

3.18 Wetlands and Other Waters

3.18.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act [CWA (33 USC 1344)], is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the United States (U.S.), including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

USACE issues two types of 404 permits: General and Standard permits. There are two types of General permits: Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

There are two types of Standard permits: Individual permits and Letters of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard permits. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (U.S. EPA 40 CFR Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines were developed by the U.S. EPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not

issue a permit if there is a LEDPA to the proposed discharge that would have fewer effects on waters of the U.S., and not have any other significant adverse environmental consequences.

Caltrans, the Federal Highway Administration (FHWA), the USACE, U.S. EPA, and the U.S. Fish and Wildlife Service (USFWS) entered into a Memorandum of Understanding (MOU) to integrate the National Environmental Policy Act (NEPA) and the Clean Water Act (CWA) for Environmental Impact Statement (EIS) projects that have 5 or more acres of permanent impact to Waters of the United States (U.S.). Under this MOU, the signatory agencies agree to coordinate at three checkpoints: (1) purpose and need, (2) identification of range of alternatives, and (3) preliminary determination of the least environmentally damaging practicable alternative (LEDPA) and conceptual mitigation plan. The goal of the MOU process is to allow the USACE to more efficiently adopt the EIS for their Section 404 permit action.

The Executive Order for the Protection of Wetlands (E.O. 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as FHWA and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction, and (2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Game (CDFG), the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the CWA. Please see Section 3.10, Water Quality and Storm Water Runoff, for additional details.

3.18.2 Affected Environment

This Wetlands and Other Waters section focuses on the issues covered in the *Supplement to the Natural Environment Study* (December 2011), the *Natural Environment Study* (NES) (July 2008), *Supplemental Jurisdictional Delineation for Mid County Parkway* (October 2011; Appendix C of the *Supplement to the Natural Environment Study*), the *Jurisdictional Delineation and Assessment Report* (2007; Revised February 2008; Appendix L of the 2008 NES), and the *Potential Impacts of Alternative Corridor Alignments to Waters of the United States, Riparian Ecosystems, and Threatened and Endangered Species: Mid County Parkway Project, Riverside County, California* (Smith 2011; Appendix G of the *Supplement to the Natural Environment Study*).

Detailed discussions and maps of identified jurisdictional features are provided in the *Jurisdictional Delineation and Assessment Report* and the *Supplemental Jurisdictional Delineation for Mid County Parkway*. The draft 404(b)(1) Alternatives Analysis is provided in Appendix M, Draft 404(b)(1) Alternatives Analysis, and the Conceptual Mitigation Plan is provided in Appendix P, Conceptual Mitigation Plan. Appendix M includes a discussion of alternatives that would completely avoid impacts to jurisdictional waters, as well as a discussion of all practicable measures to minimize harm.

3.18.2.1 United States Army Corps of Engineers and California Department of Fish and Game Jurisdiction

Areas under the jurisdiction of USACE differ from those under the jurisdiction of CDFG; therefore, the following text describes the basis of the USACE and CDFG jurisdictions over various waters.

USACE jurisdiction extends laterally to the ordinary high water mark or beyond the ordinary high water mark to the limit of any adjacent wetlands, if present. The ordinary high water mark is defined as "... that line on the shore established by the fluctuations 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 area.”

In this section, USACE jurisdictional areas are described as either wetland or nonwetland areas. The USACE defines wetlands as “... those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions.” To satisfy the USACE wetland definition, an area must possess three wetland characteristics: (1) hydrophytic vegetation,¹ (2) hydric soils,² and (3) wetland hydrology.³ Generally, nonwetland waters are those within the ordinary high water mark that are not wetlands.

CDFG regulates streams and rivers, which are defined by the presence of a channel, bed, and banks, and regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by CDFG. CDFG has not defined wetlands for jurisdictional purposes. CDFG generally includes, within the jurisdictional limits of streams and lakes, any riparian habitat present. Riparian habitat includes willows, alders, and other vegetation typically associated with the banks of a stream or lake shoreline. In most situations, wetlands associated with a stream or lake would fall within the limits of riparian habitat. Thus, defining the limits of CDFG jurisdiction based on riparian habitat will automatically include any wetland areas. Wetlands not associated with a lake, stream, or other regulated area are generally not subject to CDFG jurisdiction.

Typically, USACE jurisdictional areas are located within CDFG jurisdictional areas, because CDFG jurisdiction often extends to riparian areas that lack evidence of an ordinary high water mark or one or more of the requisite wetland criteria (hydrology, hydric soils, hydrophytic vegetation) and, therefore, are not regulated by USACE.

¹ Plant life that grows, and is typically adapted for life, in permanently or periodically saturated soils.

² Soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions (i.e., absence of oxygen) in the upper part.

³ Areas with wetland hydrology are those where the presence of water has an overriding influence on vegetation and soil characteristics due to anaerobic and reducing conditions, respectively.

Therefore, USACE jurisdictional areas are usually smaller areas located within CDFG jurisdictional areas.

The USACE reviewed the *Jurisdictional Delineation and Assessment Report* and issued its verification of the report by letter, dated April 10, 2008 (copy provided in Appendix J, Supplemental Chapter 5 Attachments). The USACE reviewed the *Supplemental Jurisdictional Delineation for Mid-County Parkway* (October 2011) as an Appendix of the *Supplement to the Natural Environment Study* and none of their comments pertained to the *Supplemental Jurisdictional Delineation for Mid County Parkway*.

Other correspondence from the USACE and other NEPA/Section 404 agreement agencies related to the purpose and need statement and the alternatives evaluated are also included in Appendix J.

3.18.2.2 Jurisdictional Areas in the MCP Study Area

The MCP study area for jurisdictional areas is based on drainage patterns in the vicinity of the MCP project footprint. Therefore, the MCP study area for jurisdictional areas is slightly different than the Biological Study Area (BSA) for other biological resources. The MCP study area is located within the San Jacinto River watershed. The hydrologic unit within which the MCP study area lies is the San Jacinto Valley Hydrologic Unit, which is further divided into Hydrologic Areas and Hydrologic Sub-Areas.

The MCP study area is located within the following Hydrologic Sub-Areas within the San Jacinto Valley Hydrologic Unit: Perris Valley Hydrologic Sub-Area, Lakeview Hydrologic Sub-Area, Hemet Hydrologic Sub-Area, and Gilman Hot Springs Hydrologic Sub-Area.

For ease of discussion, the *Jurisdictional Delineation and Assessment Report* divided the study area into geographic “Reaches,” as shown in Figures 3.18.1, USACE Jurisdictional Areas, and 3.18.2, CDFG Jurisdictional Areas. A reach is an area encompassing a group of drainage systems. The delineation of each reach for the MCP project was based on drainage patterns and functional similarity of wetland areas. Reaches defined in the Jurisdictional Delineation are different from the “riparian reaches” described in USACE reports (refer to discussion in Section 3.18.2.4, Watershed Level Functions and Conditions Assessment). During the field surveys for the MCP delineation, numerous distinct jurisdictional features were identified within the MCP study area and included perennial, ephemeral, and

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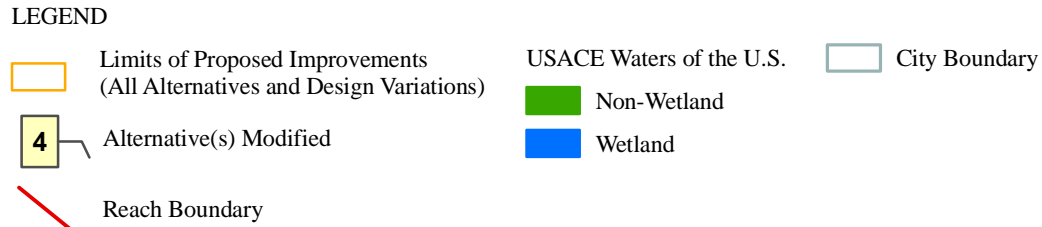
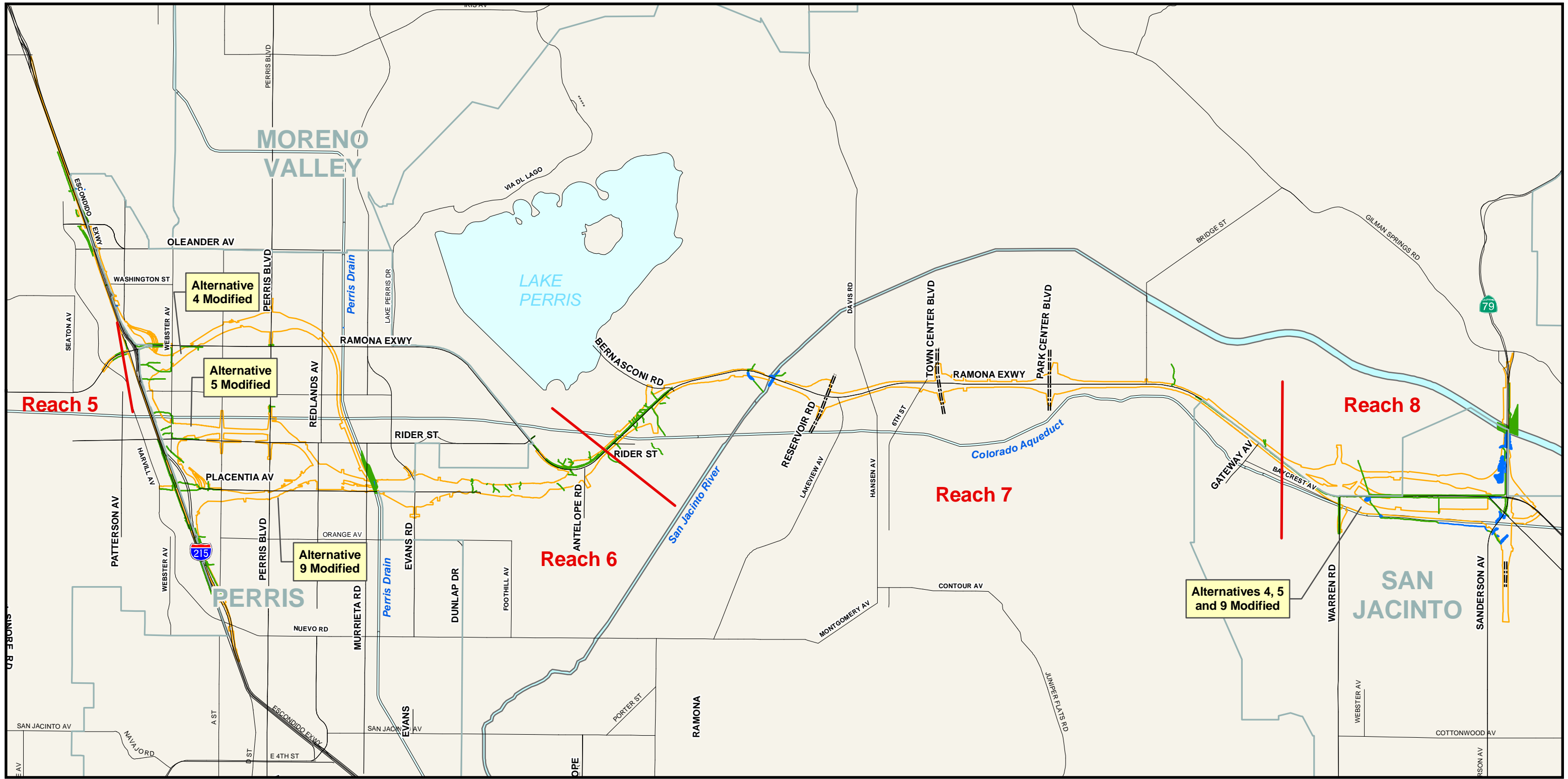


FIGURE 3.18.1

SOURCE: TBM (2010), Jacobs Engineering (2011)



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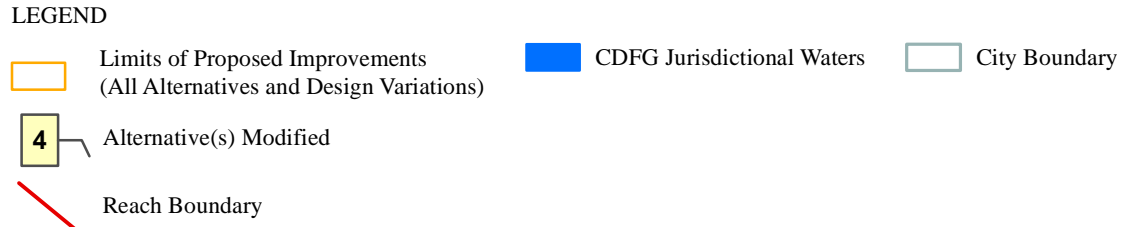
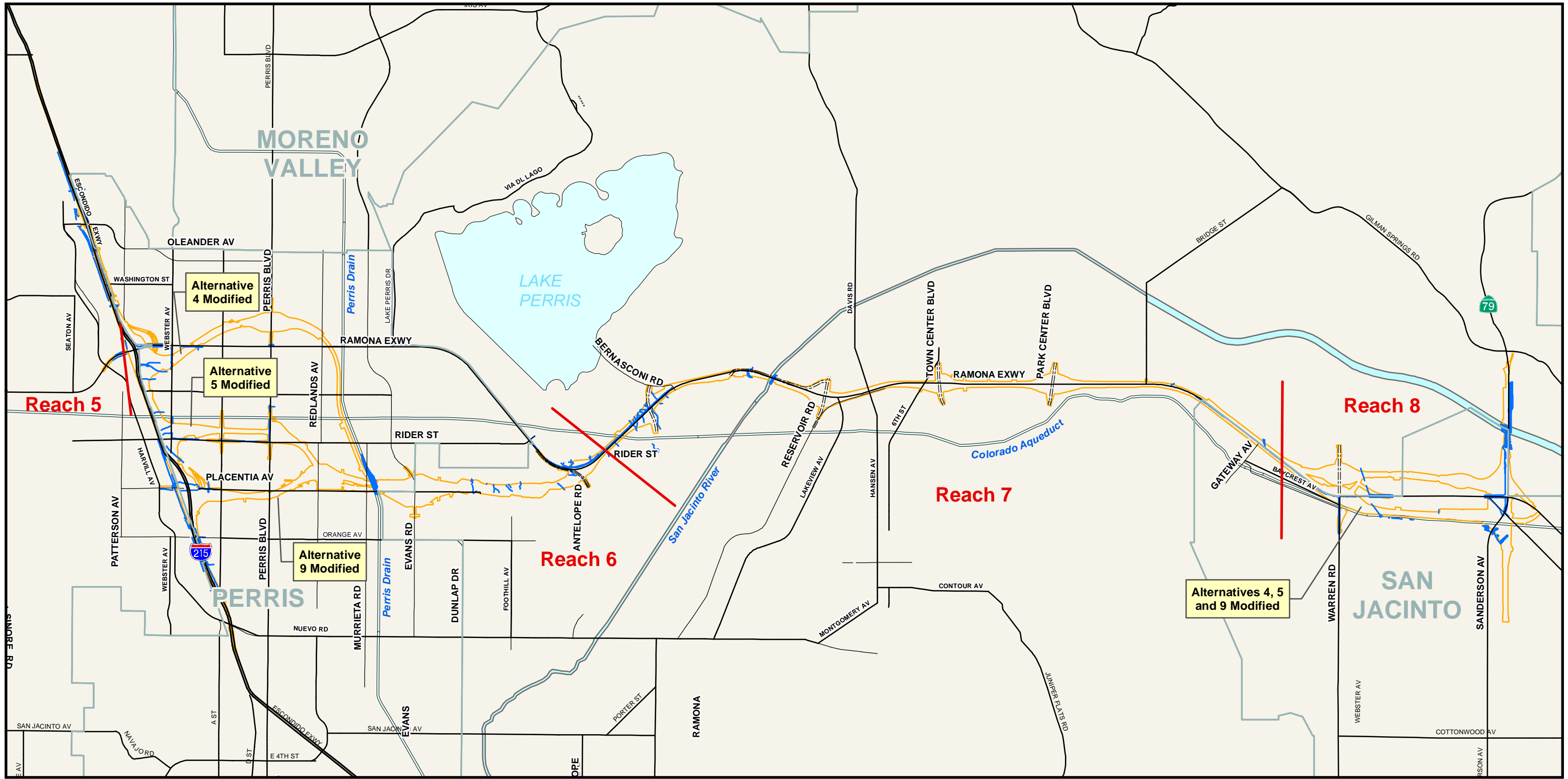


FIGURE 3.18.2

SOURCE: TBM (2010), Jacobs Engineering (2011)



CDFG Jurisdictional Areas
 08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
 EA 08-0F3200 (PN 080000125)



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intermittent drainages and wetlands. The MCP study area contains approximately 59 acres (ac) of USACE jurisdictional waters, of which approximately 25 ac consist of wetlands, as shown on Figure 3 of Appendix M, 404(b)(1) Alternatives Analysis. The study area also contains approximately 85 ac of CDFG jurisdictional area.

The average historic annual rainfall in the central part of the study area (City of Perris) is 10.4 inches (in), per the Western Regional Climate Center (<http://www.wrcc.dri.edu/htmlfiles/ca/ca.ppt.html>, accessed November 14, 2011). Within the BSA for the MCP project, the total impervious surfaces associated with developed areas (as described in the *Supplement to the Natural Environment Study*) are less than 30 percent.

3.18.2.3 Wetland Functions

The functions of the identified wetlands within the MCP study area initially were qualitatively assessed in the Jurisdictional Delineation using the functions described in *Wetland Evaluation Technique (WET)* (Adamus et al. 1987). This methodology provides a cursory understanding of the quality of the functions of the wetlands affected by each of the Build Alternatives. The Wetland Evaluation Technique manual describes several functions of wetlands considered beneficial to society, including groundwater recharge/discharge, flood flow alteration, sedimentation stabilization, sediment/toxicant retention, nutrient removal/transformation, production export, and wildlife habitat. The results of the functions assessment are summarized in Table 3.18.A for the three reaches and associated alternatives. As shown, Reaches 5, 6, 7, and 8 are associated with Alternatives 4 Modified, 5 Modified, and 9 Modified and their respective design variations. The ranking of quality (high, moderate, and low) correlates directly with the functions that collectively exist within each reach within the MCP study area for each Build Alternative.

The Build Alternatives cross all three reaches, which results in shared wetland qualities as well. Functions with mostly high ratings per reach are associated with high wetlands quality; these occur in mostly undisturbed and undeveloped areas on Reach 8. The functions and values with mostly low ratings per reach are associated with low wetlands quality; these occur primarily in developed areas or adjacent to developed areas on Reach 6. All reaches are within the common alignment of all three Build Alternatives and result in shared wetland qualities as well. All of the alternatives contain some high-quality wetlands.

Table 3.18.A Wetlands Functions

Jurisdictional Delineation Reach	Reach 5	Reach 6	Reach 7	Reach 8
Build Alternatives	4 Modified, 5 Modified, 9 Modified	4 Modified, 5 Modified, 9 Modified	4, Modified, 5 Modified, 9 Modified	4 Modified, 5 Modified, 9 Modified
Function				
Groundwater Discharge/Recharge	Low ¹	Low	Moderate	Moderate
Flood Flow Alteration	Low ¹	Low	Moderate	High
Sediment Stabilization	Low ¹	Low	Moderate	Moderate
Sediment/Toxicant Retention	Low ¹	Moderate	Moderate	High
Nutrient Removal/Transformation	Low ¹	Moderate	High	High
Production Export	Low ¹	Low	Low	High
Wildlife Habitat	Low ¹	Low	Moderate	Moderate

Source: *Jurisdictional Delineation and Assessment Report, Mid County Parkway*, February 2008; and modified from the *Supplement to the Natural Environment Study*, December 2011.

¹ All functions within Reach 5 are considered low because no wetlands or earthen channels are present within the Build Alternatives.

3.18.2.4 Watershed Level and Conditions Assessment

The waters of the United States and riparian ecosystems in the MCP were further assessed at a watershed level using a suite of hydrologic, water quality, and habitat integrity indicators identified in the report titled *Potential Impacts of Alternative Corridor Alignments to Waters of the United States, Riparian Ecosystems, and Threatened and Endangered Species: Mid County Parkway Project, Riverside County, California* (Smith 2011). This report, prepared by the USACE Engineer Research and Development Center, provides an integrated measure of riparian ecosystem quality and quantity in a riparian reach. The results of this effort augment the findings in the *Jurisdictional Delineation and Assessment Report*.

Riparian ecosystem integrity was assessed by first identifying “riparian reach”¹ assessment units and then assessing each riparian reach using a suite of hydrologic, water quality, and habitat integrity indicators, as described by Smith (2003, 2006).. The boundaries of the aquatic resources study area included not only the riparian reaches that are in the direct impact area of the Build Alternatives, but also included (for indirect and cumulative effects) the local drainage and drainage basin of each riparian reach.

¹ A riparian reach was defined as a segment of the main stem, bankfull stream channel and the adjacent riparian ecosystem exhibiting relatively homogenous characteristics with respect to geology, geomorphology, channel morphology, substrate type, vegetation communities, and cultural alteration.

3.18.3 Environmental Consequences

Initial design of the MCP Build Alternatives focused on avoidance of waters and wetlands while still meeting Caltrans geometric design standards. The USACE Special Area Management Plan data for this area were initially used, which provided a landscape-level view of the waters and wetlands within the MCP study area. The MCP Build Alternatives were aligned to avoid these areas as much as possible. In locations where full avoidance alignments were not practical, bridges were used to avoid the waters and wetlands. When the draft *Jurisdictional Delineation and Assessment Report* was completed, the project-specific data were compared with the Special Area Management Plan data to ensure waters and wetlands were avoided as much as possible. A summary table of bridge descriptions and avoidance of jurisdictional areas is included in Appendix I, Supplemental Chapter 2 Attachments, Attachment D.

3.18.3.1 Permanent Impacts

Build Alternatives

Table 3.18.B summarizes the acres of impacts to CDFG jurisdictional riparian habitat and streambeds, and wetlands and nonwetland waters under the USACE jurisdiction for the three MCP Build Alternatives (4 Modified, 5 Modified, and 9 Modified) and their design variations. Permanent impacts to jurisdictional areas include all fill material within the grading limits and also include a conservative estimate of the bridge footprint area (10 percent, worst-case) to account for the construction of bridges, footings, and columns that may be placed in jurisdictional areas. Based on the final design for several recent bridge projects in Riverside County (most recently RCTC's State Route 91 (SR-91) Corridor Improvement Project), permanent impacts based upon final design would likely be less than 10 percent; however, to provide a conservative estimate, the bridge supports are estimated to affect 10 percent of the total bridge footprint. Additionally, riparian habitats beneath the bridged areas are considered permanent impacts, due to shading effects.

Additionally, there is 0.35 ac of isolated wetlands that the RWQCB will also regulate under the California Porter-Cologne Water Quality Control Act that is within the Alternative 4 Modified Build Alternative and both Alternative 4 Modified design variations. This isolated water body is located north of Ramona Expressway, between Indian Avenue and an agricultural field, without an outlet and no connection to any jurisdictional areas (as shown at CM31 on Figure 4.19 of the 2008 *Jurisdictional Delineation and Assessment Report*, in Appendix L of the 2008 NES).

As shown in Table 3.18.B, the impacts to USACE jurisdictional areas under the base case designs are similar for each MCP Build Alternative, ranging from 7.15 ac for Alternative 9 Modified and Alternative 9 Modified SJRB DV to 7.28 ac for Alternative 5 Modified. When the design variations are considered, the Alternative 9 Modified San Jacinto North Design Variation (SJN DV) would result in the fewest permanent impacts to both CDFG jurisdictional riparian habitat and streambeds and USACE jurisdictional wetlands and nonwetlands waters of the U.S.

Table 3.18.B Impacts to Wetlands and Other Jurisdictional Areas

Modified Alternative/ Design Variation	Permanent Impacts (acres) ¹			
	CDFG	USACE		
		Nonwetlands	Wetlands	Total
Alternative 4 Modified	9.23	5.01	2.18	7.19
Alternative 4 Modified SJN DV	8.90	4.55	2.04	6.59
Alternative 4 Modified SJRB DV	9.23	5.01	2.18	7.19
Alternative 5 Modified	9.19	5.18	2.11	7.29
Alternative 5 Modified SJN DV	8.85	4.73	1.97	6.70
Alternative 5 Modified SJRB DV	9.19	5.18	2.11	7.29
Alternative 9 Modified	9.00	5.03	2.15	7.17
Alternative 9 Modified SJN DV	8.66	4.58	2.01	6.59
Alternative 9 Modified SJRB DV	9.00	5.03	2.15	7.17

Source: *Errata Memorandum for the Supplement to the Natural Environment Study*, November 2012.

¹ Excludes impacts to jurisdictional areas that are within the MCP/SR-79 interchange footprint, which are wholly attributable to the SR-79 Realignment Project (i.e., jurisdictional areas that will be impacted by the SR-79 project prior to construction of the MCP project and will be mitigated by the SR-79 project).

CDFG = California Department of Fish and Game

MCP = Mid County Parkway

SJN DV = San Jacinto North Design Variation

SJRB DV = San Jacinto River Bridge Design Variation

SR-79 = State Route 79

USACE = U.S. Army Corps of Engineers

As shown in Table 3.18.B, Alternative 5 Modified and Alternative 5 Modified San Jacinto River Bridge Design Variation (SJRB DV) would have the greatest permanent impacts to CDFG jurisdictional riparian habitat and streambeds, USACE jurisdictional wetlands, and USACE nonwetland waters of the U.S. Table 3.18.C, provides a further breakdown of type and condition of permanent impacts to USACE jurisdictional wetlands and nonwetland waters of the U.S.

Table 3.18.C Permanent Impacts to USACE Jurisdictional Wetlands and Nonwetland Waters by Drainage System

Reach	Drainage System Identifier	Condition ¹	Alternative 4 Modified (Permanent Impacts, Acres)						Alternative 5 Modified (Permanent Impacts, Acres)						Alternative 9 Modified (Permanent Impacts, Acres)					
			Base Case Design (SJS)		SJV DV		SJR DV		Base Case Design (SJS)		SJV DV		SJR DV		Base Case Design (SJS)		SJV DV		SJR DV	
			USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands
5																				
5	Miscellaneous	Low	0.05	—	0.05	—	0.05	—	0.05	—	0.05	—	0.05	—	0.05	—	0.05	—	0.05	—
5 Total			0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05	
6																				
6	57	Low	0.00	—	0.00	—	0.00	—	0.00	—	0.00	—	0.00	—	0.00	—	0.00	—	0.00	—
6	58	Low	—	0.02	—	0.02	—	0.02	—	0.02	—	0.02	—	0.02	—	0.01	—	0.01	—	0.01
6	59	Low	0.28	—	0.28	—	0.28	—	0.06	—	0.06	—	0.06	—	0.04	—	0.04	—	0.04	—
6	60	Low	0.15	0.09	0.15	0.09	0.15	0.09	0.06	0.02	0.06	0.02	0.06	0.02	0.08	0.07	0.08	0.07	0.08	0.07
6	Miscellaneous	Low	1.46	—	1.45	—	1.46	—	1.94	—	1.94	—	1.94	—	1.79	—	1.79	—	1.79	—
6 Total			1.89	0.11	1.88	0.11	1.89	0.11	2.06	0.04	2.06	0.04	2.06	0.04	1.91	0.08	1.91	0.08	1.91	0.08
7																				
7	61	Low	0.07	—	0.07	—	0.07	—	0.07	—	0.07	—	0.07	—	0.07	0.00	0.07	0.00	0.07	0.00
7	63	Medium	—	0.27	—	0.27	—	0.27	—	0.27	—	0.27	—	0.27	—	0.27	—	0.27	—	0.27
7	Miscellaneous	Low	1.13	—	1.13	—	1.13	—	1.13	—	1.13	—	1.13	—	1.13	—	1.13	—	1.13	—
7 Total			1.20	0.27	1.20	0.27	1.20	0.27	1.20	0.27	1.20	0.27	1.20	0.27	1.20	0.27	1.20	0.27	1.20	0.27
8																				
8	64	Low	0.16	0.14	—	0.02	0.16	0.14	0.16	0.14	—	0.02	0.16	0.14	0.16	0.14	—	0.02	0.16	0.14
8	65	Low	0.13	0.26	0.03	0.11	0.13	0.26	0.13	0.26	0.03	0.11	0.13	0.26	0.13	0.26	0.03	0.11	0.13	0.26
8	66	Medium	0.01	1.40	0.02	1.53	0.01	1.40	0.01	1.40	0.02	1.53	0.01	1.40	0.01	1.40	0.02	1.53	0.01	1.40
8	67	Medium	0.98	—	0.98	—	0.98	—	0.98	—	0.98	—	0.98	—	0.98	—	0.98	—	0.98	—
8	Miscellaneous	Low	0.59	—	0.39	—	0.59	—	0.59	—	0.39	—	0.59	—	0.59	—	0.39	—	0.59	—
8 Total			1.87	1.80	1.42	1.66	1.87	1.80	1.87	1.80	1.42	1.66	1.87	1.80	1.87	1.80	1.42	1.66	1.87	1.80
Total			5.01	2.18	4.55	2.04	5.01	2.18	5.18	2.11	4.73	1.97	5.18	2.11	5.03	2.15	4.58	2.01	5.03	2.15

Source: 404(B)(1) Alternatives Analysis, Mid County Parkway, November 2012.

¹ Condition of drainage system is based on ranking of Habitat Integrity Index as identified by Robert Smith in *Assessment of Riparian Ecosystem Integrity: San Jacinto River Watershed, Riverside County, California*, 2002. The habitat integrity of the drainage systems identified by Smith were used as a reference for other drainage systems in the study area. For purposes of this analysis, low habitat integrity is based on Smith's integrity index <0.4; medium habitat integrity is 0.4-0.7; and high habitat integrity would be >0.7.

SJV DV = San Jacinto North Design Variation

SJR DV = San Jacinto River Bridge Design Variation

SJS = San Jacinto South

USACE = U.S. Army Corps of Engineers

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No Build Alternatives

Under Alternative 1A, the planned street network would be constructed, except for improvements to the Ramona Expressway. Because the Ramona Expressway would remain as it exists today, there would be no permanent impacts to wetlands along this roadway under Alternative 1A. Therefore, permanent impacts to wetlands and other waters in the vicinity of Ramona Expressway would be less for Alternative 1A than impacts that would occur as a result of the MCP Build Alternatives.

Under Alternative 1B, the planned street network would be developed according to the Circulation Element of the Riverside County General Plan. Under Alternative 1B, permanent impacts to wetlands and other waters would be expected to be less than for the MCP Build Alternatives because Ramona Expressway would be widened (and would have a smaller footprint than the MCP project), and the MCP project would not be built.

3.18.3.2 Watershed Level Conditions Assessment of Impacts

Potential direct and indirect impacts of alternative corridor alignments on the hydrologic, water quality, and habitat integrity of riparian ecosystems were assessed by simulating the changes that would result if MCP Build Alternatives were built. The assessment then compared the simulated post-project assessment results to pre-project baseline assessment results in terms of various assessment criteria.

USACE's Engineer Research Development Center's assessment (Smith, 2011) provides estimates of the changes in hydrologic integrity, water quality integrity, and habitat integrity as a result of project implementation (i.e., changes in functional capacity). The analysis was performed by Engineer Research Development Center scientists to gain a better understanding of the quality—or functional integrity—of the aquatic resources that would be affected by the MCP Build Alternatives and to help quantify the conditional effects attributed to direct and indirect project impacts at three different spatial scales.

Seventeen assessment criteria were used to evaluate the impacts of each MCP Build Alternative to waters of the United States and riparian ecosystems. These indicators represent the physical, chemical, and biological characteristics and processes of riparian ecosystems at three spatial levels: (1) the riparian reach proper, (2) uplands adjacent to the riparian reach, and (3) the drainage basin of the riparian reach. Multiple indicators related to land use/land cover, vegetation communities, hydrology, sediment, and disturbance factors were used. The integrity scores from

this assessment are intended to be considered in conjunction with the impact acreages described above in Section 3.18.3.1 to provide a more holistic evaluation of the aquatic resource functional losses, rather than relying solely on the acreages of impact. Scores are reported for each individual criterion, as well as the sum of normalized rank scores, each representing a change in functional capacity (e.g., loss or gain in hydrologic integrity, water quality integrity, and/or habitat integrity). The results of this assessment are summarized for each MCP Build Alternative in Table 3.18.D.

As shown in Table 3.18.D, the MCP Build Alternatives exhibit relatively small differences in the impacts for the different criteria; these small differences reflect the minor differences in the specific location and/or size of the right-of-way footprint for each alternative. According to the Engineer Research Development Center's report, the minimal potential impact of the MCP Build Alternatives can be attributed to the initial strategic placement and ongoing refinement of the alternative corridor alignments to largely avoid riparian ecosystems, aquatic resources, and threatened, endangered, and sensitive species critical habitat.

3.18.3.3 Temporary Impacts Build Alternatives

As discussed in Section 3.18.3.1, Permanent Impacts, the analysis of impacts is based on a worst-case impact scenario in which all areas within the right-of-way footprint are calculated as permanent impacts, with the exception of areas spanned by bridges. As a result, temporary impacts, as well as permanent impacts to USACE and CDFG jurisdictional areas, have been identified at bridged areas.

The temporary impacts were calculated with the assumption that the majority of bridged areas would be temporarily affected due to construction access within the right of way. Key MCP Build Alternatives were designed to place the bridge supports outside of jurisdictional areas as much as possible. However, because the specific location of each bridge support has not been finalized, permanent impacts were calculated conservatively at 10 percent, with the remaining 90 percent of the bridged areas calculated as temporary impacts. Typically, temporary impacts also include a buffer around bridged areas, extending to the project footprint, for the construction of bridge structures. Additional areas, based on grading plans, that the project engineer determined would be avoided or would consist of temporary impacts were also assessed individually for each bridge location. These bridges are summarized in the

Table 3.18.D Normalized Rank Scores of All Criteria for Alternatives Corridor Alignments

Alternative	Conditional Assessment Criteria																			Grand Total (Sum of) Normalized Rank Scores
	Hydrology Based Criteria											Species/Habitat Based Criteria								
	1	2	3	4	7a	7b	7c	8a	8b	8c	Subtotal	5a	5b	5c	5d	5e	5f	6	Subtotal	
Alt 4 Mod	0.97	0.83	0.61	0.77	1.00	1.00	1.00	1.00	1.00	1.00	9.18	0.00	0.00	0.00	1.00	0.02	0.91	0.96	2.89	12.07
Alt 4 Mod SJN DV	0.97	1.00	0.39	0.81	0.97	0.98	1.00	0.87	0.23	0.62	7.84	0.00	0.00	0.00	0.89	0.02	0.91	1.00	2.82	10.66
Alt 4 Mod SJRBD DV	1.00	0.83	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	9.71	0.00	0.00	0.00	1.00	1.00	1.00	0.97	3.97	13.67 ¹
Alt 5 Mod	1.00	0.78	0.49	0.89	0.51	0.50	0.49	0.89	0.20	0.31	6.06	0.00	0.00	0.00	1.00	0.02	0.91	0.92	2.85	8.89 ¹
Alt 5 Mod SJN DV	1.00	0.96	0.26	0.94	0.48	0.48	0.48	0.90	0.19	0.54	6.23	0.00	0.00	0.00	0.89	0.02	0.91	0.95	2.77	9.00
Alt 5 Mod SJRBD DV	0.98	0.78	0.88	1.00	0.51	0.50	0.48	0.89	0.20	0.31	6.53	0.00	0.00	0.00	1.00	1.00	1.00	0.92	3.92	10.44 ¹
Alt 9 Mod	0.98	0.79	0.52	0.75	0.64	0.64	0.63	0.88	0.21	0.34	6.38	0.00	0.00	0.00	1.00	0.02	0.91	0.86	2.79	9.17
Alt 9 Mod SJN DV	0.98	0.97	0.30	0.79	0.62	0.62	0.63	0.88	0.21	0.34	6.34	0.00	0.00	0.00	0.89	0.02	0.91	0.90	2.72	9.04 ¹
Alt 9 Mod SJRBD DV	0.98	0.79	0.91	0.85	0.64	0.64	0.63	0.88	0.21	0.34	6.87	0.00	0.00	0.00	1.00	1.00	1.00	0.86	3.86	10.75 ¹

Source: *Potential Impacts of Alternative Corridor Alignments to Waters of the U.S., Riparian Ecosystems and Threatened and Endangered Species: Mid County Parkway Project, Riverside County, California*, adapted from Smith 2011 and LSA 2011.

Criterion 1: Nonwetland waters stream channels directly impacted.

Criterion 2: Main stem and tributary stream channels directly impacted.

Criterion 3: Riparian ecosystems directly impacted.

Criterion 4: Aquatic resources directly impacted.

Criterion 7a: Change in the quantity of hydrologic integrity units in riparian ecosystems directly impacted.

Criterion 7b: Change in the quantity of water quality integrity units in riparian ecosystems directly impacted.

Criterion 7c: Change in the quantity of habitat integrity units in riparian ecosystems directly impacted.

Criterion 8a: Change in quantity of hydrologic integrity units in riparian ecosystems directly and indirectly impacted.

Criterion 8b: Change in quantity of water quality integrity units in riparian ecosystems directly and indirectly impacted.

¹ Due to rounding to nearest hundredth, total sum appears to have variance of up to 0.02.

Alt = Alternative

Mod = Modified

SJN DV = San Jacinto North Design Variation

SJRBD DV = San Jacinto River Bridge Design Variation

Criterion 8c: Change in quantity of habitat integrity units in riparian ecosystems directly and indirectly impacted.

Criterion 5a: Critical habitat of California gnatcatcher directly impacted.

Criterion 5b: Critical habitat of Quino Checkerspot butterfly directly impacted.

Criterion 5c: Reserve areas of Stephens' kangaroo rat directly impacted.

Criterion 5d: Critical habitat of San Bernardino kangaroo rat directly impacted.

Criterion 5e: Critical habitat of spreading navarretia directly impacted.

Criterion 5f: Western Riverside County Multiple Species Habitat Conservation Plan areas directly impacted.

Criterion 6: Areas of observed habitat for selected threatened, endangered, and sensitive species directly impacted.

table “Mid County Parkway – Summary of Bridge Descriptions and Avoidance of Jurisdictional Areas” provided in Appendix I (Attachment D).

Table 3.18.E summarizes the acres of temporary impacts to CDFG jurisdictional riparian habitat and streambeds, and USACE jurisdictional wetlands and nonwetland waters for the three MCP Build Alternatives (4 Modified, 5 Modified, and 9 Modified) and their design variations.

Table 3.18.E Temporary Impacts to Wetlands and Other Jurisdictional Areas

Modified Alternative/ Design Variation	Temporary Impacts (acres) ¹			
	CDFG	USACE		
		Nonwetlands	Wetlands	Total
Alternative 4 Modified	5.48	2.28	3.78	6.06
Alternative 4 Modified SJN DV	4.10	2.10	1.95	4.05
Alternative 4 Modified SJRB DV	5.48	2.28	3.78	6.06
Alternative 5 Modified	3.96	1.41	3.11	4.53
Alternative 5 Modified SJN DV	2.58	1.24	1.28	2.52
Alternative 5 Modified SJRB DV	3.96	1.42	3.11	4.53
Alternative 9 Modified	4.69	1.63	3.63	5.26
Alternative 9 Modified SJN DV	3.31	1.45	1.80	3.25
Alternative 9 Modified SJRB DV	4.69	1.63	3.63	5.26

Source: *Errata Memorandum for the Supplement to the Natural Environment Study*, November 2012.

¹ Excludes impacts to jurisdictional areas that are within the MCP/SR-79 interchange footprint, which are wholly attributable to the SR-79 Realignment Project (i.e., jurisdictional areas that will be impacted by the SR-79 project prior to construction of the MCP project and will be mitigated by the SR-79 project).

CDFG = California Department of Fish and Game

MCP = Mid County Parkway

SJN DV = San Jacinto North Design Variation

SJRB DV = San Jacinto River Bridge Design Variation

SR-79 = State Route 79

USACE = U.S. Army Corps of Engineers

Table 3.18.F, provides a further breakdown of type and condition of temporary impacts to USACE jurisdictional wetlands and nonwetland waters of the U.S.

No Build Alternatives

Under Alternative 1A, the planned street network would be constructed, except for improvements to the Ramona Expressway. Because the Ramona Expressway would remain as it is today, there would be no permanent impacts to wetlands along this roadway under Alternative 1A. Therefore, permanent impacts to wetlands and other waters in the vicinity of Ramona Expressway would be less for Alternative 1A than the impacts that would occur as a result of the MCP Build Alternatives.

Table 3.18.F Temporary Impacts to USACE Jurisdictional Wetlands and Nonwetland Waters by Drainage System

Reach	Drainage System Identifier	Condition (Habitat Integrity ¹)	Alternative 4 Modified (Temporary Impacts, Acres)						Alternative 5 Modified (Temporary Impacts, Acres)						Alternative 9 Modified (Temporary Impacts, Acres)					
			Base Case Design (SJS)		SJV DV		SJR DV		Base Case Design (SJS)		SJV DV		SJR DV		Base Case Design (SJS)		SJV DV		SJR DV	
			USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands	USACE Nonwetland Waters	USACE Wetlands
5																				
5	Miscellaneous	Low	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
5 Total			—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
6																				
6	57	Low	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
6	58	Low	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
6	59	Low	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
6	60	Low	1.38	0.81	1.38	0.81	1.38	0.81	0.52	0.14	0.52	0.14	0.52	0.14	0.73	0.66	0.73	0.66	0.73	0.66
6	Miscellaneous	Low	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
6 Total			1.38	0.81	1.38	0.81	1.38	0.81	0.52	0.14	0.52	0.14	0.52	0.14	0.73	0.66	0.73	0.66	0.73	0.66
7																				
7	61	Low	0.01	0.44	0.01	0.44	0.01	0.44	0.01	0.44	0.01	0.44	0.01	0.44	0.01	0.44	0.01	0.44	0.01	0.44
7	63	Low	—	0.15	—	0.15	—	0.15	—	0.15	—	0.15	—	0.15	—	0.15	—	0.15	—	0.15
7	Miscellaneous	Low	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7 Total			0.01	0.59	0.01	0.59	0.01	0.59	0.01	0.59	0.01	0.59	0.01	0.59	0.01	0.59	0.01	0.59	0.01	0.59
8																				
8	64	Low	0.05	0.73	—	—	0.05	0.73	0.05	0.73	—	—	0.05	0.73	0.05	0.73	—	—	0.05	0.73
8	65	Low	0.16	0.66	0.05	—	0.16	0.66	0.16	0.66	0.05	—	0.16	0.66	0.16	0.66	0.05	—	0.16	0.66
8	66	Medium	—	0.99	0.01	0.55	—	0.99	—	0.99	0.01	0.55	—	0.99	—	0.99	0.01	0.55	—	0.99
8	67	Medium	0.68	—	0.65	—	0.68	—	0.68	—	0.65	—	0.68	—	0.68	—	0.65	—	0.68	—
8	Miscellaneous	Low	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
8 Total			0.89	2.38	0.71	0.55	0.89	2.38	0.89	2.38	0.71	0.55	0.89	2.38	0.89	2.38	0.71	0.55	0.89	2.38
Total			2.28	3.78	2.10	1.95	2.28	3.78	1.42	3.11	1.24	1.28	1.42	3.11	1.63	3.63	1.45	1.80	1.63	3.63

Source: 404(B)(1) Alternatives Analysis, Mid County Parkway, November 2012.

¹ Condition of drainage system is based on ranking of Habitat Integrity Index as identified by Robert Smith in *Assessment of Riparian Ecosystem Integrity: San Jacinto River Watershed, Riverside County, California*, 2002. The habitat integrity of the drainage systems identified by Smith were used as a reference for other drainage systems in the study area. For purposes of this analysis, low habitat integrity is based on Smith's integrity index <0.4; medium habitat integrity is 0.4-0.7; and high habitat integrity would be >0.7.

SJV DV = San Jacinto North Design Variation
 SJRB DV = San Jacinto River Bridge Design Variation
 SJS = San Jacinto South
 USACE = U.S. Army Corps of Engineers

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Under Alternative 1B, the planned street network would be developed according to the Circulation Element of the Riverside County General Plan. Under Alternative 1B, permanent impacts to wetlands and other waters would be expected to be less than the impacts for the MCP Build Alternatives because Ramona Expressway would be widened (and would have a smaller footprint than the MCP project) and the MCP project would not be built.

3.18.4 Avoidance, Minimization, and/or Mitigation Measures

Mitigation for impacts of the MCP project to wetlands and other waters will be achieved in accordance with the USACE and U.S. EPA Final Rule (33 Code of Federal Regulations [CFR] Parts 325 and 332 and 40 CFR Part 230, respectively) on Compensatory Mitigation for Losses of Aquatic Resources. A Conceptual Mitigation Plan identifying mitigation ratios, locations, and performance standards is provided in Appendix Q of this EIR/EIS. This Conceptual Mitigation Plan would apply to any of the MCP Build Alternatives, but the actual combination of on-site versus off-site mitigation would vary among the alternatives.

WET-1 **Permanent Impacts to Jurisdictional Areas.** Prior to, during, and after construction, the Riverside County Transportation Commission (RCTC) shall mitigate permanent impacts to United States Army Corps of Engineers (USACE) jurisdictional wetlands and nonwetlands and California Department of Fish and Game (CDFG) jurisdictional areas at a minimum replacement ratio of 2:1. The RCTC Project Manager will provide for mitigation to occur primarily through habitat restoration and/or enhancement of on-site areas along the length of the Mid County Parkway (MCP) to the extent practical. Alternatively, if it is infeasible to mitigate entirely on site, the RCTC Project Manager will coordinate with USACE and CDFG to provide off-site mitigation, such as enhancement, creation, and restoration, in accordance with the Conceptual Mitigation Plan (Appendix P in the Environmental Impact Report [EIR]/Environmental Impact Statement [EIS]).

The RCTC Project Manager will ensure that the mitigation implemented will comply with the federal policy of “no net loss” of wetlands. The RCTC Project Manager will ensure that a minimum of 1:1 replacement ratio will occur through establishment or reestablishment of jurisdictional areas within the San Jacinto River watershed. This will mitigate for the replacement of area and function

of jurisdictional areas within the San Jacinto River watershed. Additional mitigation to achieve the remainder of the 2:1 mitigation ratio may occur outside of the San Jacinto River watershed.

WET-2 Temporary Impacts to Jurisdictional Areas. After the completion of construction in areas that resulted in temporary impacts to USACE and/or CDFG jurisdictional areas, the RCTC Resident Engineer will require the Construction Contractor to revegetate those on site areas at a minimum 1:1 replacement ratio. The revegetation will be conducted as described in the Habitat Mitigation Monitoring Plan in Measure WET-3 and in the applicable conditions from regulatory permits in Measure WET-4.

If additional compensation for temporary impacts beyond the minimum 1:1 on site replacement ratio is required as a result of the approved permits described in Measure WET-4, during final design and construction the RCTC Project Manager will arrange for RCTC to provide that additional mitigation through an approved mitigation bank or an in-lieu fee program.

WET-3 Habitat Mitigation Monitoring Plan. The RCTC Project Manager will contract with a biologist (Project Biologist) to develop a Habitat Mitigation Monitoring Plan to direct the restoration of impacted riparian habitats and USACE and CDFG jurisdictional areas. The Habitat Mitigation Monitoring Plan will incorporate the applicable approaches and measures identified in the Conceptual Mitigation Plan (Appendix P in the EIR/EIS). The Habitat Mitigation Monitoring Plan will be subject to approval by the USACE and the CDFG. The Habitat Mitigation Monitoring Plan, at a minimum, will meet the following requirements:

- Habitat replacement and/or enhancement ratio of at least 1:1 for temporary impacts;
- Habitat replacement and/or enhancement ratio of 2:1 for permanent impacts to USACE jurisdictional wetlands/waters of the U.S. and CDFG jurisdictional areas;
- A success criterion of at least 80 percent cover of native riparian vegetation for replaced habitat;

- Additional requirements, including a minimum 3-year establishment period for the replacement habitat, regular trash removal, and regular maintenance and monitor in activities to ensure the success of the mitigation plan; and
- Mitigation for impacts to Multiple Species Habitat Conservation Plan (MSHCP) riparian/riverine areas will be within the San Jacinto River watershed at a minimum 1:1 ratio for replacement of area and function (i.e., establishment or re-establishment).

Measure WET-3 will be implemented in conjunction with Measures WET-1 and WET-2, above.

WET-4 **Permits.** During final design, the RCTC Project Engineer will obtain the following permits in order to comply with Section 1600 of the Fish and Game Code and Sections 404 and 401 of the Clean Water Act. Any additional mitigation required by a regulatory agency beyond the measures outlined in WET-1 through WET-3 for purposes of compliance with California Environmental Quality Act (CEQA)/ National Environmental Policy Act (NEPA) will be negotiated during the permit application and approval process. Those mitigation requirements will incorporate approaches and measures identified in the Conceptual Mitigation Plan (provided in Appendix P in the EIR/EIS) and those described in Measures WET-1 through WET-3 above.

- A Section 404 permit from the USACE
- A Section 1602 Agreement for Streambed Alteration from the CDFG,
- A Section 401 water quality certification from the Santa Ana Regional Water Quality Control Board (RWQCB).

Mitigation ratios for the Section 404 permit will be finalized in coordination with the USACE using the most current version of the Corps South Pacific Division Regulatory Program Standard Operating Procedure for Determination of Mitigation Ratios.

If additional compensation for permanent or temporary impacts beyond the minimum replacement ratios described in WET-1 and WET-2 is required as a result of the approved permits, during final

design and construction, the RCTC Project Manager would arrange for RCTC to provide that additional mitigation through purchase of mitigation bank credits for removal of invasive plants and restoration of riparian habitat from a location approved by the USACE and the CDFG under guidelines described by the resource and regulatory agencies through the permitting process, or through participation in another approved habitat mitigation bank. Any additional amount of mitigation will be determined in coordination with the resource and regulatory agencies based on the quality and quantity of jurisdictional resources to be affected with consideration of the results from the study entitled *Potential Impacts of Alternative Corridor Alignments to Waters of the United States, Riparian Ecosystems, and Threatened and Endangered Species: Mid County Parkway Project, Riverside County, California* (Smith 2011).