



DRAFT

JURISDICTIONAL DETERMINATION

PERRIS VALLEY LINE RIVERSIDE COUNTY, 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

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ACRONYMS AND ABBREVIATIONS

BMPs	Best Management Practices
BNSF	Burlington Northern Santa Fe
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
GPS	Global Positioning System
MP	Mile Post
NWP	Nationwide Permit
OHWM	Ordinary High Water Mark
PVL	Perris Valley Line
RCTC	Riverside County Transportation Commission
RWQCB	Regional Water Quality Control Board
SJBL	San Jacinto Branch Line
SWPPP	Storm Water Pollution Prevention Plan
TOB	Top of Bank
USEPA	United States Environmental Protection Agency
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WoUS	Waters of the United States



EXECUTIVE SUMMARY

This report summarizes the findings of the U.S. Army Corps of Engineers (USACE) and California Department of Fish and Game (CDFG) jurisdiction for the proposed Perris Valley Line (PVL) commuter rail project. The proposed project area is an existing transportation corridor located in western Riverside County. The proposed project corridor extends north of the existing Riverside Downtown Station approximately four miles on the Burlington Northern Santa Fe (BNSF) main line, from the BNSF right-of-way, north of Citrus Street in the City of Riverside, approximately 2000 feet of new track, known as the "Citrus Connection" will be constructed to the east to connect from the BNSF mainline to the existing San Jacinto Branch Line (SJBL), which is owned by the Riverside County Transportation Commission (RCTC). The SJBL then extends approximately 20 miles from the City of Riverside, south to south of the City of Perris. This new rail extension would be operated by the Southern California Regional Rail Authority (SCRRA), while the SJBL portion of the corridor would continue to be owned by RCTC.

This study is intended to address the potential for jurisdictional Waters of the United States and the potential for jurisdictional wetlands. The study area contains on site jurisdictional linear drainage features and on-site jurisdictional wetlands that meet USACE jurisdictional criteria for Waters of the United States as per the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, (2007).

In February 2009, Mr. Chris Enyedy and Mr. William Goggin of Kleinfelder examined the project corridor to determine the limits of USACE jurisdiction pursuant to Section 404 of the Clean Water Act and limits of CDFG jurisdictional pursuant to Section 1602 of the California Fish and Game Code.

Information was collected at a total of 56 potential drainage features. Feature locations were identified based on the presence of a culvert transecting the railroad right-of-way. Of the 56 potential features surveyed, 26 were determined to either not fulfill the criteria for linear drainage features or to lack hydrological connection to a Water of the United States (WoUS), which is a requirement for USACE jurisdiction. Additionally, the features were evaluated using CDFG jurisdictional requirements, and quantities of both permanent and temporary impacts identified.

Based on the findings of this wetland delineation, potentially jurisdictional wetland features were observed within the rail right-of-way (ROW) but outside of the proposed work areas. Data was recorded for five wetland sampling points. Two of the sampling points were determined to be uplands and three were determined to be wetlands. Of the five locations, three were observed to have wetland hydrology, three were observed to have hydric soils and four were observed to have hydrophytic vegetation.

A total of thirty (30) jurisdictional features were observed on site comprised of eleven (11) ephemeral drainages, ten (10) intermittent drainages, eight (8) perennial drainages, and one (1) drainage which could not be clearly identified as intermittent or perennial. Based on the field information and data evaluation, the proposed project is anticipated to permanently impact 0.02 acres of USACE jurisdictional area, and temporary impacts to USACE are anticipated at 0.036 acres. The CDFG permanent impacts are anticipated to be 0.035 acres and 0.056 acres of temporary impacts.



Mitigation for project impacts will be appropriate for both the USACE and CDFG impacts and be consistent with the goals of the Western Riverside County Multi Species Habitat Conservation Program.



1.0 INTRODUCTION

This report summarizes the findings of the U.S. Army Corps of Engineers (USACE) and California Department of Fish and Game (CDFG) jurisdiction for the proposed Perris Valley Line (PVL) commuter rail project. The proposed project area is an existing transportation corridor located in western Riverside County. The proposed project corridor extends north of the existing Riverside Downtown Station approximately four miles on the Burlington Northern Santa Fe (BNSF) main line, from the BNSF right-of-way, north of Citrus Street in the City of Riverside, approximately 2000 feet of new track, known as the "Citrus Connection" will be constructed to the east to connect from the BNSF mainline to the existing San Jacinto Branch Line (SJBL), which is owned by the Riverside County Transportation Commission (RCTC). The SJBL then extends approximately 20 miles from the City of Riverside, south to south of the City of Perris (Figure 1.0-1). This new rail extension would be operated by the Southern California Regional Rail Authority (SCRRA), while the SJBL portion of the corridor would continue to be owned by RCTC.

1.1 PURPOSE OF THIS REPORT

This report supports the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) documentation for the project as well as the permit applications for the resource agencies. The project anticipates extending a number of the existing culverts, fully replacing a small number of culverts and replacing the two bridges over the San Jacinto River and the San Jacinto River Overflow Channel. Permits required for the implementation of the project due to impacts on jurisdictional waters include; a streambed alteration agreement from the CDFG in compliance with Section 1600 (et seq) of the California Fish & Game Code; a water quality certification from the Regional Water Quality Control Board (RWQCB) in compliance with Section 401 of the Clean Water Act; and a permit from the USACE subject to Section 404 of the Clean Water Act.

1.2 BACKGROUND

The study area for this project is an existing transportation corridor located approximately 70 miles east of Los Angeles, in western Riverside County. The study corridor extends approximately 24 miles southeast from the City of Riverside to south of the City of Perris. Existing conditions within the project corridor include established rail lines that were constructed in the 19th century. Originally known as the Atchison Topeka & Santa Fe Railroad (AT&SF), the existing BNSF railroad main line was constructed between 1885 and 1888 by the Santa Ana & Los Angeles Railway Company. This line originally extended southwest from Highgrove and Riverside to Santa Ana in Orange County where it connected with existing lines in Los Angeles (Myra L. Frank & Associates, Inc. [MFA], 2003).

Prior to the construction of the BNSF main line, the segment of the alignment now known as the SJBL was constructed in two segments over a six year period. The California Southern Railroad completed construction of the first segment between Highgrove and Perris in 1882 to serve as part of its San Bernardino to National City main line. The second segment between Perris and San Jacinto was completed in 1888 (MFA, 2003). Both the current BNSF and SJBL rights-of-way are within their same respective corridors as originally constructed in the late 1880s.



**Figure 1.2-1
Regional and Vicinity Map**



Later, the SJBL was acquired by AT&SF and most recently by RCTC in 1993. Through its operating agreement with RCTC, BNSF (AT&SF's successor) provides limited freight service to customers along the SJBL, primarily along the I-215 corridor.

Both the SJBL and the BNSF lines are currently used for freight operations. The BNSF main line also accommodates Inland Empire – Orange County trains operated by SCRRA/Metrolink between the Riverside Downtown Station and the San Bernardino Station.

Perris Valley Line - Existing Conditions Report

Prior to the initiation of the project an Existing Conditions Report was prepared for the SJBL portion of the project corridor, between Highgrove and south of Perris (J.L. Patterson & Associates, Inc., 2008). This report reviewed the existing drainage features along the SJBL looking for signs of erosion, sediment deposition in culverts or on tracks, adequate side ditches, ponding water, track flooding, embankment deficiencies, etc. Additionally, the structural conditions of the culverts and bridges were evaluated, and recommendations for replacement presented. Overall, a total of 58 culverts along the project alignment were evaluated with specific recommendations identified for repairs or replacement.

The San Jacinto River Bridge and the San Jacinto Overflow Channel Bridge were inspected as well. Both bridges are Timber Open Deck Pile Trestles and are identified by the associated mile post (MP) numbers. The San Jacinto River Bridge is located at MP 20.70 and the Overflow Channel Bridge is located at MP 20.80. Based on this inspection the report recommends complete replacement of both bridges prior to starting commuter rail operations.

Design Drawings

In addition to the Existing Conditions Report, the 30 percent Design Drawings for the project were used to determine which culverts would require extension because of proposed track modifications. These culverts were evaluated specifically where the extensions were proposed.

1.3 PURPOSE AND NEED

RCTC developed a Purpose and Need for the PVL through an FTA-sponsored Alternative Analysis (AA) process. The AA is the process for reaching a broad consensus on exactly what type of improvement(s) best meet locally defined Goals and Objectives for a specified study area. The Purpose and Need established through the AA was developed based upon understanding of the transportation conditions, problems, and issues in the study area that would need to be addressed by a major transportation investment.

The AA identified that the purpose of proposed transportation improvements is to provide alternatives to help alleviate traffic congestion on the freeway segment and arterials in the study area, thereby improving the mobility of people and goods. The improvements should also provide or improve linkages to the overall transportation system, support the achievement of regional air quality goals, and avoid environmental and community impacts to the extent possible.



The central transportation facilities in this corridor include I-215, a limited access freeway with a segment that runs from Perris to Riverside in a north to northwesterly direction, and a limited use rail freight line, the SJBL. Both I-215 and the SJBL run approximately parallel to one another for the length of the corridor. The SJBL is an existing non-highway transportation ROW that is significantly underutilized from a passenger transportation perspective. Opportunities to use this existing right-of way have been explored in the past with general conclusion that it has the potential to relieve pressure on existing and forecasted congestion on the regional transportation network. The I-215/SJBL corridor is in need of an improved transportation system independent of the ever growing and increasingly congested roadway system. The needs of the I-215/SJBL corridor were developed through outreach to the public, affected communities, stakeholders and concerned individuals. The needs identified are listed below:

- Reduce roadway congestion;
- Provide transit travel options to growing population and employment centers;
- Coordinate transportation planning and community development; and
- Improve use of underutilized transportation resources.

Transportation movement occurs primarily via the heavily congested I-215 freeway, which overlaps State Route 60 (SR-60) between Riverside and Moreno Valley. Current and planned freeway improvements cannot fully accommodate forecasted demand. In addition, potential freeway expansion beyond currently planned improvements would have substantial impacts on adjoining neighborhoods (STV, 2004).

The northern end of the study area is served by SCRRA/Metrolink commuter rail service to San Bernardino, Los Angeles and Orange counties. The study corridor includes a railroad ROW (the SJBL) that could provide a transit alternative to I-215, avoiding the freeway bottleneck and congestion. This potential commuter rail service provides an opportunity for transferring some patrons to a transit mode within the study corridor, and provides the opportunity for extending commuter rail service further south and east into Riverside County.

1.4 GOALS AND OBJECTIVES

Four goals and complementary objectives were established by RCTC for the I-215/SJBL corridor based on the corridor's issues and the potential for a transit system to achieve or help achieve the project Purpose and Need. The Goals and Objectives are:

Goal 1 – Improve the Transportation System with Alternate Travel Choices

- Reduce highway congestion in the corridor;
- Improve the attractiveness of public transit as a commuter alternative to the automobile, by making it available, reliable, and convenient to use;
- Establish and expand the regional transit network within and beyond the study corridor; and
- Promote a seamless regional transit system.



Goal 2 – Promote Community/Transit Oriented Development (TOD)

- Strengthen the older urban communities as centers of economic opportunity;
- Broaden the range and availability of public transportation alternatives between the various urban areas along the corridor for a variety of trip purposes;
- Encourage transit-friendly communities, at higher densities;
- Foster TOD around transit stations; and
- Provide improved mobility opportunities to the transit dependent.

Goal 3 – Minimize Adverse Environmental Impacts

- Contain residential, commercial, and industrial “sprawl” development;
- Conform to the State Implementation Plan (SIP) as required by the Clean Air Act (CAA) Amendments of 1990;
- Minimize impacts to the natural and human-made environment; and
- Minimize the need for new ROW resources thereby reducing land use impacts to the study corridor.

Goal 4 – Invest and Deploy Resources Effectively and Efficiently

- Invest resources efficiently;
- Improve the productivity and cost effectiveness of transit services in the corridor;
- Enhance and build upon the existing public transportation system within the corridor; and
- Select investments that build upon underused and abandoned transportation resources.



2.0 PROJECT DESCRIPTION

The proposed PVL project would consist of the existing BNSF and SJBL alignments. The proposed PVL project would be an extension of the SCRRA/Metrolink 91 line from the existing Riverside Downtown Station along a portion of the BNSF main line and would connect to the SJBL using the proposed Citrus Connection. For the opening year 2012, the PVL would include installation and rehabilitation of track; construction of four stations (with provisions for two future stations) and a Layover Facility; improvements to existing at-grade crossings and culverts; replacement of two existing bridges along the SJBL at the San Jacinto River; and construction of communication towers and landscape walls.

2.1 TRACK IMPROVEMENTS

All track improvements will occur within the existing SJBL right-of-way. All work will meet SCRRA commuter rail standards. In order to more accurately describe the improvements to the track, the alignment is broken down into the following segments with the identified changes:

- “Citrus Connection”: To connect the BNSF to the SJBL, a new approximately 2,000-foot-long track will be constructed north of Springbrook Wash.
- Marlborough Avenue south to Mount Vernon Avenue: The track will be upgraded with new concrete ties, new welded rail, and new ballast as required.
- Mount Vernon Avenue to approximately MP 7.0: As this section was recently upgraded by BNSF, the wooden ties will be replaced as needed and new ballast added.
- MP 7.0 to approximately MP 7.5 (the Box Springs Boulevard area): This area will be upgraded with new concrete ties and new welded rail.
- Eastridge Avenue to MP 16.9: A second track will be constructed on the I-215 side of the existing SJBL track within the right-of-way. This track will be constructed with new concrete ties and new welded rail. The existing track, which will remain for freight service only, will not be upgraded, but will be moved slightly where the right-of-way passes underneath roadway overpasses. This change is required to allow for enough clearance for both tracks and supports for the roadway overpasses.
- MP 16.9 to MP 18.2: The track will be upgraded with new concrete ties and new welded rail.
- MP 18.2 to approximately MP 19: The track will be relocated so that the PVL will align with the new platforms at the Perris Multimodal Transit Facility. The new track will be constructed of new concrete ties and new welded rail, approximately 18 feet from the existing track, and the existing track will be removed.
- MP 19 to MP 22: The track will be upgraded on the existing alignment with new concrete ties and new welded rail.



2.2 ADDITIONAL COMPONENTS

Stations

Based on projected ridership, RCTC is proposing four stations for the opening year of 2012 including Hunter Park Station, Moreno Valley/March Field Station, Downtown Perris Station, and South Perris Station.

Each of the proposed stations built as part of the PVL project would be constructed at-grade, with 680-foot long side platforms, and fully ADA-compliant in accordance with federal law and SCRRRA/Metrolink design standards. The “typical” platform is constructed of concrete with steps up and ADA-compliant walkways from the surrounding grade to reach track elevation. In addition to the platform, there would be a trackside 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 is described below in greater detail.

For 2012, the four proposed stations are:

- Hunter Park Station would 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 Avenues. 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 Avenues, respectively. Selection of the Palmyrita Station option also would require a new main track to be constructed east of the existing SJBL between Citrus Street and Marlborough Avenue to accommodate the station. Any of these station options can accommodate parking for approximately 480 vehicles.
- Moreno Valley/March Field Station would be located south of Alessandro Boulevard on property currently owned by the March Joint Powers Authority (March JPA) and would be donated to RCTC. RCTC would be responsible for the construction, operations, and maintenance for the station and parking areas. The associated parking area would have a capacity of approximately 445 vehicles.
- Downtown Perris Station would be located between San Jacinto Avenue and 4th Street at the existing Perris Multimodal Transit Facility. The only improvements to be undertaken by RCTC would include the expansion of the existing parking capacity by approximately 440 spaces, and track realignment within the ROW to allow for proper spacing between the platform and the train. The Perris Multimodal Transit Facility, currently under construction, would include eight bus bays and five canopies. The facility would be operated as a bus terminal by Riverside Transit Agency (RTA) prior to the opening of the proposed PVL project. With the opening of the PVL, it would become a multimodal facility.
- South Perris Station would be located north of I-215 near the intersection of the SJBL ROW and State Route 74 (SR-74). Parking at this station would be provided for approximately 880 vehicles.



Layover Facility

The proposed Layover Facility would be located south of the South Perris Station and north of I-215. In the 2012 opening year, the Layover Facility would accommodate four 10-car trains arriving from Riverside in the afternoon. Trains would be stored overnight on the four storage tracks (approximately 1,000 feet in length), and would receive light maintenance, cleaning, and operational testing prior to morning departures. The Layover Facility would include an ADA-accessible employee support building with modular offices, storage, and parking. The employee support building would be raised by six feet to remain out of the 100-year floodplain.

Culverts and Bridges

There are 53 drainage culverts along the SJBL within the project area. Of the 53 culverts, eight treated wood box culverts (MP 1.30, 5.30, 9.70, 13.40, 15.30, and 15.80) would be replaced entirely. The eight treated wood box culverts have deteriorated and are near failure according to the Existing Conditions Report (JL Patterson & Associates, Inc. 2008). In addition to the wooden box culverts, 23 culverts will be extended to accommodate drainage under the proposed second rail.

The San Jacinto River is located near the southern end of the project. The project proposes to replace the two rail bridges at the San Jacinto River. The two bridge replacements, referred to as Bridge 20.70 and Bridge 20.80, are over the San Jacinto River and the San Jacinto River Overflow Channel.

2.3 STUDY AREA

Project Location

The project area is located in western Riverside County between the City of Riverside to south of the City of Perris. The entire project is located within the Santa Ana River watershed, with the southern portion of the project located with the San Jacinto River sub-watershed (Figure 2.3-1). The San Jacinto River is considered a sub-watershed because it has the potential to reach the Santa Ana River only in very wet years.

Climate

The proposed project is located in western Riverside County which has a mediterranean climate characterized by hot, dry summers and mild, relatively wet winters. The elevation of the project ranges from approximately 900 to approximately 1,500 feet above Mean Sea Level (United States Geological Survey, 1978–1980). The climate in the area is characterized by hot summers, mild winters and rainfall, which occurs almost entirely in the winter and early spring months. The mean annual precipitation is approximately 10 inches, with most of that rain falling between November and March (Riverside County, 2009). The range of average temperatures, high/low, is 68°F/43°F in January to 95°F/64°F in August.



**Figure 2.3-1
Watershed Map**



Soil Types

Thirty seven soil types were identified within the project area. The majority (approximately 80 percent) of the soil types were classified as sandy loams. Loam soils generally contain more nutrients and humus than sandy soils, have better infiltration and drainage than silty soils, and are easier to till than clay soils. Three of the soil types were included in the National Hydric Soils Indicator List including two phases of Domino silt loam (Dv, Dw) and Madera fine sandy loam (MaA). This suggests that most of the site soils formed in primarily upland conditions; however, some hydric soils have formed in local areas due to soil erosion.

(AnC, AoC) Arlington Sandy Loam - The Arlington series have brown, neutral, very fine sandy loam A horizons; reddish brown, mildly alkaline, loam B2t horizons; and are underlain by weakly cemented duripans. Arlington soils are on alluvial fans and terraces at elevations of 400 to 2,000 feet and occupy slopes of 2 to 8 percent. The climate is one of long dry summers and short mild winters with an average annual precipitation of 10 to 15 inches. The series is well drained; slow to medium runoff; and permeability is slow.

(BuC) Buren Fine Sandy Loam - The Buren series have yellowish brown, moderately alkaline, fine sandy loam A horizons; brown and pale brown, moderately alkaline, clay loam B2t horizons; and yellowish brown, weakly cemented Csi horizons. These soils are on gently to strongly sloping alluvial fans and terraces at elevations of about 700 to 3,000 feet. The soils formed in alluvium derived mostly from basic igneous rocks and partly from other crystalline rocks. The Buren soil type on site occupies 2 to 8 percent slopes and depth to a weakly cemented horizon ranges from 27 to 40 inches. This soil series is well to well drained, runoff is slow to medium, and permeability is moderately slow in the Bt horizon and very slow in the Csi horizon. The Buren soils were formerly classified as Noncalcic Brown soils.

(ChF2, CkF2) Cieneba Sandy Loam and Cieneba Sandy Rocky Loam - The Cieneba series consists of dark grayish brown to light brown sandy to gravelly loam A horizons. Cieneba soils are shallow and very shallow, formed from material weathered from granite and other rocks of similar texture and composition. The soils are at elevations of 500 to 4,000 feet and on-site soils in this series occupy 15 to 50 percent slopes. This soil series is somewhat excessively drained; runoff is low to medium; and permeability is moderately rapid, but much slower in the weathered granite.

(Dv, Dw) Domino Fine Sandy Loam - The Domino series consists of moderately deep, moderately well drained soils over lime-cemented hardpans. The Domino soils are on nearly level basin areas and toes of alluvial fans at elevations of 1,000 to 1,800 feet and occupies up to 2 percent slopes. Depth to the indurated lime hardpan ranges from 20 to 40 inches. Soils are moderately well drained with slow runoff and slow permeability. Both phases of this soil type are listed on the National Hydric Soils Indicator List and are located within 1,000 to 2,000 feet of the San Jacinto River crossing on the project site.

(EnA, EnC, EpA, EpC2) Exeter Sandy Loam - The Exeter series consists of moderately deep to a duripan (30 to 42 inches), moderately well drained soils that formed in alluvium mainly from granitic sources. Exeter soils are on hummocky; undulating to gently rolling alluvial fans and stream terraces at elevations of 20 to 700 feet and occupy slopes from 0 to 9 percent. The soils formed in alluvium mainly from granitic sources. In most areas, the hummocky relief has been



smoothed by leveling. Soils are moderately well drained with moderately permeability above the hardpan. Permeability of the duripan is very slow.

(FbF2, FkD2) Fallbrook Fine Sandy Loam - The Fallbrook series consists of deep, well-drained soils that formed in material weathered from granitic rocks. Usually the rock is deeply weathered and rock outcrops are common in some areas. Fallbrook soils are gently rolling to very steep and are on round hills at elevations of 200 to 3,000 feet or as high as 3,500 feet on south facing slopes. Depth to a paralithic contact of weathered parent material is 40 to 60 inches. Soils of this series occupy slopes from 8 to 35 percent. Soils are well-drained with medium to very rapid runoff and moderately slow permeability. These soils are very similar to the Ramona series.

(GyA, GyC2, GyD2) Greenfield Sandy Loam - The Greenfield series consists of deep, well drained soils that formed in moderately coarse and coarse textured alluvium derived from granitic and mixed rock sources. Greenfield soils are on alluvial fans and terraces and on-site soils occupy slopes from 2 to 15 percent. The A horizon ranges in color from pale brown to light brownish gray to grayish brown. Rock fragments range from less than 1 to 25 percent in the A and B horizons. Coarse and very coarse sands average more than 20 percent of the soil.

(HcC, HcD2, HgA) Hanford Sandy Loam - The Hanford series consists of very deep, well drained soils that formed in moderately coarse textured alluvium dominantly from granite. The Hanford soils are on stream bottoms, floodplains, and alluvial fans at elevations of 150 to 3,500 feet. The on-site soils of this series range from a fine to coarse sandy loam and occupy slopes of 0 to 15 percent. Soils are well drained with negligible to low runoff and moderately rapid permeability.

(MaA) Madera Fine Sandy Loam - The Madera series consists of moderately deep to hardpan, well or moderately well drained soils that formed from in old alluvium derived from granitic rock sources. Madera soils are on hummocky, gently sloping to undulating low terraces at elevations of 10 to 250 feet with on-site soils in this series occupying slopes of 0 to 2 percent. Soils are well to moderately drained with medium to very slow runoff and very slow permeability. Madera fine sandy loam (MaA) is listed on the National Hydric Soils Indicator List and is located approximately 4,000 feet southeast of the San Jacinto River crossing on the project site.

(MmB, MmC2, MmD2, MmE3, MnD2) Monserate Sandy Loam - The Monserate series consists of deep, well-drained soils that formed on nearly level to moderately steep old dissected terraces and fans at elevations of 700 to 2,500 feet. On-site soils from the Monserate series occupy slopes from 0 to 25 percent and are characterized as eroded to severely eroded. Monserate soils are moderately well to well drained with slow to rapid runoff. Permeability is moderately slow in the B2t horizon and very slow in the duripan. The Monserate soils were formerly classified as Nonclastic Brown soils.

(PaA, PaC2) Pachappa Fine Sandy Loam - The Pachappa series consists well-drained Noncalcic Brown soils developed from moderately coarse textured alluvium. They occur on gently sloping alluvial fans and flood plains under annual grass-herb vegetation. The Pachappa soils occur at elevations under 1,000 feet and on-site soils from this series occupy slopes from 0 to 8 percent. Soils are well drained with very slow runoff and moderate permeability. In places, the soil is subject to occasional overflow and high water table. The soils appear to have developed under conditions of occasional high water table. Most areas are no longer so affected, but excess salts and exchangeable sodium are still present in places.



(RaA, RaB2, RaB3, RaD2) Ramona Sandy Loam - The Ramona series is a member of the fine-loamy, mixed, thermic family of Typic Hapoxeralfs. Typically, Ramona soils have brown, slightly and medium acid, sandy loam and fine sandy loam A horizons, reddish brown and yellowish red, slightly acid, sandy clay loam B2t horizons, and strong brown, neutral, fine sandy loam C horizons. The Ramona soils are nearly level to moderately steep. They are on terraces and fans at elevations of 250 to 3,500 feet. They formed in alluvium derived mostly from granitic and related rock sources. On-site Ramona soils occupy slopes from 0 to 15 percent. Soils are well drained with slow to rapid runoff and moderately slow permeability.

(RtF) Rockland - The Rockland series consists of well-drained soils that formed in loamy colluvium from rotational landslides on slopes of stream valleys and dissections of ground moraines. Saturated hydraulic conductivity is moderate in the upper part of the profile and moderately slow in the lower part. Rockland series soil slopes range from 18 to 70 percent. Drainage water saturation does not occur above a depth of 203 centimeters year round (well drained).

(TeG) Terrace Escarpments – Terrace escarpments consist of unaltered, variable alluvium outwash on terraces or barrancas (a deep ravine or gorge). These areas have various soil profiles that are typically truncated.

(Wf, Wg, Wm, Wn) Willows Silty Clay - The Willows series consists of very deep, poorly to very poorly drained sodic soils formed in alluvium from mixed rock sources. Willows soils are in nearly level basins in intermountain valleys and large valleys at elevations 20 feet to as much as 1,700 feet. The soils formed in fine-textured mixed alluvium. Intermittent water tables are at depths of 24 to 60 inches. In some areas the water tables have been lowered by drainage and water control structures. Unless protected, this soil receives runoff from other areas. The Willows series soils that have been mapped within the project site are located within 1-mile of the San Jacinto River crossing

2.4 REGULATORY BACKGROUND

2.4.1 USACE Jurisdiction Subject to Section 404 of the Clean Water Act

Pursuant to Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged and/or fill material into “waters of the United States”. “Waters of the United States” includes navigable waterways and wetlands adjacent to navigable waterways, non-navigable waterways and wetlands adjacent to non-navigable waters that are contiguous with navigable waterways. The term “waters of the United States” is defined at 33 Code of Federal Regulation (CFR) Part 328 and currently includes (1) all navigable waters (including all waters subject to the ebb and flow of the tide), (2) all interstate waters and wetlands, (3) all impoundments of waters mentioned above, (4) all tributaries to waters mentioned above, (5) the territorial seas, and (6) all wetlands adjacent to waters mentioned above.

On January 9, 2001, the U.S. Supreme Court ruled (in *Solid Waste Agency of Northern Cook County V. U.S. Army Corps of Engineers*) that the USACE jurisdiction does not extend to previously regulated isolated waters, including, but not limited to, isolated ponds, reservoirs, and wetlands. Examples of isolated waters that are affected by this ruling include: vernal pools; stock ponds, lakes (without outlets); playa lakes; and desert washes that are not tributary to navigable or interstate waters or to other jurisdictional waters.



In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, including intermittent streams, extend to the Ordinary High Water Mark (OHWM), which is defined at 33 CFR 328.3(e) as:

“...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.”

Wetlands are defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions." In 1987, the USACE published a manual to guide its field personnel in determining jurisdictional wetland boundaries. In 1989, the Federal Interagency Committee for Wetland Delineation developed an updated methodology, which was adopted by the USACE, U.S. Fish and Wildlife Service (USFWS), United States Environmental Protection Agency (USEPA), and United States Department of Agriculture. Natural Resources Conservation Service and which replaced the 1987 Wetland Manual (Federal Interagency Committee for Wetland Delineation, 1989). The use of this 1989 manual was perceived by many to excessively increase the jurisdictional limits of wetlands. After several congressional hearings, USEPA, USACE, United States Department of Agriculture Soil Conservation Service, and USFWS published proposed 1991 revisions to the 1989 manual (Government Printing Office, 1991). A few days afterwards, the President signed the Energy and Water Development Appropriations Act of 1992, which in effect, prohibits the use of the 1989 manual. Because the 1991 proposed revisions to the 1989 manual have not yet been adopted, the only remaining valid methodology is the 1987 Wetland Manual. The methodology set forth in the 1987 Wetland Manual generally requires that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics.

While the manual provides great detail in methodology and allows for varying special conditions, a wetland should normally meet each of the following three criteria: More than 50 percent of the dominant plant species at the site must be typical of wetlands, that is, rated as facultative or wetter in the National List of Plant Species that Occur in Wetlands (Reed, 1988). These plants are known as “hydrophytic vegetation”;

- Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions). Such soils, known as “hydric soils”, have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season; and
- Hydrologic characteristics must indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year (approximately 18 days for southern California). Although the most reliable evidence of wetland hydrology may be provided by a gaging station or groundwater well data, such information is often limited for most areas. Thus, most hydrologic indicators are those that can be observed during field inspection. The following indicators provide some evidence of hydrology: (1) standing or flowing water; (2) water logged soils during the



growing season; (3) water marks present on trees or other objects associated with a drainage; (4) drift lines, which are small piles of debris oriented in the direction of water movement through an area; (5) shelving; (6) destruction of terrestrial vegetation; and (7) thin layers of sediments deposited on leaves or other objects.

2.4.2 CDFG Jurisdiction Subject to Section 1600 of the California Fish and Game Code

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, the CDFG regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFG defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFG's definition of "lake" includes "natural lakes or man-made reservoirs." CDFG jurisdiction within altered or artificial waterways is based upon the value of those waterways to fish and wildlife. CDFG Legal Advisor has prepared the following opinion:

- Natural waterways that have been subsequently modified and which have the potential to contain fish, aquatic insects, and riparian vegetation will be treated like natural waterways...
- Artificial waterways that have acquired the physical attributes of natural stream courses and which have been viewed by the community as natural stream courses, should be treated by (CDFG) as natural waterways...
- Artificial waterways without the attributes of natural waterways should generally not be subject to Fish and Game Code provisions...

Thus, CDFG jurisdictional limits closely mirror those of the USACE, however, exceptions are CDFG's addition of artificial stock ponds and irrigation ditches constructed on uplands, and the addition of riparian habitat supported by a river, stream, or lake regardless of the riparian areas federal wetland status.

Soils

As mentioned previously, hydric soils are saturated or ponded for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation (USACE, 1987). Indicators of wetland soils include observations of ponding and saturation, dark (low chroma) soil colors, contrasting mottles (concentrations of oxidized minerals such as iron), or gleying which indicated reducing conditions. Additional supporting information includes documentation of a soil as hydric, or reference to wet conditions in the Natural Resources Conservation Service soil survey (NRCS, 2008). Often localized hydric soil conditions are not documented due to their small size, erroneous mapping or recent development of hydric conditions are not documented due to their small size, erroneous mapping, or recent development of hydric conditions, and must be visually inspected to confirm hydric conditions.



Survey Methodology

Suspected USACE/CDFG jurisdictional areas were evaluated based on USACE Criteria established in the 1987 Wetland Delineation Manual, as modified by the Regional Supplement for the Arid West (USACE, 2007).

On February 18, 19, and 20, 2009 Kleinfelder biologists, Mr. Chris Enyedy and Mr. William Goggin, examined the Citrus Connection and SJBL to determine the limits of USACE jurisdiction pursuant to Section 404 of the CWA and CDFG jurisdiction pursuant to Section 1602 of the California Fish and Game Code. Temperatures ranged from low 50s degree Fahrenheit (°F) to low 70s °F. On May 27 and May 28, 2009 Ms. Hopkins field reviewed several locations delineated during the February field event to address changes in project design.

Prior to the beginning field delineation, 80 foot to the inch scaled colored aerial photographic maps and USGS topographic maps were examined to determine locations of potential areas of USACE/CDFG jurisdiction. In addition Kleinfelder reviewed information provided by RCTC regarding the locations of culverts within the project area. This information was used to define distinct study areas within the project area. In general study areas were defined as the area within a 50 foot radius of each culvert within the project area, except where physical features, including fences and buildings, truncated the study area. The rationale for defining the study area as a limited subset of the project area is that modifications within the project site are generally confined to the surface of the tracks, which are maintained to avoid vegetation or erosion, and areas of culvert upgrade or replacement. As such impacts to jurisdictional features will be confined to the study areas assessed. Other data that was reviewed include National Wetland Inventory database and soils data. Global Positioning System (GPS), coordinates were collected in the field using a Trimble® GeoHX unit. Using a digital camera, photographs of selected jurisdictional drainages were taken. Each linear drainage or waterbody was provided a drainage number based on its MP location (e.g., "MP 1.30", MP 5.30", etc.). Drainages are in order of MP along the alignment from north to south starting at the Citrus Connection on the SJBL.

Suspected USACE/CDFG jurisdictional areas were field checked for the presence of definable channels and/or wetland vegetation, riparian habitat, and hydrology. The lateral extent of a jurisdictional drainage can be measured in several ways depending on the particular situation. The outer edge of riparian vegetation is used as the line of demarcation between riparian and upland habitats and is therefore an identifiable boundary of the lateral extent of a jurisdictional drainage. On smaller streams or dry washes with little or no riparian habitat, the bank was used to mark the lateral extent of the jurisdictional drainage. OHWMs were delineated and quantified according to the USACE guidance on delineating arid streams in the southwestern United States (Lichvar and Wakeley, 2004). In addition, suspected riparian habitats were evaluated using the guidance described in A Field Guide to Lake and Streambed Alteration Agreements Sections 1600 – 1607 (CDFG, 2004).

Suspected wetland habitats on the site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987). Drainage areas that met the criteria for hydrology, according to the U.S. Army Corps of Engineers Wetland Delineation Manual, that supported the prevalence of facultative or wetter vegetation was sampled using soil pits.



Wetland Indicator Status

- Using the Routine, Small Area Determination Method described in the USACE Wetlands Delineation Manual (1987), sample plots (SP) were used to determine wetland or non-wetland status. Visual observations were used to identify vegetation, soil, and hydrological characteristics within the vicinity of the sample plots.
- Plant community types in proximity to potential wetland boundaries were identified. The biologists selected a representative observation point for each plant community, visually selected the dominant species from each stratum of the community, and recorded the wetland indicator status of the dominant species. A determination was then made as to whether the vegetation was hydrophytic or not.
- Hydrophytic vegetation dominates areas where the frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of a particular species occurring in wetlands. These indicators are published by the USFWS. As per the USACE, more than fifty percent of the dominant species must be hydrophytic to meet the wetland vegetation criterion. Hydrophytic plant indicator status designations conform to the following:
 - Obligate Wetland Plants (OBL) – Plants that occur almost always (estimated probability greater than 99 percent) in wetlands under natural conditions, but may also occur rarely (estimated probability less than 1 percent) in non-wetlands.
 - Facultative Wetland Plants (FACW) – Plants that occur usually (estimated probability is greater than 67 percent to 99 percent) in wetlands under natural conditions, but also occur (estimated probability is 1 percent to 33 percent) in non-wetlands.
 - Facultative Plants (FAC) – Plants with a similar likelihood (estimated probability is between 33 to 67 percent) of occurring in both wetlands and non-wetlands.
 - Facultative Upland Plants (FACU) – Plants that occur sometimes (estimated probability 1 percent to less than 33 percent) in wetlands, but occur more often (estimated probability is greater than 67 percent to 99 percent) in non-wetlands.
 - Obligate Upland Plants (UPL) - Plants that occur rarely (estimated probability less than 1 percent) in wetlands, but almost always occur (estimated probability is greater than 99 percent) in non-wetlands under natural conditions.
- Soil pits were dug at sample plots within the potential wetlands being investigated. Munsell Soil Color Charts (MacBeth, 1992) were used to evaluate the color, hue, and chroma of representative soils and oxygen reduction reactions (redox) features associated with anaerobic conditions. Redox features were also characterized by their size, distinction, and frequency of occurrence.

The biologist analyzed observed soil conditions against the “Field Indicators of Hydric Soils in the U.S. v. 6.0” and recorded finding from the samples to determine if the soils were hydric. Reducing conditions in the soil pits may be indicated by the presence of oxidized root channels, mottling, or gley soils. Also noted were other hydrological indicators such as soil saturation within the upper 12 inches of the soil, standing water within the soil pits, and the depth to saturated soil.



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2.0 PROJECT DESCRIPTION



3.0 JURISDICTIONAL ASSESSMENT

3.1 STUDY AREA OBSERVATIONS

Features located within the project area consisted primarily of man-made or man-altered waterways, which transversed the railroad right of way by way of culverts or bridges. Culverts frequently acted to focus sheet flow to a restricted area and were often characterized by adjacent, engineered, trackside ditches which lacked evidence of an OHWM. Typical situations encountered within the project area are as follows:

Stream Class

- Sites lacking an OHWM (Non-streams): Included in the project area are locations where direct precipitation to the locations adjacent to the site is transported as sheet flow. This water is transported via culverts from the upgradient to the downgradient side of the tracks. These locations lack sign of an OHWM or top of bank (TOB) and are not considered jurisdictional by either USACE or CDFG criteria.
- Sites lacking hydrological connection: Similar to the sites described above are locations where historical conditions or the influence of the culvert has resulted in evidence of a defined OHWM upgradient, downgradient or both, of the railroad track which terminates in a swale. As these sites lack hydrological connection to a WoUS, they are not jurisdictional by USACE criteria. CDFG criteria is site specific and depends, in part, on the extent of channel formation and potential to support wildlife.
- Ephemeral Sites: Ephemeral streams on the subject site ranged from 1 to 19 feet in width at the OHWM and 6 to 32 feet at the TOB. These sites typically had a clearly defined OHWM and TOB, but lacked water flow for sufficient duration to support hydrophytic vegetation. Due to the significant rain event prior to the delineation field visit, LDFs lacking water flow at the time of the field visit were classified as ephemeral.
- Intermittent Sites: Intermittent features in the project area ranged from 2 to 26 feet in width at the OHWM and 4 to 172 feet at the TOB. These sites typically had a clearly defined OHWM and TOB. Due to the significant rain event prior to the delineation field visit, intermittent features contained flowing water along at least a portion of their delineated length at the time of the February field visit but were unwetted at the time of the May field event.
- Perennial Sites: Perennial features in the project area include the Box Springs and several stormwater channels. They in some instances, include such characteristics as benching and tabling within the OHWM. Concrete lined perennial features are also present. Perennial features in the project area ranged from 1.5 to 28 feet in width at the OHWM and 8.5 to 42 feet at the TOB.

In addition to classification of stream type, the stream class was determined for each delineated feature. Stream classes are traditionally navigable water (TNW), relatively permanent water (RPW) and non-RPW.



3.2 WETLAND FEATURES

Hydrology

Wetland hydrology is characterized by inundation or soil saturation with a frequency and duration long enough during the growing season to cause the development of hydric soils and plant communities denominated by hydrophytic vegetation. Wetland hydrology assessment is based on soil surveys, observable topographic patterns of drainage and impoundment, and OHWM.

Field Observations

Five wetland sampling points, representing three areas of potential wetlands were collected. Sampling points X.1 and X.2 are associated with the San Jacinto River Overflow bridge located at MP 20.80. Sampling points 26.1 and 26.2 are associated with the culvert located at MP 6.8. Sampling point 31 is associated with the culvert located at MP 10.10. The bridge and culverts and their related drainages are discussed above.

Sampling point X.1 was located in an area with approximately 5 inches of surface water, which is indicative of wetland hydrology. The paired sampling point X.2 is was characterized by surface soil saturation, however as this location was sampled during the February field event, the presence of surface saturation is a reflection of the recent rain event and is not an indicator of wetland hydrology.

Sampling points 26.1 and 26.2 were characterized by one to two inches of surface water, surface saturation, water marks and sediment deposits. Sampling point 26.1 also had evidence of drift deposits and water-stained leaves. These characteristics are evidence of wetland hydrology. The wetland at site 26 spans both sides of the railroad, with an intervening culvert.

Sampling point 31 was characterized by 12 inches of surface water, which is indicative of wetland hydrology. Sampling point 31 abuts the intermittent/perennial feature at location 31.

Conclusions about Hydrology

Sample points X.1, 26.1, 26.2, and 31 showed evidence of wetland hydrology based on the depth of standing water at the surface for each of these four points as well as additional hydrology indicators for sample points 26.1 and 26.2.

Soils

Hydric soils are saturated or ponded for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation (USACE 1987). Indicators of wetland soils include observations of ponding and saturation, dark (low chroma) soil colors, contrasting mottles (concentrations of oxidized minerals such as iron), or gleying (blue-gray color) which indicate reducing conditions. Additional supporting information includes documentation of a soil as hydric, or reference to wet conditions, in the Natural Resources Conservation Service (NRCS, 2008) soil survey. Often, localized hydric soil conditions are not documented due to their small size, erroneous mapping,



or recent development of hydric conditions, and must be visually inspected to confirm hydric conditions.

Field Observations

Kleinfelder dug soil pits to a depth of 18 inches below ground surface for two of the five wetland data locations. For sampling points X.1 and X.2, a single A horizon with a color of 10YR 4/2 was present. Soils were silty clay without redox features. Soil in these locations was not characteristic of hydric soils.

Sampling points 26.1 and 26.2 had a hydrogen sulfide odor at the soil surface. Hydrogen sulfide odor is an indicator of hydric soils. In addition sampling point 26.2 had mucky black soil observed within an outfall area. A layer of muck at least 1 centimeter in depth is an indicator of hydric soil.

Sampling point 31 was located within a well defined pool of standing water with a clearly defined OHWM. The presence of standing water typically precludes digging of a soil pit. Hydric soils at this location are assumed.

Conclusions about Project Area Soils

Sample points within the project area contain areas of both hydric and non-hydric soils. Hydric soils within the sample points were identified based on the presence of muck, hydrogen sulfide odor and inundation. The presence of locations with well defined hydric soils also supports the conclusion that X.1 and X.2 were in locations of non-hydric soils, as soils in the project area have been un-disturbed for sufficient time as to have developed hydric soil indicators.

Vegetation

Hydrophytic vegetation dominates areas where the frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of species occurring in wetlands (Reed, 1988). More than fifty percent of the dominant species must be hydrophytic to meet the wetland vegetation criterion.

Existing Level of Disturbance

The observed conditions of the project areas indicate significant modification and disturbance of the historic native substrate and vegetation structure. Kleinfelder observed evidence that the site had been graded and filled throughout the majority of the project area. Evidence of human induced modifications of the site include residential, commercial and industrial development, agricultural modifications and the development of the railroad. The historically expected vegetation structure appears to have been extirpated, and replaced by non-native species and native plants adapted to the project areas current substrate and hydrological conditions.

Project Area Vegetation

The project area is characterized by a railroad berm with compacted soils that are, or have in the past been, sprayed with herbicides. As such the majority of the right of way is unvegetated with areas of ruderal vegetation bordering the railroad berm. The railroad right of way transects



commercial, industrial, residential, agricultural, military and educational uses, yielding a variety of vegetation types bordering the project area.

Sampling point X.1 contains a mix of FACW, FAC, and UPL species. Sampling point X.1 had two dominant and two non-dominant species identified in the field. Of the dominant species, one was FACW and the other was FAC. The four identified species were in the herb stratum. The dominance test is 100% at this location. Based on the dominance test sampling point X.1 has hydrophytic vegetation.

Sampling point X.2 contains a mix of FAC and UPL species. Sampling point X.2 had three dominant three and non-dominant species identified in the field. Of the dominant species, one was FAC and two were UPL. The six identified species were in the herb stratum. The dominance test at sampling point X.2 is 33 percent, which indicates upland vegetation. The prevalence index at sampling point X.2 is 4.3 which indicates an upland vegetation community. Therefore the vegetation at this site is upland vegetation.

Sampling point 26.1 contains a mix of OBL and FACW species. Sampling point 26.1 had two dominant and one non-dominant species identified in the field. Of the dominant species, both were OBL. One of the identified species was in the tree stratum and two were in the shrub stratum. The dominance test is 100% at this location. Based on the dominance test sampling point 26.1 has hydrophytic vegetation.

Sampling point 26.2 contains a mix of OBL and FACW species. Sampling point 26.2 had three dominant and one non-dominant species identified in the field. Of the dominant species, two were OBL and one was FACW. One of the identified species was in the tree stratum and three were in the shrub stratum. The dominance test is 100% at this location. Based on the dominance test sampling point 26.2 has hydrophytic vegetation.

Sampling point 31 contains a mix of FACW and FAC species. Sampling point 31 had three dominant and three non-dominant species identified in the field. Of the dominant species, two were FACW and one was FAC. Three of the identified species were in the shrub stratum and three were in the herb stratum. The dominance test is 100% at this location. Based on the dominance test 31 has hydrophytic vegetation.

Conclusions about Project Area Vegetation

By implementing the USACE arid west methodology for determining wetland vegetation indicators, the dominant or majority (greater than 50 percent) of the vegetation within sampling points X.1, 26.1, 26.2 and 31 is comprised of hydrophytic or wetland vegetation. Sampling point X.2 lacked a majority of hydrophytic or wetland vegetation as measured by a less than 50% wetland vegetation and a prevalence index of three or greater, and therefore contains upland vegetation.



4.0 JURISDICTIONAL DETERMINATION RESULTS

The project is approximately 24 miles in length and extends from the City of Riverside to south of the City of Perris. The project is planning to totally replace 8 wooden culverts, extend twenty three existing concrete culverts, and replace two wooden bridges.

USACE Jurisdiction

Permanent impacts to USACE jurisdiction from the proposed Project total 0.020 acres. In addition, temporary impacts to USACE jurisdiction from the proposed Project total 0.036 acres (Table 1). It should be noted that although wetlands were identified within the existing rail right-of-way, no wetlands are within the proposed project work areas.

CDFG Jurisdiction

Permanent Impacts to CDFG jurisdiction from the proposed Project total 0.035 acres. In addition, temporary impacts to CDFG jurisdiction from the proposed Project total 0.056 acres (Table 2).



**Table 4.0-1
Impacts to USACE Jurisdiction**

MILEPOST	STREAM TYPE	JURISDICTIONAL	POTENTIAL WETLAND FEATURE	MEETS CRITERIA (IMPACTED)	USACE TOTAL JURISDICTIONAL AREA (ft)	USACE TEMPORARY IMPACTS (ft)	USACE PERMANENT IMPACTS (ft)
1.30	NA	NO	NO	NO	0	0	0
1.40	NA	NO	NO	NO	0	0	0
5.30	EPH/ERSN	YES	NO	YES	490	41	0
5.80	INTERMITTENT	YES	NO	YES	439	87	42
6.11	PERENNIAL	YES	NO	YES	228	19.5	0
6.20	PERENNIAL	YES (downstream)	NO	NO	412	0	0
6.60	EPH/ERSN	YES	NO	YES	319	135	117
6.70	EPHEMERAL	YES	NO	YES	794	269.5	107.5
9.70	NA	NO	NO	NO	0	0	0
9.90	NA	NO	NO	NO	0	0	0
10.10	PERN/INTRM ⁽¹⁾	YES	YES	YES	1610	144	64
11.13	INTERMITTENT	YES	NO	YES	404	162	144
11.30	NA	NO	NO	NO	0	0	0
11.59	INTRM/ERSN	YES	NO	YES	306	247	208
12.10	NA	NO	NO	NO	0	0	0
12.40	NONE	NO	NO	NO	0	0	0
12.52	EPHEMERAL	YES	NO	YES	658	110	80
12.58	NA	NO	NO	NO	0	0	0
13.20	NA	NO	NO	NO	0	0	0
13.40/13.43	EPHEMERAL	YES	NO	YES	494	90	0
14.50	NA	NO	NO	NO	0	0	0
14.80	NA	NO	NO	NO	0	0	0
14.90	NA	NO	NO	NO	0	0	0
15.30	EPHEMERAL	YES	NO	YES	1319	173.5	91
15.80	NA	NO	NO	NO	0	0	0
16.16	NA	NO	NO	NO	0	0	0
16.20	EPH/ERSN	YES	NO	YES	245	58.5	31.5



MILEPOST	STREAM TYPE	JURISDICTIONAL	POTENTIAL WETLAND FEATURE	MEETS CRITERIA (IMPACTED)	USACE TOTAL JURISDICTIONAL AREA (ft)	USACE TEMPORARY IMPACTS (ft)	USACE PERMANENT IMPACTS (ft)
17.10	EPH/ERSN	YES	NO	YES	160	15	0
18.10	NA	NO	NO	NO	0	0	0
20.7 (Bridge)	INTERMITTENT	YES	NO	NO	4307	0	0
20.8 (Bridge)	INTERMITTENT	YES	YES	NO	3561	0	0
NOTES:				Total Ft	15746	1552	885
				Total Acreage	0.607	0.036	0.020

**Table 4.0-2
Impacts to CDFG Jurisdiction**

MILEPOST	STREAM TYPE	JURISDICTIONAL	POTENTIAL WETLAND FEATURE	MEETS CRITERION (IMPACTED)	CDFG TOTAL JURISDICTIONAL AREA (Ft ²)	CDFG TEMPORARY IMPACTS (Ft ²)	CDFG PERMANENT IMPACTS (Ft ²)
1.30	NA	NO	NO	NO	0	0	0
1.40	NA	NO	NO	NO	0	0	0
5.30	EPH/ERSN	YES	NO	YES	1087	70.5	0
5.80	INTERMITTENT	YES	NO	YES	854	137	77
6.11	PERENNIAL	YES	NO	YES	349	25.5	0
6.20	PERENNIAL	YES (downstream)	NO	NO	920	0	0
6.60	EPH/ERSN	YES	NO	YES	833	180	156
6.70	EPHEMERAL	YES	NO	YES	1126	269.5	107.5
9.70	NA	NO	NO	NO	0	0	0
9.90	NA	NO	NO	NO	0	0	0
10.10	PERN/INTRM ⁽¹⁾	YES	YES	YES	2250	216	144
11.13	INTERMITTENT	YES	NO	YES	893	294.5	248
11.30	NA	NO	NO	NO	0	0	0
11.59	INTRM/ERSN	YES	NO	YES	707	361	304
12.10	NA	NO	NO	NO	0	0	0



MILEPOST	STREAM TYPE	JURISDICTIONAL	POTENTIAL WETLAND FEATURE	MEETS CRITERION (IMPACTED)	CDFG TOTAL JURISDICTIONAL AREA (Ft ²)	CDFG TEMPORARY IMPACTS (Ft ²)	CDFG PERMANENT IMPACTS (Ft ²)
12.40	NONE	NO	NO	NO	0	0	0
12.52	EPHEMERAL	YES	NO	YES	1162	187	136
12.58	NA	NO	NO	NO	0	0	0
13.20	NA	NO	NO	NO	0	0	0
13.40/13.43	EPHEMERAL	YES	NO	YES	1336	162	90
14.50	NA	NO	NO	NO	0	0	0
14.80	NA	NO	NO	NO	0	0	0
14.90	NA	NO	NO	NO	0	0	0
15.30	EPHEMERAL	YES	NO	YES	3035	332	182
15.80	NA	NO	NO	NO	0	0	0
16.16	NA	NO	NO	NO	0	0	0
16.20	EPH/ERSN	YES	NO	YES	347	130	70
17.10	EPH/ERSN	YES	NO	YES	406	60	0
18.10	NA	NO	NO	NO	0	0	0
20.70 (Bridge)	INTERMITTENT	YES	NO	NO	12208	0	0
20.80 (Bridge)	INTERMITTENT	YES	YES	NO	5662	0	0
NOTES:				Total Ft ² :	33175	2425	1514.5
				Total Acreage:	1.4	0.056	0.035



4.1 POTENTIAL WATERS OF THE U.S. IDENTIFIED IN THE PROJECT AREA

Of the fifty six (56) potential linear drainage features surveyed, thirty (30) features were determined to be jurisdictional and twenty six (26) were determined to either not fulfill the criteria for linear drainage features or to lack hydrological connection to a Water of the United States (WoUS), which is a requirement for USACE jurisdiction.

The thirty (30) jurisdictional features were observed on site were comprised of eleven (11) ephemeral drainages, ten (10) intermittent drainages, eight (8) perennial drainages, and one (1) drainage which could not be clearly identified as intermittent or perennial.

4.2 POTENTIAL WETLANDS IDENTIFIED IN THE PROJECT AREA

Three of the five sample points were characterized as having hydrophytic vegetation, hydric soils, wetland hydrology and hydrological connection to a WoUS and are considered wetland points. Sample points X.1 and X.2 lacked hydric soils and wetland hydrology. In addition X.2 lacked hydrophytic vegetation. These locations are considered uplands.



5.0 CONCLUSIONS

Direct Impacts

The PVL project area contains both wetlands and other WoUS which are USACE and CDFG jurisdictional.

A total of two jurisdictional wetland features, characterized by three wetland sampling points, were identified within the project area. One feature was seasonal and one feature was perennial.

A total of 30 jurisdictional linear drainage features were identified within the project area, consisting of 11 ephemeral drainages, 10 intermittent drainages, 8 perennial drainages and 1 drainage which is either intermittent or perennial.

Indirect Impacts

Indirect impacts to jurisdictional waters could potentially occur via exposure of graded areas and other areas denuded of vegetation by construction activities to rainfall. Erosion of exposed soils could indirectly impact jurisdictional water courses downstream. With implementation of the construction water quality plan and post-construction water quality plan the effects to downstream jurisdictional waters, including erosion, siltation, and other degradation of water quality, are expected to be minimal and not substantial. The following construction and post-construction water quality control measures are designed to minimize the effects of this potential problem.

Construction Water Quality Plan

Section 402(p) of the 1987 amendment to the Clean Water Act requires that this project be authorized by National Pollutant Discharge Elimination System (NPDES) permit. The primary objectives of the NPDES General Construction Activities Storm Water Permit for the Project are to: (1) reduce excessive erosion potential, (2) minimize excessive sedimentation, (3) prevent other materials used at the construction sites from causing off-site contamination, (4) eliminate non-storm water discharges from the construction sites, (5) install appropriate measures to reduce impacts on waterways from the completed project and provide a commitment that these measures will be maintained, and (6) establish maintenance commitments on post-construction sites. Implementation of the NPDES permit conditions will ensure that the Project will meet these objectives.

Regulations governing storm water runoff associated with construction activities require that the Project perform the following tasks. Prior to the start of any construction activities on the project site, a Notice of Intent (NOI) will be filed by the applicant with the State Water Resources Control Board as a requirement of the use of the General Construction Activity Storm Water Permit. A Storm Water Pollution Prevention Plan (SWPPP) and Monitoring Program will be developed to identify specific pollution prevention measures that will eliminate or control potential point and non-point pollution sources on the site during and following the Project's construction phase. The SWPPP will contain provisions for changes to the plan, such as alternative mechanisms or plant materials, if necessary during project design and/or construction to achieve the stated goals and performance standards.



The SWPPP will comply with the effluent limitations of the General Construction Activities Storm Water Permit will implement storm water Best Management Practices (BMPs) to control, prevent, remove or reduce pollutants in storm water discharges.

Post Construction Water Quality Plan

Best Management Practices: The post-construction water quality plan will be designed to provide the daily protection against the pollution of stormwater runoff that is associated with linear transportation facilities. The primary post-construction concern is to prevent erosion and provide bank stabilization on the downstream side of the railroad track – as is currently happening with several culvert outlets. These culverts will be reconfigured and maintained so as not to cause downstream erosion in the future. The structural (treatment control) BMPs may include the control of impervious runoff, energy dissipaters, and water quality inlets. Final stabilization would be obtained when soil disturbing construction activities have been completed.

Revegetation Plan: The Revegetation Plan will include the revegetation plan include the revegetation of graded areas and other denuded sites due to construction activities for the purpose of erosion control. Areas in which vegetation did not exist prior to project related activities would be returned to their pre-construction state. The goal of the revegetation plan is to protect the final cover soils against erosion and to provide vegetative cover that will survive the arid climate of the site with minimal irrigation and maintenance.

5.1 MITIGATION

The mitigation for impacts to USACE and CDFG jurisdictions are currently being developed and will be submitted under a separate cover. Offers of mitigation will be coordinated and finalized through consultation with the resource agencies. The remaining portion of this section is an assessment of a few of the guiding principals usually employed in negotiating mitigation with the resource agencies for impacts to jurisdictional waters.

Mitigation can take several forms. It can consist of; avoidance of impacts, reduction of impacts, or compensation for impacts (Memorandum of Agreement, 1989). The first two types of mitigation (avoidance or reduction or impacts) are much preferred by the agencies and should be investigated to the maximum extent possible. In cases where impacts cannot be avoided or substantially reduced, compensation must be considered.

Compensation is the creation of habitat to replace similar habitat unavoidably eliminated at a different location. In order to be accepted, the concerned agencies must be convinced that the proposed compensation will totally mitigate for the lost habitat. Because the creation of habitat requires time (usually several years) there is a temporal loss of habitat unless the mitigation is preformed several years in advance of the removal of the existing habitat. As a result, the agencies often require compensation at a ratio of greater than one-to-one.

If mitigation is performed on the project site, or immediately adjacent to the project site, the mitigation is said to be “onsite”. If no mitigation opportunities are available at or adjacent to the project site, “offsite” mitigation may be considered. Generally, as the distance between the project and the mitigation sites increases, the value of the mitigation (as determined by the agencies) decreases.



If onsite mitigation is not available, a project proponent may contribute money to a mitigation bank, if acceptable to the resource agencies. A mitigation bank is a parcel of habitat, which is managed for its natural resource values and set aside in perpetuity or protected from future development. The resource benefits derived from this management regime are sold as credits to protect proponents who seek mitigation opportunities to compensate for impacts to CDFG and/or USACE jurisdiction elsewhere.

If there is no practicable opportunity of on-site compensation or use of a mitigation bank, then the USACE may accept the use of an in-lieu-fee mitigation (Federal Register, 2000). Those organizations considered qualified to implement formal in-lieu-fee arrangements should work in advance with USACE to ensure that the authorized impacts will be offset fully on a project-by-project basis. Organizations should supply the USACE with information in advance on (1) potential sites where specific restoration projects or types of restoration projects are planned; (2) the schedule for implementation; (3) the type of mitigation that is most ecologically appropriate on a particular parcel; and (4) the financial, technical, and legal mechanisms to ensure long-term mitigation success. The in-lieu-fee arrangements should contain distinct provisions that clearly state the legal responsibility for ensuring mitigation terms are satisfied fully rests with the organization accepting the in-lieu-fee. In-lieu-fee mitigation should be planned to be self-sustaining over time to the extent possible.

SUMMARY AND CONCLUSIONS

Summary of Results

Permanent impacts to USACE jurisdiction from the proposed Project total 0.020 acres, with no wetlands being impacted. In addition, temporary impacts to USACE jurisdiction from the proposed Project total 0.036 acres, with no wetlands being impacted. Permanent impacts to CDFG jurisdiction from the proposed Project total 0.035 acres. In addition, temporary impacts to CDFG jurisdiction from the proposed project total 0.056 acres.

USACE Regulations and Procedures

Federal law recognizes wetlands and other waters of the United States as valuable natural resources. Therefore, federal agencies (principally USACE, USFWS, and EPA) strongly discourage activities within federal jurisdictions that alter aquatic habitats. They include the individual permit program and the nationwide permit program.

Nationwide Permit Programs

Nationwide Permits (NWP) are general permits issued by USACE on a national level. Currently, NWPs cover activities such as placement of navigational aids, outfall structures, linear transportation crossings, back stabilization activities, and stream and wetland restoration projects associated with residential and commercial development. Regulations authorizing the NWPs provide a streamlined approach to compliance with Section 404 for certain development activities. Regulations authorizing NWPs give USACE the authority to modify, suspend, or revoke NWPs for specific activities or within specific geographic regions, as well as the authority for districts or divisions to add their conditions, called regional conditions, to the general conditions. If a project cannot comply with one or more conditions of an NWP, the project proponent must apply for an Individual Permit.



CDFG Regulations and Procedures

Unlike the USACE, CDFG regulates not only the dredge or fill material, but all activities that alter streams and lakes and their associated habitats. CDFG has no abbreviated permitting process comparable to the USACE nationwide permits. A CDFG 1600 Agreement is required for all activities resulting in impacts to streambeds and their associated riparian habitats.

CDFG generally requires that any impacts to streambeds and adjacent riparian habitats be fully mitigated. To ensure rapid and favorable action on a 1600 notification, a mitigation plan should be submitted with the notification package. It normally takes 44 days for the CDFG to process a 1600 notification.

RWQCB Regulations and Procedures

A 401 water quality certification is required to those applicants who seek a federal permit to discharge fill material into a water of the United States. The USACE will not grant authorization until the water quality certification has been obtained or waived. A water quality certification is issued by the RWQCB that states that the applicant will comply with all pertinent water quality standards (both federal and state water quality standards). The jurisdictional limits of the RWQCB pursuant to Section 401 of the Clean Water Act are identical as that defined above for the USACE under Section 404 of the Clean Water Act.

If the applicant is not notified by the Regional Board within 60 days of the postmarked date of the application, the applicant may assume that the project meets the conditions of the certification.



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PLATES

Culvert Site Photographs

APPENDIX A

Jurisdictional Determination Study Areas