Preliminary Jurisdictional Assessment

Santa Gertrudis Creek Pedestrian/Bicycle Trail Extension and Interconnect

Prepared for:

City of Temecula

City of Temecula

Prepared by:



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1 INTRODUCTION

The City of Temecula, through funding facilitated by the California Department of Transportation (the Department), proposes to create a new pedestrian/bicycle trail extension that would connect a new multipurpose trail along Santa Gertrudis Creek. The proposed trail would connect to the existing trail network located from Ynez Road to the east and Diaz Road to the west, and complete the loop within the City's bikepath system to the northeast of the proposed trail. Trail users will be able to access the trail at Ynez Road, Jefferson Avenue, and Winchester Road. These access points make the trail ideal for those commuting to the surrounding businesses, or simply using the trail for recreational purposes. Undercrossings will be provided at Ynez Road, the Interstate 15 Freeway, and Jefferson Avenue. Keeping the path isolated from vehicular traffic will maintain the trail's designation as a Class I bikeway and will create a safe environment for users. To avoid the trail crossing Murrieta Creek, the new trail section will join the existing trail at Diaz Road by adding bike lanes to Winchester Road. Winchester Road will not undergo construction for the new bike lanes, only changing signing and striping to accommodate a new layout.

This report describes the regulatory context, methods, and results of a jurisdictional analysis of aquatic resources with the potential to be impacted by project development. This analysis has been undertaken to determine the extent of jurisdiction in relation to regulatory triggers as administered by the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), the Regional Water Quality Control Board (RWQCB), and Riverside County. The regulatory authority and compliance standards administered by each of the above agencies is provided in Table 1 below.

Regulatory Entity	Regulations Administered
USACE	Section 404 of the Clean Water Act (CWA)
CDFW	Section 1602 of the California Fish and Game Code (Lake and Streambed Alteration Program)
RWQCB	Section 401 of the CWA – Water Quality Certification
Riverside County	Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

Table 1. Potential Regulatory Authority Within the Project Area

2 PROJECT LOCATION AND SETTING

The proposed new pedestrian/bicycle trail extension and interconnection is from Ynez Road to the Murrieta Creek Multi-Purpose Trail at Diaz Road (Figure 1 – Appendix A, – Photographs – Appendix B). The proposed location will utilize the existing Riverside County Flood Control and Water Conservation District (RCFC&WCD) maintenance access road above Santa Gertrudis Creek. Total length of the project is approximately 5,500 linear feet.

While the majority of the trail is within RCFC&WCD right-of-way, the under crossing locations will encroach across Caltrans (I-15) right-of-way, or City right-of-way at Ynez Road, Jefferson Avenue, and Winchester Road (Project Plans – Appendix C).

The portion of the proposed trail extension that is along Santa Gertrudis Creek can be differentiated as two distinct sections based on the creek's characteristics. The first section is Ynez Road to the I-15

Freeway, and the second section is from the I-15 Freeway to Winchester Road. The characteristics that distinguish between sections are the available width for the trail along the top of the creek, and the conditions of the channel within the concrete lining. Exposed concrete lining the river bottom begins about 200 feet upstream of the confluence of Murrieta Creek and Santa Gertrudis Creek. The concrete bottom continues upstream to a check dam located near the I-15 southbound Winchester Road off ramp. Upstream of the check dam to the upstream terminus of the project, the concrete lining is not visible, except on the sidewalls. The bottom of the channel in this reach is full of accumulated river wash sediments with channel braiding and variable vegetation conditions.

The study area for this assessment was established using the project plans developed for construction with the additional of a 20-foot buffer to account for expansion of impacts related to construction (Figure 2 – Appendix A).

NRCS-mapped soils within the project area from the check dam to the upstream end of the project include "riverwash" (RsC) (NRCS 2018). This soil or feature type is characterized as a coarse sand and gravel alluvium that is excessively drained (NRCS 2018). Soil mapping downstream of the check dam is not applicable to this analysis, because the entirety of the Santa Gertrudis Creek channel prism is concrete lined and disjunct from native soils. Soil mapping for the project area is depicted on Figure 2 – Appendix A.

The project study area occurs within the Murrieta Creek watershed, part of the greater Santa Margarita Creek basin that drains to the Pacific Ocean at Camp Pendelton, CA. Average annual precipitation according to the nearest climate station (Elsinore, CA – Station 042805) within the Western Regional Climate Center is 12.01 inches of rain and 0.6 inches of snow (WRCC – Station 042805, Years: 1897-2016).

3 ASSESSMENT METHODOLOGY 3.1 PRELIMINARY AND POST FIELD RESOURCE REVIEW

In advance of a field visit to the project area, a number of online resources and literature were consulted to determine the context and conditions likely to be encountered in the field. The U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) wetlands mapper was utilized to determine the extent of mapped wetlands and waterways (USFWS 2018). The National Resource and Conservation Service's (NRCS) web soil survey (WSS) was queried to determine the extent and characteristics of soils within the project study area (NRCS 2018). Aerial photography from GoogleEarth (2018) and United States Geological Survey (USGS) 7.5 minute topographic quad maps were examined to establish current and historic flow pathways and general site characteristics. Previously obtained topographic survey data acquired for project design was examined to determine elevations and potential flow channels through the sand deposition area within the concrete channel prism between the check dam and the upstream extent of the project. Finally, the Western Riverside County Regional Conservation Authority's (RCA) – MSHCP Information App was used to establish mapped resources under the jurisdiction of the agency and with the potential to occur in or overlap with the project area.

At the conclusion of the field effort described below, a Hydraulic Scour Report prepared to support prior project design activities was used to evaluate flood, flow, and scour conditions relevant to this analysis (RiverTech Inc, 2019).

3.2 FIELD METHODS

Guidance and literature followed to perform the field evaluation included the USACE *Wetlands Research Program Technical Report, Wetlands Delineation Manual* (USACE, 1987), the USACE Arid West Regional Supplement (USACE, 2008) and the USACE *Field Guide to the Identification of the Ordinary High Water Mark* (OHWM) *in the Arid West Region of the Western United States* (USACE 2008b).

DEA biologist Casey Storey performed a field evaluation on April 12, 2018. Mr. Storey walked the entire project corridor twice, making note of the field conditions, species occurrences, and hydrologic characteristics within and adjacent to the project area. Mr. Storey used a Trimble GeoXT global positioning system (GPS) handheld unit with an accuracy of +/- 3 feet to establish the ordinary high water mark (OHWM) within the sand-inundated zone of the concrete channel prism and used the surveyed extent of the channel prism downstream of the check dam to establish ordinary high water of the primarily bare conveyance channel. During the site visit, Mr. Storey documented plant communities and field conditions with site photographs.

Retrieved data were imported from the GPS system to a Geographical Information System (GIS) software program (ArcGIS) to help establish the boundaries and extent of jurisdictional features for each of the agencies.

During the field assessment, the exposed concrete channel was examined for water staining, accumulation of debris (drift lines), flowing water, and other indicators of hydrology as provided in the USACE guidance (2008b). Within the sediment-filled portion of the concrete channel, the study area was examined for topographic contours, breaks in slope, drift lines, debris racking, breaks in vegetation, and water staining. These indicators provided the standards by which the boundaries of jurisdiction were created.

4 RESULTS

The findings described below represent the best professional judgment of the evaluators based on the available data and the guidance followed in the field. Jurisdictional boundaries and findings are subject to approval and consideration of the agencies with regulatory authority over this particular project.

The majority of the project study area is dominated by an existing access roadway, existing transportation infrastructure, and a drainage structure containing Santa Gertrudis Creek. The study area contains one jurisdictional drainage with overlapping authority as administered by the USACE, CDFW, Riverside County and RWQCB and as described below. The jurisdictional delineation map depicting the differing areas of regulatory authority is provided in (Figure 3 – Appendix A).

Two weeks prior to the site visit, only a trace of precipitation had been recorded in proximity to the project area (Riverside March Field – NWS, 2018). Within the 30 days proceeding the site visit 0.26 inches of rain were recorded. Thirty days prior to the site visit, the USGS gaging station at Jefferson Avenue (USGS Station: 11042900 SANTA GERTRUDIS CR) recorded measurable flows within the channel on March 15th with a peak discharge of 2.2 cubic feet per second (cfs) and between March 22nd and March 24th with a peak discharge of 8.2 cfs. During both recorded flow events, the total recorded gage height did not exceed 0.3 feet over the baseline elevation (i.e. no discharge). These recorded events correspond to the measured precipitation recorded in the 30-day period before the site visit.

The most significant storm and flow event recorded within the six month period prior to the site visit occurred between January 9th and January 10th and created a maximum discharge of approximately 870 cfs with a gage height recorded at peak storm of 1.75 feet above baseline height.

Santa Gertrudis Creek is the only jurisdictional water identified within the project area. An apparent wetland co-occurs within Santa Gertrudis Creek at the confluence with Murrieta Creek, but this feature was outside of the study area and is not described herein. Santa Gertrudis Creek flows intermittently and infrequently based on observed field conditions, review of aerial photography, the analysis provided in the Hydraulic Scour Report, and USGS gaging station data provided above. The Ordinary High Water Line (OHWL) upstream of the check dam was mapped following field indicators for OHWM including scour lines, sand deposition, topographic breaks, and the absence of vegetation. The riparian corridor within segment of the creek is dominated by weedy species including cheatgrass (*Bromus tectorum*), prickly lettuce (Lactuca serriola), low stature (<1 meter tall) willow species (Salix spp.), American vetch (Vicia americana), sweet clover (Melilotis officianalis) and other weedy species. No hydrology, moist soils, or emergent hydrophytic vegetation were noted within the OHW delineated channel of the creek in this reach. Downstream of the check dam, sediment is generally absent from the concrete channel prism. Scant vegetation was found growing from cracks in the concrete lining where debris had accumulated. Two side-by-side culverts enter the concrete channel prism on the north bank of Santa Gertrudis Creek immediately downstream of the check dam. During the field observations a small volume of water (estimated at < 1 cubic foot per second) was entering the channel from these culverts in a thin laminar flow - interrupted by concrete cracks and rooted woody and herbaceous vegetation. The channel of Santa Gertrudis Creek from these adjoining culverts to Jefferson Avenue also fits this description. Along the southern toe of slope of the concrete lining beginning approximately 85 feet upstream of the roadway overpass, hydrophytic vegetation including common cattail (Typha latifolia, OBL), bird's foot trefoil (Lotus cornicualatus, FAC), American speedwell (Veronica americana, OBL), and willow species saplings (Salix spp., FAC-FACW) were found rooted in a thin layer of decomposed vegetation and other organic debris, accumulated on the concrete lining. This vegetation community was 1-2 feet wide with the downstream extent interrupted by the shading of the overpass. A wetland sampling point was recorded within this area (Plot A-1) to document conditions around the overpass. A short segment of vegetation rooted in debris of similar width, dominated by curly dock (*Rumex crispus*, FAC) occurs downstream of the Jefferson Avenue overpass and extends downstream for approximately 30 feet. From this point extending downstream for approximately 2000 feet, the observed flows in the channel decrease, vegetation in cracks in the concrete becomes more sparse and accumulated debris or soils are absent.

At the beginning of the arc of the southwesterly bend in the Santa Gertrudis Creek channel, accumulated sand and debris occur within the concrete channel prism. From this point, California bulrush (*Schoenoplectus californicus*, OBL) and standing water characterize Santa Gertrudis Creek to its confluence with Murrieta Creek at the downstream terminus of the project.

5 JURISDICTIONAL DETERMINATION

Santa Gertrudis Creek is an ephemeral waterway that likely flows for less than three months out of the year according to USGS gaging data, aerial photography, literature review and observed field conditions. An absence of water staining or other indicators of hydrology or OHWM along the sidewalls of the concrete lined channel, downstream of the check dam, suggest that flow-generating storms of sufficient size to charge the basin and overtop the check dam are infrequent. However, the absence of vegetation

within the riverwash material upstream of the check dam, recent stream gage data, and clear signs of flowing water suggests that some storms in the basin lead to channel filling events within the stream on a recurring, if infrequent basis.

Santa Gertrudis Creek is a direct tributary to Murrieta Creek which is a tributary to the Santa Margarita River, which flows to the Pacific Ocean. As both Murrieta Creek and the Santa Margarita River are "relatively permanent waters" under USACE guidance and Santa Gertrudis Creek has a direct surface water connection to this system, we presume Santa Gertrudis Creek to be a jurisdictional water, under the authority of the USACE. The RWQCB-administered Section 401 jurisdiction corresponds to the USACE jurisdiction as presumed here.

Jurisdiction of Santa Gertrudis Creek related to CDFW guidance and Riverside County regulations pertaining to the MSHCP correspond to the full width of the bottom of the creek channel prism – equivalent to the toe of slope of the concrete side slopes. Riparian habitat within the study area is limited to low-stature vegetation in the upstream segment of the project area. However, as Santa Gertrudis Creek does convey water for a portion of the year, it falls within the jurisdictional purview of both regulatory authorities throughout the length of the study area.

All jurisdictional acreages within the study area are provided in summary of jurisdictional areas and estimated impacts in Table 2 in Section 6 below.

6 POTENTIAL IMPACTS AND PERMITTING

The project design was compared with the mapped jurisdictional boundaries as described above to determine the potential extent of impacts to jurisdictional features and to establish potential permit and compliance needs. The majority of the project will occur within disturbed upland habitats – with the trail alignment utilizing an existing service road. These portions of the trail will avoid placement of fill within the waterway and will implement BMPs to avoid errant debris from construction from entering the waterway as well. Road and highway undercrossings that will be part of the project as previously described will require lateral shifts of the toe of slope of the existing Santa Gertrudis Creek channel lining or trail undercrossing. Supporting structures will be moved northward into the channel at Ynez Road and northward of the ramps and highway overpasses associated with I-15 and Jefferson Avenue. The channel shifts at Ynez Road and the I-15 area do not overlap with the field delineated OHWL (USACE and RWQCB jurisdiction) in these areas. The channel shifts at Jefferson Avenue do overlap with the OHWL in this area because the boundary spans from the southern toe of slope to the northern toe of slope. Based on the presumed jurisdiction of CDFW and Riverside County, all of the toe of slope alignment shifts fall within the purview of these two agencies.

Agencies with Authority	Area of Jurisdiction Mapped Within Vicinity of Study Area	Area of Potential Project Impacts Within Study Area		
USACE/RWQCB	9.19 acres	0.016 acres		
CDFW/Riverside County (MSHCP)	10.6 acres	0.26 acres		

Table 2. Summary of Jurisdiction and Estimated Impacts – Santa Gertrudis Creek

Anticipated Permitting Summary

USACE

The project as designed requires a Nationwide Permit (NWP) under Section 404 of the CWA due to the discharge of fill in a presumed jurisdictional water. The project was determined to comply with NWP 42, *Recreational Facilities*, and was confirmed in Nationwide permit verification 2018-00530 on January 11, 2019. The NWP authorizes the permanent discharge under Jefferson Street of 90.4 cubic yards of fill material (as concrete) and 226 CY of fill material (as clean soil) into 0.09-acre of existing concrete side slope. Under Ynez Road, the NWP authorizes the permanent discharge of 5.2 CY of fill material (as concrete) and 8.3 CY of fill Material (as clean soil) into 0.003-acre of jurisdictional wetland waters. Notification to the USACE of final detailed grading/construction plans and verification of the purchase 0.009-acre mitigation credits must be submitted prior to fill activities.).

RWQCB

Jurisdiction coverage and assignment of a NWP by the USACE triggers jurisdiction and compliance with RWQCB. The project will fall under the jurisdiction of the San Diego RWQCB as the NWP is required and has since been verified. This agency is responsible for issuing the 401 (CWA) water quality certification and is also responsible for covering the project under the Porter Cologne Water Quality Control Act (Act) regardless of the 401 trigger. The RWQCB mandates project compliance with the Act through a number of permits required and issued based on the nature of the project and extent of impacts. Other such permits issued by the RWQCB that may be required for the project include a Construction General Permit and a Report of Waste Discharge. As a state agency, permitting issued by RWQCB requires suitable documentation of California Department of Environmental Quality (CEQA) to support the issuance and findings.

CDFW

The overlap of certain project activities within the jurisdiction of CDFW is likely to trigger the need to obtain a CDFW 1602 Streambed Alteration Agreement. This permit regulates impacts to streambeds, lakes, and riparian habitats and as with RWQCB, CDFW requires CEQA documentation to evaluate and issue the agreement.

Riverside County – MSHCP

As a result of project overlap with jurisdictional areas regulated under the MSHCP, a Determination of Biological Equivalent or Superior Preservation (DBESP) has been prepared to document project impacts, minimization, avoidance, and mitigation (if required). This document was provided to Riverside County for evaluation as a separate submittal on January 2, 2020.

7 PREPARERS AND CONTRIBUTORS

DEA Ecologists Casey Storey performed the site assessment. Mr. Storey is the primary author of this report. Tony Vingiello, DEA Biologist provided quality control review. Corie Peters, DEA Project Assistant, prepared the report drafts. Sara Gilbert, DEA GIS Specialist, prepared the graphics.

8 LITERATURE CITATIONS

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- NRCS. 2018. Web Soil Survey (WSS). Soil map for project locale and Riverside County, California. Accessed at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx
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- United State Geological Survey. 2018. USGS 11042900 Santa Gertrudis Creek Near Temecula, CA. Stream gaging data accessed at: https://waterdata.usgs.gov/ca/nwis/inventory/?site_no=11042900

APPENDICES

APPENDIX A – FIGURES - EXCLUDED DUE TO REDUNDANCY

APPENDIX B – SITE PHOTOGRAPHS





View facing northwest, taken near end of existing bike trail just upstream from Ynez Road crossing.

View facing east (upstream) from center of Santa Gertrudis Creek riverwash scrub community.



Facing north, view of the check dam just downstream of the northbound ramp to Interstate 15.



Facing south, view of confluence of Santa Gertrudis Creek and Murrieta Creek beyond concrete-lined right bank of Santa Gertrudis Creek. Photo taken approximately 575 feet upstream from northern edge of Winchester Road.



View facing upstream from east of the Ynez Road crossing.



View facing northwest from the top of the checkdam toward the large pair of culverts entering Santa Gertrudis Creek from the north bank.

APPENDIX C – PROJECT PLANS - EXCLUDED DUE TO REDUNDANCY

APPENDIX D – DATA SHEET

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	City/County:	Sam	pling Date:
Applicant/Owner:		State: Sam	pling Point:
Investigator(s):	Section, Township, Range: _		
Landform (hillslope, terrace, etc.):	Local relief (concave, conve	(, none):	Slope (%):
Subregion (LRR): Lat:	Long	j:	Datum:
Soil Map Unit Name:		NWI classification:	
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes No	(If no, explain in Remark	ks.)
Are Vegetation, Soil, or Hydrology significantly	v disturbed? Are "Norma	al Circumstances" presen	nt? Yes No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed,	explain any answers in F	Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locati	ons, transects, imp	oortant features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No No No	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

VEGETATION – Use scientific names of plants.

	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:) 1)	% Cover		Number of Dominant Species That Are OBL, FACW, or FAC:
2			Total Number of Dominant
3			Species Across All Strata: (B)
4		= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
1			Prevalence Index worksheet:
2			Total % Cover of: Multiply by:
3			OBL species x 1 =
4			FACW species x 2 =
5			FAC species x 3 =
		= Total Cover	FACU species x 4 =
Herb Stratum (Plot size:)			UPL species x 5 =
1			Column Totals: (A) (B)
2			
3			Prevalence Index = B/A =
4			Hydrophytic Vegetation Indicators:
5			Dominance Test is >50%
6			Prevalence Index is ≤3.0 ¹
7			Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
o		- Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)			
1.			¹ Indicators of hydric soil and wetland hydrology must
2.			be present, unless disturbed or problematic.
		= Total Cover	Hydrophytic Vegetation
% Bare Ground in Herb Stratum % Cove	r of Biotic C	rust	Present? Yes No No
Remarks:			

inches) Color (moist) % Type ¹ Loc ² Texture Remarks	inches) Color (moist) % Color (moist) % Type ¹ Loc ² Texture Remarks	Depth	Matrix		Redo	x Features	S						
ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. rdric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histosol (A1)	ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histosol (A1)	nches) Co	<u>or (moist)</u>	%	Color (moist)	%	Type ¹	_Loc ²	Texture	Rema	rks		
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Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) 3 ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) 3 ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. estrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No emarks:	_ 1 cm Muck (A9)	(LRR D)		Redox Dark	(Surface ((F6)						
_ Thick Dark Surface (A12) Redox Depressions (F8) Indicators of hydrophytic vegetation and	_ Thick Dark Surface (A12) Redox Depressions (F8) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. sandy Gleyed Matrix (S4) unless disturbed or problematic. Type: Depth (inches): Hydric Soil Present? Yes No emarks:	_ Depleted Below	Dark Surface	(A11)	Depleted D	ark Surfac	e(⊢7)		3				
_ Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be present, _ Sandy Gleyed Matrix (S4) unless disturbed or problematic. estrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No emarks:	_ Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. estrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No emarks:	_ Thick Dark Surf	ace (A12)		Redox Dep	Redox Depressions (F8)				Indicators of hydrophytic vegetation and			
_ Sandy Gleyed Matrix (S4) unless disturbed or problematic. estrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No emarks:	_ Sandy Gleyed Matrix (S4) unless disturbed or problematic. estrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No emarks:	Sandy Mucky M	lineral (S1)		Vernal Pool	Vernal Pools (F9)				wetland hydrology must be present,			
estrictive Layer (if present): Type: Depth (inches): No emarks:	estrictive Layer (if present): Type: Depth (inches): No emarks:	Sandy Gleyed I	/latrix (S4)						unless disturb	ed or problema	tic.		
Type:	Type:	estrictive Layer (f present):										
Depth (inches): No _	Depth (inches): Hydric Soil Present? Yes No emarks:	Туре:											
emarks:	emarks:	Depth (inches):							Hydric Soil Pres	ent? Yes	No		
		emarks:											

HYDROLOGY

Wetland Hydrology Indicators:								
Primary Indicators (minimum of o	Secondary Indicators (2 or more required)							
Surface Water (A1)	_	Salt Crust (B11)		Water Marks (B1) (Riverine)				
High Water Table (A2)	_	Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)				
Saturation (A3)	_	Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)				
Water Marks (B1) (Nonriveri	ine)	Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)				
Sediment Deposits (B2) (Nor	nriverine)	Oxidized Rhizospheres along Livir	ng Roots (C3)	Dry-Season Water Table (C2)				
Drift Deposits (B3) (Nonriver	rine)	Presence of Reduced Iron (C4)		Crayfish Burrows (C8)				
Surface Soil Cracks (B6)	_	Recent Iron Reduction in Tilled Sc	oils (C6)	Saturation Visible on Aerial Imagery (C9)				
Inundation Visible on Aerial In	magery (B7)	Thin Muck Surface (C7)		Shallow Aquitard (D3)				
Water-Stained Leaves (B9)	FAC-Neutral Test (D5)							
Field Observations:								
Surface Water Present? Ye	es No	Depth (inches):						
Water Table Present? Ye	es No	Depth (inches):						
Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No (includes capillary fringe)								
Describe Recorded Data (stream	gauge, monitoring	g well, aerial photos, previous inspec	tions), if availa	ble:				
Remarks:								