*) and Santa Ana River woollystar (*Eriastrum densifolium* ssp*. sanctorum*).

4.2.5 *Chaparral*

Chaparral vegetation is the most abundant and widespread vegetation type in Western Riverside County, covering approximately 35 percent (434,950 acres) of the Plan Area. Large contiguous stands of chaparral occur along the Santa Ana Mountains in the western portion of the Plan Area, and along the San Bernardino, San Jacinto, and Agua Tibia Mountains in the eastern and southern portions. Although chaparral is less common than other vegetation types in the central lowlands of Riverside County, three large chaparral-dominated areas occur on steeper lands near the Gavilan Hills-Gavilan Plateau-Meadowbrook Region, the Lakeview Mountains-Double Butte area, and the Sedco Hills-Hogbacks area.

Chaparral is a shrub-dominated Vegetation Community that is composed largely of evergreen species that range from 1 to 4 m in height (Keeley 2000). The most common and widespread species within chaparral is chamise (*Adenostoma fasciculatum*) (Hanes 1971). Other common shrub species include manzanita (*Arctostaphylos* spp.), wild-lilac (*Ceanothus* spp.), oak (Quercus spp.), redberry (*Rhamnus* spp.), laurel sumac (*Malosma laurina*), mountain-mahogany (*Cercocarpus betuloides*), toyon (*Heteromeles arbutifolia*), and mission manzanita (*Xylococcus bicolor*) (Holland 1986). Soft-leaved subshrubs are less common in chaparral than in coastal sage scrub (see below) but occur within canopy gaps of mature stands (Holland 1986; Keeley and Keeley 1988; Sawyer and Keeler-Wolf 1995). Common species include California buckwheat (*Eriogonum fasciculatum*), sages (*Salvia* spp.), California sagebrush (*Artemisia californica*), and monkeyflower (*Mimulus* spp.). In addition, herbaceous species, including deerweed (*Lotus scoparius*), nightshade (*Solanum* spp.), Spanish bayonet (*Yucca whipplei*), rock-rose (*Helianthemum scoparium*), onion (Allium spp.), soap plant (*Chlorogalum* spp.), bunch grasses (*Nassella* spp., and *Melica* spp.), wild cucumber (*Marah* spp.), bedstraw (*Galium* spp.), and lupine (*Lupinus* spp.) are also present (Holland 1986; Keeley and Keeley 1988; Sawyer and Keeler-Wolf 1995).

4.2.6 *Grasslands*

Grasslands occur throughout most of Western Riverside County and cover approximately 12.2% (154,140 acres) of the Plan Area. Two general types of grasslands occur in Southern California: (1) non-native dominated, primarily annual grassland ("non-native grassland"); and (2) native dominated, perennial grassland ("valley and foothill grassland") (Heady 1977; Keeley 1989; Sims and Risser 2000). The only valley and foothill grasslands mapped within the Plan

Area are distributed over approximately 0.2% (2,700 acres) of the Plan Area on the Santa Rosa Plateau. Non-native grasslands occur throughout the majority of the Plan Area (11.6%), usually within close proximity to urbanized or agricultural land uses. Large patches of non-native grasslands occur in the Riverside Lowlands near March Air Reserve base, Lake Mathews, Lake Perris, Lake Elsinore, near Banning, Cahuilla, and in the Terwilliger Valley south of Anza.

Valley and foothill grasslands typically contain the perennial bunch grasses *Nassella pulchra and Nassella lepida*. Lesser amounts of other native grasses, such as *Melica* spp., *Leymus* spp., Muhlenbergia spp., and beard grass (*Bothriochloa barbinodis*), may also be present. In addition, non-native grasses or forbs may be present to varying degrees. Native herbaceous plants commonly found within valley and foothill grasslands include yellow fiddleneck (*Amsinckia menziesii*), common calyptridium (*Calyptridium monardum*), suncup (*Camissonia* spp.), Chinese houses (*Collinsia heterophylla*), California poppy (*Eschcholzia californica*), tarweed (*Hemizonia* spp.), coast goldfields (*Lasthenia californica*), common tidy-tips (*Layia platyglossa*), *Lupinus* spp., *Plagiobothrys* spp., blue dicks (*Dichelostemma capitata*), *Muilla* spp., blue-eyed grass (*Sisyrinchium bellum*), and *Dudleya* spp. (Holland 1986; Sims and Risser 2000).

4.2.7 *Non-native Grasslands*

Non-native grasslands are likely to be dominated by several species of grasses that have evolved to persist in concert with human agricultural practices: slender oat (*Avena barbata*), wild oat (*A. fatua)*, fox tail chess (*Bromus madritensis*), soft chess (*B. hordeaceus*), ripgut grass (*B. diandrus*), barley (*Hordeum* spp.), rye grass (*Lolium multiflorum*), English ryegrass (*L. perrene*), rat-tail fescue (*Vulpia myuros*), and Mediterranean schismus (*Schismus barbatus*) (Jackson 1985; Sims and Risser 2000).

4.2.8 *Riparian*

Riparian vegetation, including forest, woodland, and scrub subtypes, is distributed in waterways and drainages throughout much of Western Riverside County, covering approximately 1.2 percent (15,030 acres) of the Plan Area. Southern cottonwood/willow forest makes up the largest proportion of the riparian vegetation in the Plan Area, comprising nearly one-half (6,610 acres) of the acreage. Most of the southern cottonwood/willow forest Vegetation Community occurs along the Santa Ana River drainage from Lake Evans to beyond the Prado Basin, along the San Gorgonio River north of Banning and along Temecula Creek east of Vail Lake. Additional types of riparian vegetation can be found along the San Gorgonio River north of Banning (montane riparian forest), Temescal Canyon Wash and its tributaries (riparian scrub and mulefat scrub), the stream channels within the San Mateo Canyon watershed (riparian forest, southern sycamore/alder riparian woodland and riparian scrub), and Vail Lake (tamarisk scrub).

Riparian communities typically consist of one or more deciduous tree species with an assorted understory of shrubs and herbs (Holland and Keil 1995). Depending on community type, a riparian community may be dominated by any of several trees/shrubs, including box elder (*Acer negundo*), big-leaf maple (*A. macrophyllum*), coast live oak (*Q. agrifolia*), white alder (*Alnus rhombifolia*), sycamore (*Platanus racemosa*), Fremont's cottonwood (*Populus fremontii*), California walnut (*Juglans californica*), Mexican elderberry (*Sambucus mexicana*), wild grape (*Vitis girdiana*) giant reed (*Arundo donax*), mulefat (*Baccharis salicifolia*), tamarisk (*Tamarix* spp.), or any of several species of willow (*Salix* spp.). In addition, various understory herbs may

be present, such as salt grass (*Distichlis spicata*), wild cucumber (*Marah macrocarpus*), mugwort (*Artemisia douglasiana*), stinging nettle (*Urtica dioica*), and poison oak (*Toxicodendron diversilobum*).

4.2.9 *Southern Willow Scrub*

Southern willow scrub is dominated by willow trees and shrubs (*Salix* spp.) and also may contain gooseberry (*Ribes* spp.) and elderberry. When disturbance is high within this Habitat type, the dominant species typically is sandbar willow (*Salix exigua*). When disturbance is less, the dominant species typically is Goodding's black willow (*Salix gooddingii*). Willows are fast-growing and can reproduce vegetatively from root sprouts. Red willow (*Salix laevigata*) occupies fast-flowing perennial streams at elevations up to 1,200 m and often occurs with yellow willow. Yellow willow (*Salix lasiandra*) grows along stream channels and in perennially wet places at elevations of 2,500 m. Sandbar willow occurs along sandbars and riverbeds at elevations below 900 m. Arroyo willow occupies Habitat within perennial and intermittent stream channels at elevations up to 750 m.

Habitats and Species ObservedThe following provides a description of the habitat types and species observed along the project corridor and at proposed station sites and facilities. General habitat community types are identified using the nomenclature and descriptions as defined by the MSHCP, and summarized above in Section 5.2.

4.2.10 *BNSF Alignment*

The project will utilize the existing BNSF mainline with no planned project related improvements until reaching the Citrus Connection. The current BNSF mainline area is a highly utilized rail corridor with adjacent warehouse and commercial uses.

General Habitat Observed

Generally, habitat observed along the BNSF alignment was of the Developed/Disturbed Land habitat community regime. The general condition of the BNSF alignment was observed to be degraded habitat with little or no vegetation. Continual disturbance from maintenance operations within the railroad right-of-way may likely contribute to this habitat regime.

Observed Special-Status Plant Species

Special-status plant species were not observed or detected along the BNSF alignment of the PVL study area.

Observed Special-Status Wildlife Species

Special-status wildlife species were not observed or detected along the BNSF alignment of the PVL study area.

4.2.11 *Citrus Connection*

The Citrus Connection site is bounded by the existing BNSF alignment to the west and the existing SJBL alignment to the east. A new track is proposed at this site to connect these two alignments.

General Habitat Observed

Two vegetative communities were observed at this site and included non-native grassland with disturbed southern willow scrub located adjacent in Springbrook Wash. The area north of the Wash is highly disturbed could be described as the Developed/Disturbed Land habitat community regime.

Springbrook Wash, located south of the Citrus Connection site, contains riparian habitat capable of providing refuge for many wildlife species. This area has also been recently revegetated with native species and designated for 100% conservation. The wash bisects the site and runs from east to west, draining to a watershed in the Spring Box Mountains and an urban area east of the site. The PVL rail connector was re-designed to avoid the riparian habitat in Springbrook Wash.

The southern willow scrub community is present within the Springbrook Wash and is comprised of an over-story of Fremont's cottonwood *(Populus fremontii)*, arroyo willow *(Salix lasiolepis)*, tree-of-heaven *(Ailanthus altissima)*, red-gum eucalyptus *(Eucalyptus camaldulensis)* and Peruvian peppertree *(Schinus molle)*. The shrub layer of this habitat contained blue elderberry *(Sambucus mexicana)* and mulefat *(Baccharis salicifolia),* while the dominant plant species in the herbaceous layer included water parsley *(Oenanthe sarmentosa)*, stinging nettle *(Urtica diocia)*, black mustard *(Brassica nigra)*, and radish *(Raphanus sativus)*. California ground squirrel *(Spermophilus beecheyi)* burrows were also observed in the Springbrook Wash.

The riparian area in Springbrook Wash provides habitat and refuge for many wildlife species including birds, mammals, reptiles, and amphibians. The riparian area onsite was noted to be heavily used by a variety of bird species including California towhee (Piplio crissalis), American goldfinch (Carduelis tristis), mourning dove (Zenaida macroura), and black phoebe (Sayornis nigricans). A dead gopher snake (Pituophis sp.) was also noted in the wash area along with a few western fence lizards (Sceloporus occidentalis).

Observed Special-Status Plant Species

Special-status plant species were not observed or detected within the Citrus Connection site of the PVL study area.

Observed Special-Status Wildlife Species

Special-status wildlife species were not observed or detected within the Citrus Connection site of the PVL study area.

4.2.12 *SJBL Alignment*

At the time of this assessment, the study area was an active rail line used for freight shipments.

The SJBL alignment crosses fifty three drainage culverts in the PVL study area, many of these would be extended or replaced as part of the proposed project. The general habitats for these culverts are discussed below. Additionally, two bridges along the SJBL alignment cross over the San Jacinto River and San Jacinto Rover Overflow Channel. The bridge habitats are discussed separately in Section 5.3.8.

General Habitat Observed

Generally, habitat observed along the SJBL alignment was of the Developed/Disturbed Land habitat community regime. The general condition of the SJBL alignment appeared as degraded habitat with little or no vegetation, likely due to continual disturbance from on-going maintenance operations within the railroad ROW. Along the I-215 corridor, within the ROW, are large display billboards. Within the structure of these billboards raptor nests were observed. The specific type of raptor could not be determined, however. Additionally, it should be noted, that there are small areas of sensitive vegetation along the SJBL related to the drainage culverts.

Culverts

There were fifty three culvert locations evaluated for the project. The culverts along the alignment primarily focus sheet flow from one side of the railroad alignment to the other. In some cases the downstream end eventually connects into the existing local storm drain system. The areas surrounding the culverts are primarily uplands with very small pockets of jurisdictional or riparian habitat that has developed because of the focused water source, and the lack of maintenance by the railroad. These areas of habitat are very fragmented with small localized areas that do not connect to larger contiguous habitats and therefore represent lower quality.

There is a small area of higher quality riparian habitat located south of Box Springs Mountain Reserve, and north of the I-215/SR-60 interchange. This area is the focus of runoff from the surrounding area, including the freeways, and therefore habitat has developed. Because of the local topography, the drainage occurs on both sides of the ROW, and therefore the habitat has developed on both sides as well.

Observed Special-Status Plant Species

No Special-status plant species were observed during the field reconnaissance.

Observed Special-Status Wildlife Species

No Special-status wildlife species were observed during the field reconnaissance.

4.2.13 *Hunter Park Station*

At the time of the field reconnaissance, the location of the Hunter Park Station had not been confirmed; therefore the three sites proposed for selection were surveyed. These three sites included: Palmyrita, Columbia, and Marlborough.

General Habitat Observed

Palmyrita Site – The Palmyrita site is located within an industrial park and developed area, but the Box Springs Mountains habitat area is located half-mile southeast of this site. Therefore, mixes of common wildlife species that thrive in urbanized areas, along with a few species from nearby native habitat areas that may frequent the site on a transient basis, are expected onsite. Based on historical resources and evidence onsite, the majority of this site was formerly an orange tree orchard with an industrial building and business in the central portion of the site. Most of the trees have been removed and large piles of tree mulch are scattered throughout the

site. The former orchard has now transitioned into a non-native grassland with primarily non-native herbaceous species including foxtail barley *(Hordeum jubatum)*, red brome *(Bromus rubens)*, black mustard *(Brassica nigra)*, Russian thistle *(Salsola tragus)*, stinging nettle *(Urtica dioica)*, yellow sweetclover *(Melilotus officinalis)*, and horseweed *(Conyza canadensis)*.

A pair of ravens *(Corvus corax)* was observed perched on one of the mulch piles and flying over the site and a Cooper's hawk *(Accipiter cooperii)* was noted flying over. Various other bird species were observed utilizing the site including western meadowlark *(Sturnella neglecta)*, western scrub jay *(Aphelocoma californica),* mourning dove *(Zenaida macroura)*, and black phoebe *(Sayornis nigricans).* Mammals detected onsite included coyote *(Canis latrans),* Audubon's cottontail *(Sylvilagus audubonii)*, and California ground squirrel *(Spermophilus beecheyi).* No reptiles or amphibians were detected during the site reconnaissance, but common lizards such as the western fence lizard *(Sceloporus occidentalis)* and side-blotched lizard *(Uta stansburiana)* are expected to utilize the site.

Columbia Site – The Columbia station site is in active citrus production with the area generally maintained to be free of excess vegetation. The immediately adjacent areas are commercial/warehouse operations and completely devoid of any native habitat.

Marlborough Site – The Marlborough station site is currently vacant. A portion of the site has been recently graded while the remaining portion of the site contains a large volume of fill soil. The area is very disturbed with no native vegetation. The site is located on the west side of the SJBL and is adjacent to commercial/warehouse operations.

Observed Special-Status Plant Species

No Special-status plants were observed at any of the three potential station locations.

Observed Special-Status Wildlife Species

The following sensitive wildlife species were observed on or in the immediate vicinity of the station site:

Palmyrita Site – **Cooper's hawk *(Accipiter cooperii)*** is a California Species of Special Concern and covered under the MSHCP. This species was observed flying over the site. No nesting habitat is available for this species onsite, although marginal foraging habitat is available.

Columbia Site – No special status wildlife species were observed on or in the immediate vicinity of the site.

Marlborough Site – No special status wildlife species were observed on or in the immediate vicinity of the site.

4.2.14 *Moreno Valley/March Field Station*

General Habitat Observed

The Moreno Valley/March Field Station site is predominantly vegetated with annual non-native grassland species including filaree *(Erodium cicutarium)*, black mustard *(Brassica nigra)*,

horehound *(Marrubium vulgare)*, and red brome *(Bromus rubens)*. A few inclusions of sage scrub species were found within the non-native grassland including; coyote brush *(Baccharis pilularis),* California buckwheat *(Eriogonum fasciculatum)*, California sage brush *(Artemisia californica),* and brittle bush *(Encelia californica)*. A concrete ditch runs parallel to the SJBL alignment and was supporting wetland vegetation including cattail *(Typha sp.)*, mulefat *(Baccharis salicifolia)*, narrow-leaved willow *(Salix exigua)*, and sedge species *(Carex sp.).* Two ponded areas were located in the central portion of the site created by two drain inlets. These areas exhibited a few hydropytic plant species including monkey flower *(Mimulus guttatus)* and rabbitfoot *(Polypogon monspeliensis)*.

Various bird species were noted utilizing both the non-native grassland area and the wetland vegetation in the channel. Species noted in the channel include great egret *(Ardea alba)*, red-winged blackbird *(Agelaius phoeniceus)*, and least sandpiper *(Calidris minutilla)*. Species noted utilizing the grassland area included horned lark *(Eremophila alpestris actia)*, western kingbird *(Tyrannus verticalis)*, northern harrier *(Circus cyaneus)*, and white-crowned sparrow *(Zonotrichia leucophrys)*. A red-tailed hawk *(Buteo jamaicensis)* was noted flying over the site along with an American kestrel *(Falco sparverius)* and common raven *(Corvus corax)*. A pacific tree frog *(Hyla regla)* was detected in the channel. Small mammal burrows were noted throughout the site, but mostly concentrated in the embankment by the channel.

Observed Special-Status Plant Species

No Special-status plant species were observed during the field reconnaissance.

Observed Special-Status Wildlife Species

The following sensitive wildlife species were observed on and immediately adjacent to the Moreno Valley/March Field Station site:

California horned lark *(Eremophila alpestris actia)* is a California Species of Special Concern and covered under the MSHCP. A flock of horned larks were observed foraging in the grassland habitat onsite and on the adjacent habitat west of the site.

4.2.15 *Downtown Perris Station*

The Downtown Perris Station site is located in a highly urbanized setting and no native vegetation or wildlife habitats were observed onsite.

General Habitat Observed

No native habitat was observed during the field reconnaissance.

Observed Special-Status Plant Species

No Special-status plant species were observed at the site during the field reconnaissance.

Observed Special-Status Wildlife Species

No Special-status wildlife species were observed at the site during the field reconnaissance.

4.2.16 *South Perris Station and Layover Facility*

General Habitat Observed

The South Perris Station site and Layover facility are located within an agricultural area and surrounding properties were actively used for row crops and sheep grazing. Historical signs of agriculture were evident onsite, but the fields at the time of the survey were fallow and non-native grassland species, salt-scrub and sage scrub species have established. Herbaceous species noted included fiddleneck (*Amsinckia intermedia)*, filaree *(Erodium cicutarium)*, black mustard *(Brassica nigra)*, red brome *(Bromus rubens)*, horseweed *(Conyza canadensis)*, wild oats *(Avena sp.)*, foxtail barley *(Hordeum jubatum)*, pineappleweed *(Matricaria matricarioides)*, field bindweed *(Convolvulus arvensis),* and Russian thistle *(Salsola tragus)*. A few sage scrub and salt scrub indicator species were noted including California buckwheat *(Eriogonum fasiciulatum)*, saltbush species *(Atriplex sp.)*, and California sagebrush *(Artemisia californica)*. A few areas immediately adjacent to the alignment were noted to have cracked soil which is evidence of ponding and salt grass *(Distichlis spicata)*. Two trees were noted onsite including a red-gum eucalyptus *(Eucalyptus camaldulensis)* in the southeastern portion of the site and a mesquite tree *(Prosopis sp.)* in the central portion of the site north of Bonnie Drive. Multiple eucalyptus trees are present east of the site and the freeway ramps. A drainage culvert on the south side of the SJBL tracks was noted to support some riparian species saltcedar *(Tamarix sp.)* and mesquite trees *(Prosopis sp.)*.

Various species of birds were noted utilizing the site including horned lark *(Eremophila alpestris actia)*, meadowlark *(Sturnella neglecta)*, mourning dove *(Zenaida macroura)*, western kingbird *(Tyrannus vociferans)*, kill deer *(Charadrius montanus)*, and a pair of red-tailed hawks *(Buteo jamaicensis)*. Larger burrows likely occupied by California ground squirrel *(Spermophilus beecheyi)* were noted along the berm that the SJBL tracks are on, on the slope supporting the freeway off-ramp that adjoins the site, and on the slope on the south side of Bonnie. The scat of Coyote (canis latrans) and cottontail *(Sylvilagus audubonii)* is noted in multiple locations onsite.

Observed Special-Status Plant Species

No Special-status plant species were observed on-site during the field reconnaissance.

Observed Special-Status Wildlife Species

The following sensitive wildlife species were observed on the South Perris Station and Layover Facility site:

- **California horned lark *(Eremophila alpestris actia)*** is a California Species of Special Concern and covered under the MSHCP. California horned lark was observed onsite and in the vicinity of the site and known to occur throughout this area of the alignment.

4.2.17 *San Jacinto River Bridge and San Jacinto River Overflow Channel Bridge*

Two railroad bridges that cross the San Jacinto River and the San Jacinto River Overflow Channel, located northwest along the SJBL alignment from the South Perris Station site would be replaced under the proposed project.

General Habitat Observed

The two bridges are located between Case Road and the agricultural fields. The surrounding areas are highly disturbed because of activities related to both these land uses. The river carries seasonal flow and is directed under the railroad bridge and then the Case Road Bridge. If the river flow is high enough the Overflow Channel allows the water under the railroad but then directs it to the same Case Road Bridge as the main channel. When the area is dry or damp the main channel is used by off-road vehicles to transit from east of the railroad ROW to areas west of Case Road. This is evidenced by the deep ruts formed under the river bridge. The Overflow Channel Bridge does not allow enough clearance to vehicles to transit under it.

Observed Special-Status Plant Species

No Special-status plant species were observed on-site during the field reconnaissance.

Observed Special-Status Wildlife Species

No Special-status wildlife species were observed on-site during the field reconnaissance.

5.0 RESULTS

Tables 6.1 and 6.2 summarize the literature and database research, regulatory protection status of special-status species, general preferred habitat of listed species, and potential for those listed species to be present or to utilize the project study area.

5.1 POTENTIAL TO OCCUR SENSITIVE PLANT SPECIES

5.1.1 *BNSF Alignment*

No sensitive species or NEPS were identified with the potential to occur along the BNSF mainline.

5.1.2 *SJBL Alignment*

Over the majority of the SJBL Alignment there are no sensitive species or NEPS. However, there are sensitive plants located at the culvert replacement areas and there is a potential for narrow endemic plant species at the San Jacinto River Bridge and the San Jacinto River Overflow Channel Bridge.

5.1.3 *Citrus Connection*

No sensitive species or NEPS were identified with the potential to occur at the Citrus Connection.

5.1.4 *Hunter Park Station*

Palmyrita Site – No sensitive or narrowly endemic plant species were identified with the potential to occur at the Palmyrita Station site.

Columbia Site – No sensitive or narrowly endemic plant species were identified with the potential to occur at the Columbia Station site.

Marlborough Site – No sensitive or narrowly endemic plant species were identified with the potential to occur at the Marlborough Station site.

5.1.5 *Moreno Valley/March Field Station*

The following sensitive plant species was identified to have the potential to occur at the Moreno Valley/March Field Station site:

- **smooth tarplant** *(Centromadia pungens ssp. laevis)* is not a Federally or State listed species, but is considered a 1B.1 species by the CNPS and is covered under the MSHCP as a Riparian/Riverine plant species. This species is known to occur within the vicinity of the site and has a potential to occur in the non-native grassland areas, particularly in those areas with ponding.

5.1.6 *Downtown Perris Station*

No sensitive or narrowly endemic plant species were identified with the potential to occur at the Downtown Perris Station site.

5.1.7 *South Perris Station and Layover Facility*

The following sensitive or narrowly endemic plants were identified to have the potential to occur at the South Perris Station and Layover Facility site:

- **San Jacinto Valley crownscale *(Atriplex coronata var. notatior)*** is a Federally listed endangered species, and is considered 1B.1 species by the CNPS. It is also a covered under the MSHCP as a Riparian/Riverine plant species. The site contains non-native grassland, habitat suitable for San Jacinto Valley crownscale and is known to occur within the area.
- **smooth tarplant *(Centromadia pungens ssp. laevis)*** is not a Federally or State listed species, but is considered a 1B.1 species by the CNPS and is covered under the MSHCP as a Riparian/Riverine plant species. It has the potential to occur in the non-native grassland, which is known to occur within the vicinity of the site.
- **South Coast saltscale *(Atriplex pacifica)*** is not a Federally or State listed species, but is considered a 1B.2 species by the CNPS and is covered under the MSHCP as a Riparian/Riverine plant species. South Coast saltscale is known to occur in the site vicinity within non-native grassland.
- **spreading navarretia *(Navarretia fossalis)*** is a Federally listed threatened species and is also a NEPS. Spreading navarretia is considered a 1B.1 species by the CNPS and is also covered under the MSHCP as a Riparian/Riverine plant species. A small drainage ditch was noted on the south side of the tracks with some riparian scrub vegetation. Due to the close proximity of this area to the San Jacinto River where spreading navarretia is known to occur, there is a probability that this species could be present at this site.
- **thread-leaved brodiaea *(Brodiaea filifolia)*** is a Federally threatened and State endangered listed species, with a 1B.1 classification by the CNPS. It is also covered under the MSHCP as a Riparian/Riverine plant species. Thread-leaved brodiaea has been reported to occur in the vicinity of the site within non-native grassland. It could potentially be present within the drainage ditch area.

5.1.8 *San Jacinto River Bridge and San Jacinto River Overflow Channel Bridge*

The following sensitive or narrowly endemic plants were identified to have the potential to occur at the San Jacinto River Bridge sites:

- **smooth tarplant *(Centromadia pungens ssp. laevis)*** is not a Federally or State listed species, but is considered a 1B.1 species by the CNPS and is covered under the MSHCP as a Riparian/Riverine plant species. Smooth tarplant has been reported to occur in the vicinity of the site and could potentially be present within the river or on the adjacent upland habitat.
- **spreading navarretia *(Navarretia fossalis)*** is a Federally listed threatened species and is also a NEPS. Spreading navarretia is considered a 1B.1 species by the CNPS and is also covered under the MSHCP as a Riparian/Riverine plant species. Spreading navarretia has

been reported to occur within the San Jacinto River, with the potential to occur along the banks of the channel, and within the immediate vicinity.

- **thread-leaved brodiaea *(Brodiaea filifolia)*** is a Federally threatened and State endangered listed species, with a 1B.1 classification by the CNPS. It is also covered under the MSHCP as a Riparian/Riverine plant species. Thread-leaved brodiaea has been reported to occur in the vicinity of the site and could potentially be present within the river or adjacent upland habitat.

5.2 POTENTIAL TO OCCUR SENSITIVE WILDLIFE SPECIES

5.2.1 *BNSF Alignment*

No sensitive wildlife species were identified with the potential to occur within the BNSF Alignment.

5.2.2 *SJBL Alignment*

The following sensitive wildlife species were identified with the potential to occur within the SJBL Alignment:

- **burrowing owl *(Athene cunicularia hypugaea)*** is not federally listed species but is a California Species of Special Concern and covered under the MSHCP. Burrow complexes located along the rail berm along the SJBL tracks, likely supporting California ground squirrels *(Spermophilus beecheyi)*, could support burrowing owls on a transient basis. The level of disturbance at this site may lower the likelihood of use of these burrows as nesting sites. No active signs of burrowing owls were noted in and around the burrows.
- **Coastal western whiptail *(Cnemidophorus tigris multiscutatus)*** is not a Federally or State listed species but is covered under the MSHCP. This species has the potential to utilize both the habitat in and adjacent to the SJBL.
- **least Bell's vireo *(Vireo bellii pusillus)*** is a Federally and State listed endangered species and covered under the MSHCP as Riparian/Riverine species. This species has the potential to utilize the riparian wash onsite, but due to the degraded nature of the habitat onsite and lack of connectivity to other habitat areas, reduces the likelihood of this species onsite.
- **Southwestern willow flycatcher *(Empidonax traillii extimus)*** is a Federal and State listed endangered species and covered under the MSHCP as Riparian/Riverine species. The riparian habitat onsite provides marginal habitat for this species which is typically found in dense thickets of riparian vegetation. The southern willow scrub habitat onsite is sparse and fragmented and has a non-native component. In addition, the level of disturbance and lack of connectivity to a habitat area that supports year-round water may preclude this species from utilizing the site.
- **Western spadefoot toad *(Scaphiopus hammondii)*** is a California Species of Special Concern and covered under the MSHCP. The western spadefoot toad may utilize the Springbrook Wash, particularly areas that are subject to ponding. Ponded areas were noted onsite and were moist during the site reconnaissance. This would provide suitable breeding habitat for this species.
- **Stephens' kangaroo rat *(Dipodomys stephensi)*** is listed as a Federally endangered and State threatened species and covered under the MSHCP. The SKR inhabits non-native

grassland and disturbed Riversidian sage scrub communities. Non-native grassland was present at the site, but no signs of SKR were observed but the site is located within the fee area as described in the SKRHCP.

5.2.3 *Citrus Connection*

The following sensitive wildlife species were identified with the potential to occur at the Citrus Connection:

- **burrowing owl *(Athene cunicularia hypugaea)*** is not federally listed species but is a California Species of Special Concern and covered under the MSHCP. Burrow complexes located along the berm on the west side of the SJBL tracks, likely supporting California ground squirrels *(Spermophilus beecheyi)*, could support burrowing owls on a transient basis. The level of disturbance at this site may lower the likelihood of use of these burrows as nesting sites. No active signs of burrowing owls were noted in and around the burrows.
- **Coastal western whiptail *(Cnemidophorus tigris multiscutatus)*** is not a Federally or State listed species but is covered under the MSHCP. This species has the potential to utilize both the habitat in and adjacent to the Springbrook Wash.
- **Cooper's hawk *(Accipiter cooperii)*** is a California Species of Special Concern and covered under the MSHCP. This species has the potential to utilize the riparian habitat in the Springbrook Wash foraging and nesting.
- **least Bell's vireo *(Vireo bellii pusillus)*** is a Federally and State listed endangered species and covered under the MSHCP as Riparian/Riverine species. This species has the potential to utilize the riparian wash onsite, but due to the degraded nature of the habitat onsite and lack of connectivity to other habitat areas, reduces the likelihood of this species onsite.
- **Loggerhead shrike *(Lanius ludovicianus)*** is a California Species of Special Concern and covered under the MSHCP. This species has the potential to utilize the riparian area onsite, but due to the isolated nature of the site and lack of connectivity to larger habitat blocks, reduces the likelihood of this species onsite.
- **Southwestern willow flycatcher *(Empidonax traillii extimus)*** is a Federal and State listed endangered species and covered under the MSHCP as Riparian/Riverine species. The riparian habitat onsite provides marginal habitat for this species which is typically found in dense thickets of riparian vegetation. The southern willow scrub habitat onsite is sparse and fragmented and has a non-native component. In addition, the level of disturbance and lack of connectivity to a habitat area that supports year-round water may preclude this species from utilizing the site.
- **Western spadefoot toad *(Scaphiopus hammondii)*** is a California Species of Special Concern and covered under the MSHCP. The western spadefoot toad may utilize the Springbrook Wash, particularly areas that are subject to ponding. Ponded areas were noted onsite and were moist during the site reconnaissance. This would provide suitable breeding habitat for this species.
- **Stephens' kangaroo rat *(Dipodomys stephensi)*** is listed as a Federally endangered and State threatened species and covered under the MSHCP. The SKR inhabits non-native grassland and disturbed Riversidian sage scrub communities. Non-native grassland was present at the site, but no signs of SKR were observed but the site is located within the fee area as described in the SKRHCP.

5.2.4 *Hunter Park Station*

The following sensitive wildlife species were identified with the potential to occur at the Hunter Park station site:

Palmyrita Site

- **burrowing owl *(Athene cunicularia hypugaea)*** is not federally listed species but is a California Species of Special Concern and covered under the MSHCP. Burrow complexes located along the east side of the SJBL tracks, likely supporting California ground squirrels (Spermophilus beecheyi), has the potential to support burrowing owls on a transient basis, but due to the level of disturbance at this site has a lower likelihood of using the burrows as nesting sites. No active signs of burrowing owls were noted in or around the burrows.
- **Stephens' kangaroo rat *(Dipodomys stephensi*** is listed as a Federally endangered and State threatened species and covered under the MSHCP. The SKR inhabits non-native grassland and disturbed Riversidian sage scrub communities. Although non-native grassland is present onsite, the site is isolated from larger habitat areas and was recently an orchard which may reduce the likelihood of this species utilizing the site. No signs of SKR were observed onsite, but the site is located within the fee area as described in the SKRHCP.

Columbia Site

- **burrowing owl *(Athene cunicularia hypugaea)*** is not federally listed species but is a California Species of Special Concern and covered under the MSHCP. Burrow complexes located along the east side of the SJBL tracks, likely supporting California ground squirrels (Spermophilus beecheyi), has the potential to support burrowing owls on a transient basis, but due to the level of disturbance at this site has a lower likelihood of using the burrows as nesting sites. No active signs of burrowing owls were noted in or around the burrows.
- **Stephens' kangaroo rat *(Dipodomys stephensi*** is listed as a Federally endangered and State threatened species and covered under the MSHCP. The SKR inhabits non-native grassland and disturbed Riversidian sage scrub communities. The site is an active citrus orchard which may reduce the likelihood of this species utilizing the site. No signs of SKR were observed onsite, but the site is located within the fee area as described in the SKRHCP.

Marlborough Site

- **burrowing owl *(Athene cunicularia hypugaea)*** is not federally listed species but is a California Species of Special Concern and covered under the MSHCP. Burrow complexes located along the east side of the SJBL tracks, likely supporting California ground squirrels (Spermophilus beecheyi), has the potential to support burrowing owls on a transient basis, but due to the level of disturbance at this site has a lower likelihood of using the burrows as nesting sites. No active signs of burrowing owls were noted in or around the burrows.
- **Stephens' kangaroo rat *(Dipodomys stephensi*** is listed as a Federally endangered and State threatened species and covered under the MSHCP. The SKR inhabits non-native grassland and disturbed Riversidian sage scrub communities. The site is highly disturbed and is isolated from larger habitat areas which may reduce the likelihood of this species utilizing the site. No signs of SKR were observed onsite, but the site is located within the fee area as described in the SKRHCP.

5.2.5 *Moreno Valley/March Field Station*

The following sensitive wildlife species were identified to have the potential to occur on the Moreno Valley/March Field Station site:

- **burrowing owl *(Athene cunicularia hypugaea)*** is not federally listed species but is a California Species of Special Concern and covered under the MSHCP. Burrow complexes that could support burrowing owl were observed primarily along the embankment by the drainage channel.
- **loggerhead shrike *(Lanius ludovicianus))*** is a California Species of Special Concern and covered under the MSHCP. This species has the potential to utilize the habitat onsite for foraging and the riparian vegetation adjacent to the site for nesting.
- **Stephens' kangaroo rat *(Dipodomys stephensi)*** is listed as a Federally endangered and State threatened species and covered under the MSHCP. The SKR inhabits non-native grassland and disturbed Riversidian sage scrub communities which are present onsite. Although no signs of SKR were observed onsite, the site is located within the fee area as described in the SKRHCP.
- **western spadefoot toad *(Scaphiopus hammondii)*** is a California Species of Special Concern and covered under the MSHCP. The two ponded areas onsite associated with the drainage inlets has the potential to support this species. In addition, western spadefoot toad has been reported in the riparian habitat immediately adjacent to the site.

5.2.6 *Downtown Perris Station*

No sensitive wildlife species were identified with the potential to occur at the Downtown Perris Station site due to lack of suitable habitat. However, this station site is located within the SKR fee area is a California Species of Special Concern and covered under the MSHCP.

5.2.7 *South Perris Station and Layover Facility*

The following sensitive wildlife species were identified to have the potential to occur at the South Perris Station and Layover Facility site:

- **burrowing owl *(Athene cunicularia hypugaea)*** is not federally listed species but is a California Species of Special Concern and covered under the MSHCP. Burrow complexes that could potentially support burrowing owls were noted on berms within the ROW, the freeway off-ramp slope and the slope located south of Bonnie Drive.
- **loggerhead shrike *(Lanius ludovicianus))*** is a California Species of Special Concern and covered under the MSHCP. This species has the potential to utilize the habitat onsite for foraging, but little suitable nesting habitat is available.
- **western spadefoot toad *(Scaphiopus hammondii)*** is a California Species of Special Concern and covered under the MSHCP. Although no water was observed during the field reconnaissance, areas with cracking soils and evidence of ponding along the ROW could potentially support this species.

5.2.8 *San Jacinto River Bridge and San Jacinto River Overflow Channel Bridge*

The following sensitive wildlife species were identified to have the potential to occur at the San Jacinto River Bridge sites:

- **Stephens' kangaroo rat *(Dipodomys stephensi)*** is listed as a Federally endangered and State threatened species and covered under the MSHCP. The SKR inhabits non-native grassland which is present onsite. Although no signs of SKR were observed onsite, the site is located within the fee area as described in the SKRHCP.
- **western spadefoot toad *(Scaphiopus hammondii)*** is a California Species of Special Concern and covered under the MSHCP. Ponded water was present in the river channel at the time of the site reconnaissance and moisture is likely present for the majority of the year. Western spadefoot toad has the potential to use these moist areas to breed.

6.0 RECOMMENDATIONS

The following recommendations are identified to fulfill the requirements of the MSCHP in which the Federal and local regulations are included:

- Conduct pre-project (project planning survey's, not 30-day surveys) burrowing owl surveys to identify current habitation areas.
- Complete a jurisdictional determination for the culverts designated for replacement or extension.
- Complete a jurisdictional determination for the San Jacinto River and Overflow Channel areas.
- Conduct willow flycatcher protocol survey's in the southern area of Box Springs Mountain Reserve.
- Conduct least Bell's vireo protocol survey's in the southern area of Box Springs Mountain Reserve.
- Conduct California gnatcatcher protocol survey's in the Box Springs Mountain Reserve in areas adjacent to the ROW.

Once the above identified information is developed, a Determination of Biologically Equivalent or Superior Preservation report and a MSHCP Consistency Determination should be completed for submitted to the Western Riverside County Regional Conservation Authority for project approval.

7.0 REFERENCES

California Department of Fish and Game (CDFG) 2000, last updated December 31, 2007. *California Natural Diversity Database (CNDDB)*.

California Native Plant Society (CNPS), 2008. *Inventory of Rare and* Endangered *Plants*. www.cnps.org/inventory.

Carlsbad Fish and Wildlife Office, Endangered and Threatened Species List. http://www.fws.gov/carlsbad/CFWO_Species_List.htm.

CDFG/ESD 1995. California Department of Fish and Game. 1995. Staff Report on Burrowing Owl Mitigation. Department of Fish and Game. Sacramento. Unpublished report. 8 pp.

Hickman, James C. The Jepson Manual: Higher Plants of California. Berkeley, California: University of California Press, 1993.

Holland, R.F. Preliminary Description of the Terrestrial Natural Communities of California. Sacramento, California: Resources Agency, 1986.

Natural Resource Conservation Service (NRCS), 2008. *Web Soil Survey 2.0* –. www.websoilsurvey.nrcs.usda.gov.

Riverside County Integrated Project (RCIP) – Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). www.rcip.org.

Sawyer, John O., and Keeler-Wolf, Todd, A Manual of California Vegetation, California Native Plant Society, 1995.

Sensitive biological resources present or potentially present on the site were identified using the following databases and documents.

Stebbins, Robert C., Western Reptiles and Amphibians-Third Edition, Houghton Mifflin Company, 2003.

Stephens' Kangaroo Rat Habitat Conservation Plan, 1996. Riverside County Habitat Conservation Agency.

Sibley, David Allen, The Sibley Guide to Birds, Alfred A. Knopf, 2000.

STATSGO soil data online from California Soil Resource Lab: http://casoilresource.lawr.ucdavis.edu/drupal/node/27 Accessed: November 13, 2008.

United States Geological Survey (USGS), *7.5-minute series topographical quadrangles.*

United States Fish and Wildlife Service (USFWS), 2008a. *National Wetland Inventory Maps* – Wetland Mapper website. www.fws.gov/nwi.

Western Riverside County Multiple Species Habitat Conservation Plan, 2003. Riverside County Habitat Conservation Agency, Adopted June 17, 2003.

Data regarding biological and wetland resources on the project site were obtained through a literature review of pertinent scientific literature, maps, and aerial photographs, including:

- *United States Geological Survey (USGS), 7.5-minute series topographical quadrangles.*
- *United States Fish and Wildlife Service (USFWS), 2008a. National Wetland Inventory Maps – Wetland Mapper website.* www.fws.gov/nwi
- *Natural Resource Conservation Service (NRCS), 2008. Web Soil Survey 2.0 –.* www.websoilsurvey.nrcs.usda.gov

Sensitive biological resources present or potentially present on the site were identified using the following databases and documents:

- *California Department of Fish and Game (CDFG) 2000, last updated December 31, 2007. California Natural Diversity Database (CNDDB).*
- *California Native Plant Society (CNPS), 2008. Inventory of Rare and Endangered Plants.* www.cnps.org/inventory
- *Carlsbad Fish and Wildlife Office, Endangered and Threatened Species List.* http://www.fws.gov/carlsbad/CFWO_Species_List.htm
- *Riverside County Integrated Project (RCIP) – Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).* www.rcip.org

APPENDIX A

APN Parcels