US 50 West: Purcell Boulevard to Wills Boulevard (Milepost 309 to Milepost 313) and McCulloch Boulevard Intersection Improvements (Milepost 307)

Project Number: STA 050A-022 Project Code: 19056

Wetland Delineation Technical Report

Prepared for:

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List of Acronyms and Abbreviations

Blvd.BoulevardCDOTColorado Department of TransportationCFRCode of Federal RegulationsEAEnvironmental AssessmentFACUFacultative UplandFACWFacultative WetlandFHWAFederal Highway AdministrationGISgeographic information systemNRCSNatural Resource Conservation ServiceOBLObligate wetlandOHWMordinary high water markPBS-1Pueblo Boulevard South-1PELPlanning and Environmental LinkagesRd.RoadROWright-of-waySB 40Senate Bill 40TNWTraditional Navigable WaterUPLUplandUSACEUnited States Army Corps of EngineersUSEPAUnited States CodeUSFWSUnited States Fish and Wildlife ServiceWCN-1Williams Creek North-1WCS-1Will Horse Dry Creek-1WUSwaters of the US	Ave.	Avenue
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1. Introduction

The Colorado Department of Transportation (CDOT) is conducting an Environmental Assessment (EA) for proposed improvements to US Highway 50 (US 50) from Purcell Boulevard (Blvd.) to Wills Blvd. and the intersections of US 50 and Purcell Blvd., Pueblo Blvd., and McCulloch Blvd. (i.e., US 50 West EA) (**Figure 1** and **Figure 2**).

The Proposed Action includes elements of the recommended Preferred Alternative identified in the US 50 West Planning and Environmental Linkages (PEL) Study (US 50 West PEL Study) (2012a). The PEL recommended Preferred Alternative identified improvements to address peak-hour congestion and above average crash rates along US 50 from Swallows Road (Rd.) to Baltimore Avenue (Ave.) (**Figure 3**). Appendix A2, US 50 West PEL Study (CDOT, 2012a), and A3 of the EA, US 50 West Implementation Plan (CDOT, 2012b), include additional information on the PEL Preferred Alternative.

This wetland delineation has been prepared in support of the US 50 West EA. This wetland delineation technical report describes the waters of the US (WUS), including wetlands and open water, within and adjacent to the project, and evaluates the potential for impacts as a result of the Proposed Action and No Action Alternative.

1.1 **Project Description**

1.1.1 Proposed Action

The Proposed Action would include widening 3.4 miles of US 50 to include a third eastbound lane from Purcell Blvd. to Wills Blvd. The Proposed Action would also provide intersection improvements at the Purcell Blvd./US 50, Pueblo Blvd./US 50, and McCulloch Blvd./US 50 intersections (**Figure 1** and **Figure 2**). The intersection improvements at Purcell Blvd. and McCulloch Blvd. would modify the northbound to eastbound turn lane geometry to US 50, and add a channelizing curb island for improved traffic flow and pedestrian/bicycle refuge. Intersection improvements at Pueblo Blvd./US 50 would include an eastbound through lane, an eastbound deceleration lane and ramp onto Pueblo Blvd., and a northbound ramp and acceleration lane onto eastbound US 50. The proposed improvements would also include widening the eastbound bridge at Wild Horse Dry Creek (CDOT Structure K-18-CW). The bridge improvements would include extending the existing piers within the Wild Horse Dry Creek drainage area, adding a third eastbound lane, and incorporating a multi-use pedestrian/bicycle trail on the bridge to accommodate a proposed future multi-use trail on the southbound side of US 50. The multi-use trail would be a separate project to be built by others. The Proposed Action would also include drainage improvements and water quality features.

The proposed transportation and water quality improvements would be constructed within the existing CDOT right-of-way (ROW). Permanent easements for drainage would be required in three locations adjacent to CDOT ROW. The main text and figures of the EA provide additional detail about the Proposed Action, while Appendix A1 of the EA includes project drawings.

1.1.2 No Action Alternative

The No Action Alternative would include any transportation projects that have not been built, but for which funding has been committed. As identified in the *US 50 West PEL Study* (CDOT, 2012a), the No Action Alternative assumes that no major capacity improvements would occur along US 50 from Swallows Rd. to Baltimore Ave. (CDOT, 2012a). However, the No Action Alternative would include routine maintenance to keep the existing transportation network in good operating condition. The main text of the EA provides additional detail about the No Action Alternative.

2. Methods

The project team reviewed previous environmental studies conducted in the project vicinity, reviewed existing environmental data, and conducted a wetland delineation to gather information on wetlands within and adjacent to the project footprint (wetland resources study area). The project team also completed an impact assessment for the Proposed Action and No Action Alternative, as discussed in **Section 5**.

The wetland delineation from the US 50 West PEL Study (2012a) was used to identify baseline wetland information. The project team conducted an updated wetland delineation on June 3, 2013, which was based on the latest Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0) (USACE, 2010).

During the field survey on June 3, 2013, the project team collected the wetland boundaries using a Trimble® GeoXHTM global positioning system with ESRI® ArcPadTM version 10.0 mobile geographic information system (GIS). The project team then analyzed the data in the office using ESRI® ArcMapTM GIS v.10. **Appendix A** includes photographs of the study area and illustrates the conditions of wetland and open water areas in June and July 2013. The project team used the latest wetland determination forms to document wetlands identified during the June 2013 field survey for the US 50 West EA (**Appendix B**).

Figure 1. Proposed Action – Purcell Boulevard to Wills Boulevard

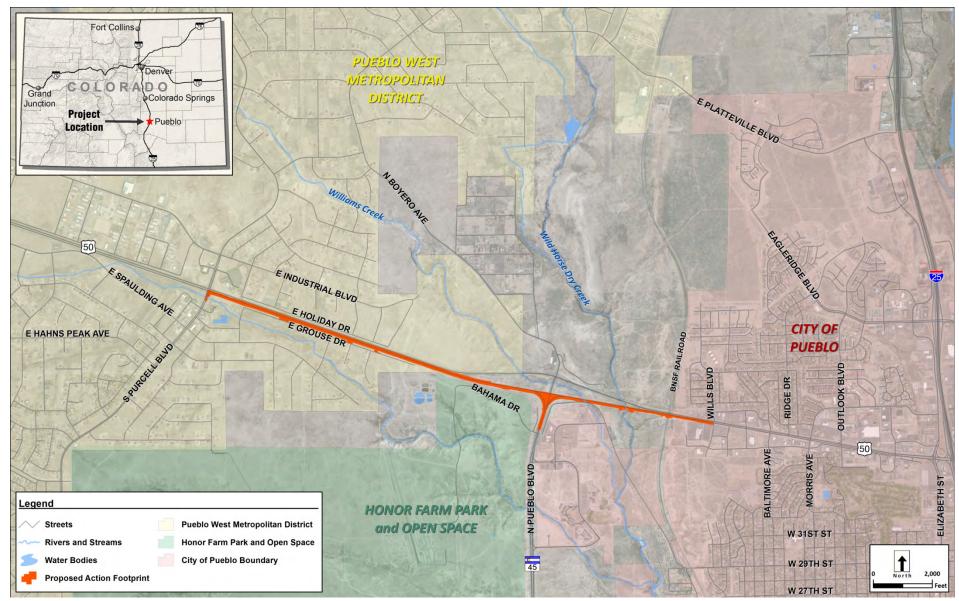


Figure 2. Proposed Action – McCulloch Boulevard / US 50 Intersection

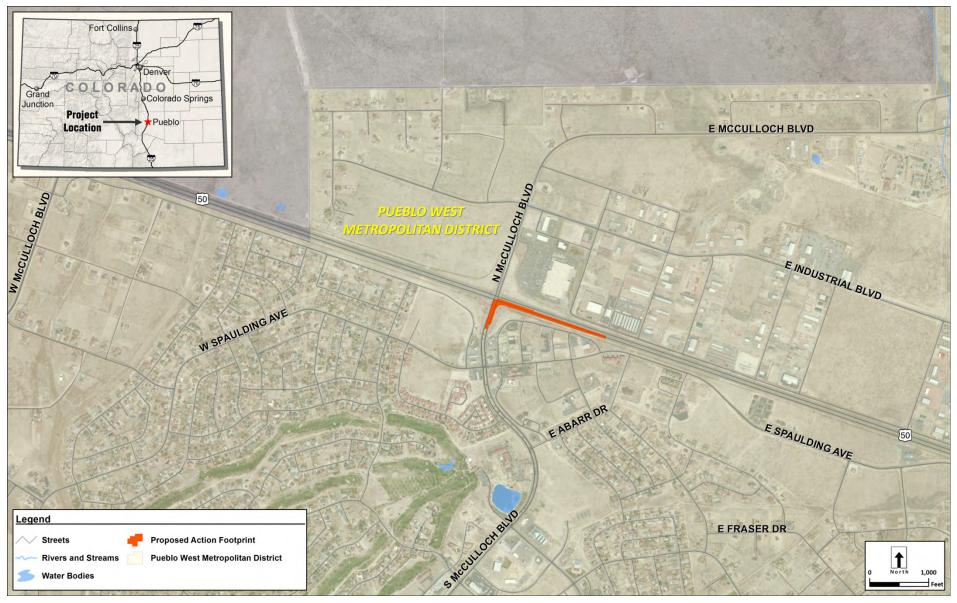
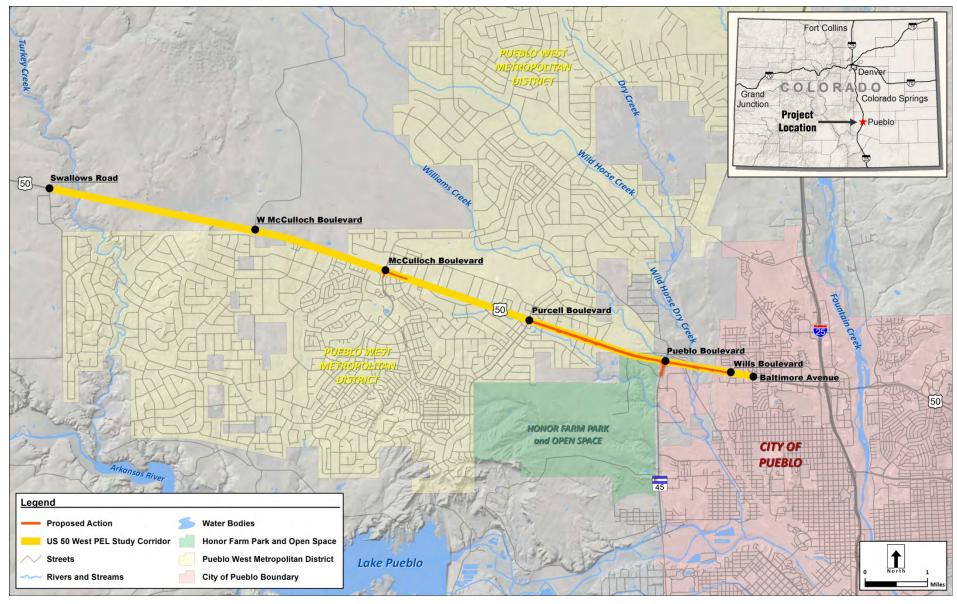


Figure 3. US 50 West PEL Study Corridor



3. Results

3.1 Environmental Setting

The approximate center of the project is located in Pueblo County in the SW ¹/₄ of the SW ¹/₄ of Section 9, Township 2 South, Range 65 West (Lat 38.318 and Long -104.678). Land use surrounding US 50 in the study area is predominantly rangeland with scattered residential and commercial development. Commercial development focuses on the four major arterial roads: McCulloch Blvd., Purcell Blvd., Pueblo Blvd., and Wills Blvd., and in the southwest corner of the McCulloch Blvd./Purcell Blvd. intersection. The Burlington Northern Santa Fe (BNSF) railroad also crosses US 50 within the study area.

The study area lies within both the Dry Creek watershed and the Wild Horse Creek watershed, which are both within the Upper Arkansas River Basin. Williams Creek and Wild Horse Dry Creek cross US 50 at the Pueblo Blvd. intersection. Williams Creek flows from northwest to southeast and passes under the highway and under Pueblo Blvd. Wild Horse Dry Creek also flows from northwest to southeast and passes under the highway to the east of Pueblo Blvd. An un-named tributary to Williams Creek also exists south of US 50 and crosses under Purcell Blvd. in a narrow channelized ditch.

The natural setting within the study area is disturbed by surrounding commercial development, residential development, recreational off-road vehicle use, utility corridors, noxious weeds, and a highly traveled highway. Most of the project corridor has limited habitat to support wildlife species; however, the Williams Creek and Wild Horse Dry Creek drainages provide habitat for various species. Also, prairie dog colonies are present throughout the study area.

Common vegetation present in the study area includes grasses, forbs, shrubs, and trees. Vegetation includes buffalograss (*Bouteloua dactyloides*), purple milkvetch (*Astragalus agrestis*), common threesquare (*Schoenoplectus pungens*), common spikerush (*Eleocharis palustris*), creeping bentgrass (*Agrostis stolonifera*), narrowleaf cattail (*Typha angustifolia*), tamarisk (*Tamarix chinensis*), golden currant (*Ribes aureum*), sandbar willow (*Salix interior*), plains cottonwood (*Populus deltoides*), and Siberian elm (*Ulmus pumila*).

Williams Creek and Wild Horse Dry Creek pass under US 50 from northwest to southeast in the study area. These two creeks are lined with tamarisk, Canada thistle (*Cirsium arvense*), and other vegetation similar to the vegetation identified throughout the study area. Common spikerush was also found within the ordinary high water mark (OHWM) channel in both creeks. The wetlands identified at Wild Horse Dry Creek, other than the vegetation in the channel, are fringe wetlands (between 1 and 2-feet wide) on a shelf above the channel. The wetlands identified at Williams Creek are found in a depressional area. The wetlands found at the Williams Creek tributary are within the channel/depressional area.

No wetlands were found at the intersection of McCulloch Blvd. and US 50. Formal landscaping was added to the two south quadrants of the intersection, which mark the gateway to Pueblo West. The landscaping consists of large beds of crushed red gravel, with clumps of shrubs and evergreen trees. The northern two quadrants of the intersection were not landscaped in the past and have very little vegetation and are dominated by prairie dog colonies.

3.2 Summary of Wetlands

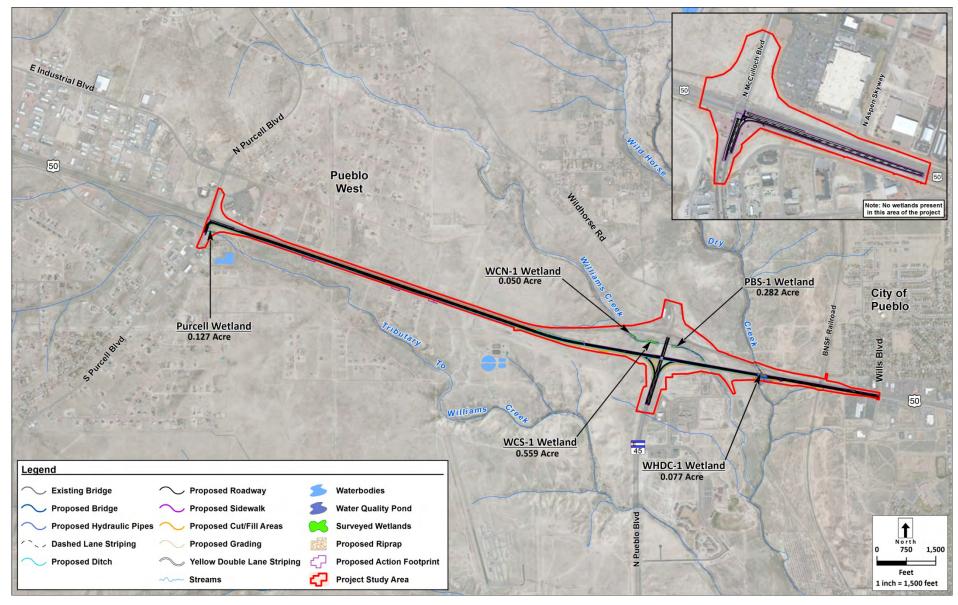
Five wetland areas (Purcell Wetland, Williams Creek North-1 [WCN-1], Williams Creek South-1 [WCS-1], Pueblo Boulevard South-1 [PBS-1], and Wild Horse Dry Creek-1 [WHDC-1]) were identified in the study area (**Table 1** and **Figure 4**).

Table 1.Summary of Wetlands in the Study Area

Wetland ID	Existing Area (acres)			
Purcell Wetland	0.127			
Williams Creek North-1 (WCN-1)	0.050			
Williams Creek South-1 (WCS-1)	0.559			
Pueblo Boulevard South-1 (PBS-1)	0.282			
Wild Horse Dry Creek-1 (WHDC-1)	0.077 (4 separate areas)			
TOTAL	1.095			

The Purcell Wetland is located in the Williams Creek tributary southwest of the US 50 and Purcell Blvd. intersection. Wetlands WCN-1, WCS-1, and PBS-1 are found in or adjacent to Williams Creek near the US 50 and Pueblo Blvd. intersection. Wetland WHDC-1 is found underneath US 50 at Wild Horse Dry Creek, east of Pueblo Blvd. All of these wetlands have very distinct boundaries within the narrow floodplain/drainage areas. The following sections present more detail on each wetland/wetland group identified in the study area.

Figure 4. Surveyed Wetlands Overview



3.3 Purcell Wetland

The project team identified and delineated one wetland area associated with the Williams Creek tributary, which flows in a west-to-east direction, is located south of US 50, and crosses underneath Purcell Blvd. (Figure 1, Figure 4, and Appendix C). The wetland area is completely within a depression, in and adjacent to, a very narrow channel. The vegetation that was present during the June 2013 field survey varies between 5 feet and 10 feet in width and extends upstream and downstream outside the study area. The size of this wetland is 0.127 acre. The project team completed one wetland determination form for the wetland described as Purcell Wetland. This form is in Appendix B.

The Purcell Wetland is categorized as being a palustrine emergent wetland that is seasonally flooded. The soils in this area, which are Niobrara shale, are higher in selenium and exhibit other alkaline properties. Under the Cowardin classification system, the Purcell Wetland is considered to be PEMAi, with the "i" indicating the alkaline content in the water (Cowardin et al., 1979). The characteristics of this wetland are described below and are shown as Purcell Wetland on **Figure 4** and in detail (1" = 100') in **Appendix C**.

Purcell Wetland: Vegetation

Weeds dominate the vegetation identified in the Purcell Wetland, including common reed (*Phragmites australis*) and tamarisk. The project team also identified narrowleaf cattail as another dominant plant located in and adjacent to the Williams Creek tributary channel during the June 2013 field survey. No trees were identified in this area. The common reed and the narrowleaf cattail, which are the dominant species, account for 60 percent of the herb stratum. Canada thistle is also present but to a much lesser extent. Tamarisk accounts for 40 percent in the sapling/shrub stratum. The Dominance Test was passed; therefore, the wetland consists of hydrophytic vegetation. The upland vegetation surrounding the wetland consists of buffalograss, rubber rabbitbrush (*Ericameria nauseosa*), fourwing saltbrush (*Atriplex canescens*), other grasses, and noxious weeds.

Purcell Wetland: Hydrology

Hydrology in the Purcell Wetland consists of intermittent surface flow as a tributary to Williams Creek, which collects storm water and carries it in a highly channelized narrow channel to Williams Creek downstream. The primary hydrologic indicators observed include the presence of surface water at the box culvert under Purcell Blvd. and saturation. The one secondary indicator is the geomorphic position. Therefore, wetland hydrology is present at the Purcell Wetland.

Purcell Wetland: Soils

Before conducting the field survey, the project team downloaded a Web Soil Survey that identified the soil types in the area. Soil types include Heldt silty clay loam, Manvel silt loam, Minnequa-Manvel loams, Penrose-Minnequa complex, Penrose-Rock outcrop complex, and Shingle silty clay loams (NRCS, 2013). During the field survey, the project team dug a soil pit to investigate the soil profile in the Purcell Wetland. Within the first 4 inches of the surface, the soil color consists of 10 YR 4/3. Below these 5 inches of clay loam, there is another 5 inches of clay loam of 2.5 YR 5/2 as the dominant color with 80 percent in the matrix. The second soil color (20 percent) in this matrix had a color consisting of 2.5 YR 5/1. The soils at the Purcell Wetland were problematic due

to a deeply incised channel and young soils. Soils at this location were assumed hydric due to the presence of wetland vegetation and hydrology.

3.4 Wetlands WCN-1, WCS-1, and PBS-1

The project team identified and delineated three wetland areas associated with the Williams Creek drainage, which flows in a northwest-to-southeast direction and is located in the area of the US 50/Pueblo Blvd. intersection (**Figure 4** and **Appendix C**). Williams Creek crosses underneath Pueblo Blvd. in a concrete box culvert in this area. The wetland areas identified during the June 2013 field survey are completely within a depression in and adjacent to a very narrow channel. The vegetation that is present varies between 3 feet and 50 feet in width and extends upstream and downstream outside the study area. The size of these wetlands combined is 0.891 acre. The project team compiled an "in-point" and an "out-point" wetland determination form for each wetland identified as WCN-1, WCN-2, WCS-1, WCS-2, PBS-1, and PBS-2, which are provided in **Appendix B**.

All wetlands identified in the Williams Creek drainage are categorized as being palustrine emergent wetlands that are seasonally flooded (USFWS, 2013). The soils in this area (Niobrara shale) are higher in selenium and other alkaline properties and exhibited a rotten egg smell the day of the survey. Under the Cowardin classification system, the wetlands here are considered to be PEMAi, with the "i" indicating the alkaline content in the water (Cowardin et al., 1979). Wetland characteristics are described below and are shown as Wetland WCN-1, Wetland WCS-1, and Wetland PBS-1 on **Figure 4** and in detail (1" = 100') in **Appendix C**.

Wetlands WCN-1, WCS-1, and PBS-1: Vegetation

Table 2 identifies the dominant vegetation for Wetland WCN-1, Wetland WCS-1, and Wetland PBS-1 for each wetland "in-point" sampling area, including the dominant vegetation, wetland vegetation indicator status, and the results of the Dominance Test. **Appendix B** includes information on the dominant vegetation in the "out-point" sampling areas.

The Dominance Test was passed for all three wetlands; therefore, these wetlands consist of hydrophytic vegetation. The upland vegetation surrounding the wetlands consists of buffalograss, rubber rabbitbrush, fourwing saltbrush, other grasses, and noxious weeds.

Common Name	Species Name	Indicator Status	Wetland WCN-1	Wetland WCS-1	Wetland PBS-1
		Herb Stratum			
Kochia	Bassia scoparia	FACU			Х
Canada thistle	Cirsium arvense	FACU			Х
Common spikerush	Eleocharis palustris	OBL	Х	Х	
Common threesquare	Schoenoplectus pungens	OBL			Х
Creeping bentgrass	Agrostis stolonifera	FACW	Х	Х	
Narrowleaf cattail	Typha angustifolia	OBL	Х	Х	Х
Purple milkvetch	Astragalus agrestis	FACU			Х

Table 2. Surveyed Vegetation in the Williams Creek Wetlands

Common Name	Species Name	Indicator Status	Wetland WCN-1	Wetland WCS-1	Wetland PBS-1
	Sapli	ng/Shrub Stratum			
Golden currant	Ribes aureum	FACU	Х	Х	Х
Russian olive	Elaeagnus angustifolia	FACU		х	
Sandbar willow	Salix interior	FACW			Х
Tamarisk	Tamarix chinensis	FACW	Х	Х	Х
		Tree Stratum			
Siberian elm	Ulmus pumila	UPL			х
D	ominance Test Score	80%	75%	60%	

Wetland Vegetation Indicator Key: OBL – Obligate wetland, FACW – Facultative Wetland, FACU – Facultative Upland, UPL – Upland

Wetlands WCN-1, WCS-1, and PBS-1: Hydrology

Hydrology in Wetland WCN-1, Wetland WCS-1, and Wetland PBS-1 consists of perennial surface flow as part of Williams Creek, which carries water from the northwest to the southeast in a depression or an arroyo and which eventually empties into Wild Horse Dry Creek and then into the Arkansas River further downstream. The primary hydrologic indicators include the presence of surface water and saturation in all three wetlands. Another primary indicator and two secondary indicators in Wetlands WCN-1 and WCS-1 include an algal mat or crust, geomorphic position, and drainage patterns. A third primary indicator, drift deposits, was also observed at Wetland PBS-1.

Wetlands WCN-1, WCS-1, and PBS-1: Soils

Before conducting the field survey, the project team downloaded a Web Soil Survey that identified the soil types in the area. Soil types include Heldt silty clay loam, Manvel silt loam, Minnequa-Manvel loams, Penrose-Minnequa complex, Penrose-Rock outcrop complex, and Shingle silty clay loams (NRCS, 2013). During the field survey, the project team dug a soil pit to investigate the soil profiles in these three wetlands. **Table 3** identifies each hydric soil property in the "in-point" sampling locations at each wetland site. Refer to **Appendix B** for additional information about soils captured on the wetland determination forms and the "out-point" soil properties.

The soil profiles in Wetlands WCN-1 and WCS-1 have a hydric soil indicator of sandy redox. Therefore, these soils are considered hydric soils. The soil profiles in Wetland PBS-1 are problematic due to indications that there were recent fluvial deposits. Due to the soils being recently deposited here, hydric soil characteristics have not had enough time to form. Hydric soils are assumed for Wetland PBS-1 due to the presence of wetland vegetation and wetland hydrology.

Soil Depth	Soil Color	Percent of Matrix	Soil Texture	Remarks						
	WCN-1									
0 - 5"	10 YR 5/2	70%	Sandy Loam							
0 - 5"	7.5 YR 5/6	5% Redox	Sandy Loam							
0 -5"	10 YR 3/1	25%	Sandy Loam	Restricted at 5"						
		WCS-1								
0 - 5"	10 YR 5/2	70%	Sandy Loam							
0 - 5"	7.5 YR 5/6	5% Redox	Sandy Loam							
0 - 5"	10 YR 3/1	25%	Sandy Loam	Restricted at 5"						
		PBS-1								
0 - 5"	2.5 YR 4/2	100%	Sandy Clay							
5" - 8"	2.5 YR 4/2	100%	Sandy Clay	Saturated						

Table 3. Wetlands WCN-1, WCS-1, and PBS-1 Soil Profiles

3.5 Wetland WHDC-1

The project team identified and delineated one wetland area associated with Wild Horse Dry Creek, which flows in a northwest-to-southeast direction and is located east of Pueblo Blvd. and crosses underneath the westbound and eastbound US 50 bridges in this area. The wetland area is completely within a depression in and adjacent to a very narrow channel. The vegetation that is present varies between 1 foot and 4 feet in width and extends upstream and downstream outside the study area. The size of four separate wetland features associated with Wetland WHDC-1 combined is 0.077 acre. The project team compiled one "in-point" wetland determination form and one "out-point" wetland determination form for Wetland WHDC-1 (**Appendix B**).

Wetland WHDC-1 is categorized as being a palustrine emergent wetland that is intermittently flooded/temporary (USFWS, 2013). The soils in this area (Niobrara shale) are higher in selenium and other alkaline properties. Under the Cowardin classification system, the wetland here is considered to be PEMAi, with the "i" indicating the alkaline content in the water (Cowardin et al., 1979).

The characteristics of this wetland are described below and are shown as Wetland WHDC-1 on **Figure 4** and in detail (1'' = 100') in **Appendix C**.

Wetland WHDC-1: Vegetation

Creeping bentgrass and tamarisk dominate the vegetation identified in Wetland WHDC-1 and account for 40 percent of the herb stratum and 30 percent of the sapling/shrub stratum, respectively. No trees were identified in this area. The Dominance Test was passed; therefore, the wetland consists of hydrophytic vegetation. The upland vegetation surrounding the wetland consists of buffalograss, rubber rabbitbrush, fourwing saltbrush, and other grasses. Two other noxious weeds, perennial pepperweed (*Lepidium latifolium*) and hoary cress (*Cardaria draba*), are also present in dense populations.

Wetland WHDC-1: Hydrology

Hydrology in Wetland WHDC-1 consists of perennial surface flow as part of Wild Horse Dry Creek, which is a perennial stream. The primary hydrologic indicators include the presence of surface water, saturation, an algal mat or crust, and a salt crust. Two secondary indicators were observed: the geomorphic position and drainage patterns. Therefore, wetland hydrology is present at Wetland WHDC-1.

Wetland WHDC-1: Soils

Before conducting the field survey, the project team downloaded a Web Soil Survey that identified the soil types in the area. Soil types include Heldt silty clay loam, Manvel silt loam, Minnequa-Manvel loams, Penrose-Minnequa complex, Penrose-Rock outcrop complex, and Shingle silty clay loams (NRCS, 2013). During the field survey, the project team environmental scientists dug a soil pit to investigate the soil profile in Wetland WHDC-1. Within the first 5 inches of the surface, the soil consists of a dominant (70 percent) color of 10 YR 5/2, with 5 percent of the matrix showing that redox features are apparent (7.5 YR 5/6). The other 25 percent of the matrix shows a color of 10 YR 3/1. Because this soil profile has a hydric soil indicator of sandy redox, this soil is considered a hydric soil.

3.6 Waters of the US and Jurisdictional Status

The definition of WUS under U.S. Army Corps of Engineers (USACE) jurisdiction does not include wetlands that lack a surface connection to and, therefore, are isolated from, regulated waters. However, in projects with federal funding or oversight, such as this Project, a second piece of legislation, Executive Order 11990 Protection of Wetlands, directs the lead federal agencies, in this instance FHWA, to protect isolated wetlands by avoiding direct or indirect support of construction in wetlands when a practicable alternative is available.

The tributary to Williams Creek, Williams Creek, and Wild Horse Dry Creek would potentially be considered WUS within the Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328). The specific WUS indicators include relatively permanent waters (RPWs) that flow directly or indirectly into a Traditional Navigable Water (TNW) and wetlands directly abutting RPWs that flow directly or indirectly into TNWs (USACE, 2007). Wetlands WCN-1, WCS-1, PBS-1, and WHDC-1 would likely be considered jurisdictional wetlands.

4. Impacts

This section describes the impact assessment of the Proposed Action and the No Action Alternative on the wetland resources identified in the study area. Impacts of highway improvements on wetlands, whether from the Proposed Action or No Action Alternative, can result from:

- Placement of fill within a wetland boundary
- Soil disturbance

- Changing hydrology
- Pollutant discharge

Vegetation removal

Changing adjacent land use

Permanent impacts can be defined as changes to vegetation, hydrology, or soils that lead to a change in the presence of wetlands. Permanent impacts from the Proposed Action were evaluated based on the project design footprint and included the areas of ground disturbance from the following project elements:

- Addition of a third eastbound lane and intersection improvements at Purcell Blvd./US 50 and McCulloch Blvd./US 50
- Bridge widening, including pier work, at Wild Horse Dry Creek
- Placement of riprap for erosion control
- Drainage outfall structures

A temporary impact can be defined as a change to at least one of the wetland characteristics (vegetation, hydrology, or soils), but can later be restored to a pre-construction condition at the same location. Temporary impacts from the Proposed Action were evaluated based on the areas of ground disturbance that will be reseeded and re-vegetated following construction and included a 10-foot buffer around the construction footprint.

There are no permanent or temporary wetland impacts due to the Proposed Action and No Action Alternative.

Refer to **Appendix C**, **Figure C-5**, for a detailed view of the Proposed Action in the area of the Wild Horse Dry Creek drainage.

5. Mitigation

CDOT mitigates wetlands that have been determined to be jurisdictional and non-jurisdictional by the USACE. There are no formal wetland mitigation requirements on Wild Horse Dry Creek based on the lack of impacts; however, CDOT will implement best management practices to avoid any erosion or other indirect impacts to wetlands identified in the study area. Also, due to the presence of thick stands of tamarisk along Wild Horse Dry Creek, CDOT determined that the project would benefit from vegetation enhancement/restoration along Wild Horse Dry Creek as part of the US 50 West Project. The vegetation enhancement/restoration strategy at Wild Horse Dry Creek involves removing tamarisk along Wild Horse Dry Creek and replanting with a combination of sandbar willow, other shrubs, and a grass seed-mix. CDOT will address the vegetation enhancement/restoration strategy in accordance with specification 214 (Planting) of the CDOT Standard Specifications for Road and Bridge Construction (CDOT, 2011a). This vegetation restoration/enhancement strategy is being implemented in an effort to improve the overall quality of vegetation in this drainage. Refer to Appendix A8 US 50 West Biological Resources Report (CDOT, 2014a) and Appendix A9 US 50 West Senate Bill 40 Formal Wildlife Certification Report (CDOT, 2014b) for additional information on the noxious weed management plan in the Wild Horse Dry Creek drainage.

6. Conclusions

This technical report summarizes the delineation of wetlands in support of the US 50 West EA. Five wetland areas were identified, three of which are associated with Williams Creek, one of which is associated with a tributary to Williams Creek near Purcell Blvd., and one of which is associated with Wild Horse Dry Creek. **Table 1** and **Figure 4** include an overview of the wetlands identified in the study area. The Proposed Action would not affect any of the identified wetlands. If wetland impacts are identified as the project design is completed, the project team will complete any additional reporting and CDOT will prepare a notification to the USACE.

7. References

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Appendix A Site Photographs



Photo 1 — Wetland WCN-1 in the background and Wetland WCS-1 in the foreground. View looking north from in the bottom of the drainage/arroyo.



Photo 2 — Looking northwest out over Wetland WCN-1 showing the vegetation present in the channel.



Photo 3 — Wetland WCS-1, looking northwest toward the westbound bridge.



Photo 4 — Wetland WCS-1, looking southeast toward Pueblo Blvd. intersection in the background.



Photo 5 — Looking southeast from the box culvert on Williams Creek under Pueblo Blvd. toward Wild Horse Dry Creek, Wetland PBS-1.



Photo 6 — Looking east along Wetland PBS-1, showing the vegetation narrow channel.



Photo 7 — Looking southeast from the median at Pueblo Blvd., showing the typical upland and depressional (arroyo) geomorphology of the area.



Photo 8 — USGS gauging station between Wetlands WCN-1 and WCS-1 on Williams Creek.



Photo 9 — USGS gauging station at Wetland WHDC-1 on Wild Horse Dry Creek.



Photo 10 — Looking south from under the eastbound bridge. This channel is very narrow and filled with noxious weeds.



Photo 11 — Looking north from under the eastbound bridge. Pedestrian/off-road vehicle use in the area has eroded and damaged wetlands.



Photo 12 — Looking north next to the box culvert under Purcell Blvd. for the tributary to Williams Creek. This drainage is highly channelized and filled with noxious weeds.



Photo 13 — The Purcell Wetland had vegetation growing within the channel.



Photo 14 — Looking east over the Purcell Wetland. Filled with common reed and tamarisk.

Appendix B Great Plains Wetland Delineation Forms

WETLAND DETERMIN	ATION	DATA FOR	RM - Grea	at Plains	Region		
Project/Site: US-50 PEL	City/C	y/County: Pueblo)	Sampling Date:	6/3/13	
Applicant/Owner: CDOT		State: COLORADO		Sampling Point:	Purcell Wet	land	
Investigator(s): KH & JL		Sectio	on, Townshi	ip, Range:	SECT	7, T2S, R65W	
Landform (hillslope, terrace, etc.): Depression		Local relief ((concave, co	onvex, none	e): Concave	e Slope (%):	1 to 3
Subregion (LRR): LRR G Lat:		38.323	Long:	-104.	.701 Dat	um: NAD	83
Soil Map Unit Name: Manvel silt loam 1 to 5 percent slopes	5		NWI	classificatio	on:	PEMWi	
Are climatic/hydrologic conditions on the site typical for this tin	me of the	e year?	N (I	f no, explair	n in Remarks.)		
Are Vegetation , Soil , or Hydrology		significantly d	listurbed?	Are "norm	al circumstances	' present? Y	es
Are Vegetation , Soil , or Hydrology		naturally prob	olematic?	(If neede	d, explain any ar	swers in Remar	ks.)
SUMMARY OF FINDINGS - Attach site map showing	g sampl	ing point loca	ations, tran	sects, imp	ortant features,	etc.	
Hydrophytic Vegetation Present? Y							
Hydric Soil Present? Y		Is the Sa	mpled Are	a Within a	Wetland?	Y	
Indicators of Wetland Hydrology Present? Y		lf yes, op	tional wetla	nd site ID:	Purcell Wetl	and	
Remarks: (Explain alternative procedures here or in a sepa	arato ro	port)					
		. ,					
In an extreme drought for 2 years now, very stressed v	/egetatic	weeds	age nas be	en nigniy c	nannelized and	is filled with no	xious
VEGETATION Use scientific names of plants.							
Abs	solute	Dominant	Indicator	Dominar	nce Test Works	neet	
Tree Stratum (Plot size:) %	Cover	Species	Status		Dominant Speci		
1				that are OE	BL, FACW, or FA	.C: <u>3</u>	(A)
2					ber of Dominant	2	
3		······································			cross all Strata:	3	_(B)
5					Dominant Species BL, FACW, or FA		(A/B)
	0 =	Total Cover			, ,		()
Sapling/Shrub Stratum (Plot size:)				Prevaler	nce Index Worl	sheet	
1 Tamarix chinensis	40	Y	FACW	Total %	Cover of:	Multiply by:	
2				OBL spe		x 1 = 35	_
3				FACW s		x 2 = 130	_
4		······································		FAC spe		x = 0	-
5	40 =	Total Cover		FACU sp UPL spe		x 4 = 60 x 5 = 0	-
Herb Stratum (Plot size:)	40 -			Column		(A) 225	(B)
/	35	Y	OBL		ice Index = B/A	. ,	_(_)
	25		FACW	Trovalor			-
	15	N	FACU	Hydroph	nytic Vegetatio	n Indicators:	
4					apid Test for Hyd		ition
5					ominance Test is		
6				<u></u> χ 3-Ρ	revalence Index	is ≤3.0¹	
7					lorphological A		
8		······································			orting data in R	emarks or on a	
9 10					arate sheet) Ilematic Hydrop		.1
	75 =	Total Cover		(Exp	• •	nylic vegetation	1
<u>Woody Vine Stratum</u> (Plot size:) 1					rs of hydric soil and resent, unless distu	, ,,	
2		·		Hyd	rophytic		
% /Bare Ground in Herb Stratum	0 =	Total Cover		-	etation sent?	(
Remarks: (Include photo numbers here or on a separate s	sheet)			1			
	,						
This channel is filled	with no	xious weeds,	some wate	er is presen	ıt.		
		·					

Profile Dese	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abse	ence of indicators.)
Depth	Matrix		Rec	lox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 5"	10 YR 4/3	100					Clay Loam	
5 - 10"	2.5 YR 5/2	80					Clay Loam	
							-	
5 - 10"	2.5 YR 5/1	20					Clay Loam	
4								
								² Location: $PL = Pore Lining, M = M$
-	Indicators: (App	licable				-		blematic Hydric Soils ³ :
	osol (A1)				d Matrix ((S4)	1 cm Muck (A9)	
	ic Epipedon (A2)			dy Redox	. ,			edox (A16) (LRR F, G, H)
	ck Histic (A3)			pped Mat			Dark Surface (S	, , ,
	rogen Sulfide (A4)			-	y Mineral		High Plains Dep	
	tified Layers (A5)				ed Matrix	(F2)		de of MLRA 72 & 73)
	n Muck (A9) (LRR		X Dep				Reduced Vertic	
	leted Below Dark				Surface (,	Red Parent Ma	
	k Dark Surface (A	,	'		rk Surface	` '		ark Surface (TF12)
	dy Mucky Mineral				essions (F	,	Other (Explain i	
	cm Mucky Peat or	Peat (S2				ons (F16)		ophytic vegetation and wetland
	RR G, H)			LRA 72 8	& 73 of L	RR H)		e present, unless disturbed or
5 ci	m Mucky Peat or F	Peat (S3)	(LRR F)					problematic.
Restrictive	Layer (if observe	ed):						
Туре:	2						Hydric Soil Pres	ent? Y
Depth (inche	es):						•	
Remarks:								
Channel	lized tributary of V	Villiams	Creek. 5/1 value a					pleted matrix. No redox features
				prese	ent. Wate	er presen	t.	
HYDROLO	OGY							
	drology Indicato	vre:						
-			required: abook	all that a	nnly)		Casandan (diastars (minimum of two required)
	cators (minimum	or one is	required, check a					ndicators (minimum of two required)
X Surface	· · ·			Salt Cru	```	otoo (P12		e Soil Cracks (B6) ely Vegetated Concave Surface (B8)
X Saturatio	iter Table (A2)			-		ates (B13 Odor (C1		ige Patterns (B10)
	arks (B1)			, ,		er Table (/	ed Rhizospheres on Living
	nt Deposits (B2)					heres on		s (C3) (where tilled)
	posits (B3)					ere not til	•	sh Burrows (C8)
	at or Crust (B4)					uced Iron		tion Visible on Aerial Imagery (C9)
	osits (B5)				ck Surfac			orphic Position (D2)
· ·	on Visible on Aeria	I Imagery	/ (B7)			Remarks		leutral Test (D5)
Water-S	tained Leaves (B9)		, , ,	•			Heave Hummocks (D7) (LRR F)
Field Obser	vations:							
Surface Wat		Yes	X No		Depth (i	nches):	1	
Water Table	Present?	Yes	No	Х	Depth (i		I I	ndicators of Wetland
Saturation P	resent?	Yes	X No		Depth (i	nches):	1	Hydrology Present? Y
(includes ca	pillary fringe)							
Describe Re	corded Data (stre	eam gau	ge, monitoring we	ll, aerial	photos,	previous	inspections), if available	9:
	```	5	- <b>v</b>		. /	-	. ,.	
Remarks:								
			<1" of water in th	e concre	ete box c	ulvert up	stream of the wetland	
1								

WETLAND DETER	MINATION	N DATA FC	RM - Gre	at Plains Region
Project/Site: US-50 PEL	City/	ity/County: Puebl		
Applicant/Owner: CDOT		State:	COLOF	RADO Sampling Point: WCN-1
Investigator(s): KH & JL		Sect	ion, Townsh	hip, Range: SECT 16, T2S, R65W
Landform (hillslope, terrace, etc.): Depression (a	arroyo)	Local relief	(concave, c	convex, none): Concave Slope (%): 0 - 3
Subregion (LRR): LRR G	Lat:	38.316	Long:	-104.665 Datum: NAD 83
Soil Map Unit Name: Penrose-Minnequa complex			NWI	classification: PEMWi
Are climatic/hydrologic conditions on the site typical for the	nis time of th	e year?	N (	If no, explain in Remarks.)
Are Vegetation, Soil, or Hydro	logy	significantly	disturbed?	Are "normal circumstances" present? Yes
Are Vegetation, Soil, or Hydro	logy	naturally pro	blematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map sho	owing samp	ling point loo	cations, trai	nsects, important features, etc.
Hydrophytic Vegetation Present? Y	_			
Hydric Soil Present? Y	_	Is the S	ampled Ar	ea Within a Wetland? Y
Indicators of Wetland Hydrology Present? Y	_	lf yes, o	ptional wetla	and site ID: Wetland WCN-1
Remarks: (Explain alternative procedures here or in a	separate re	eport.)		
In an extreme dro	ought for abo	out 2 years n	ow, vegetat	ion is stressed
VEGETATION Use scientific names of plan	ts.			
	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size: )	% Cover	Species	Status	Number of Dominant Species
1				that are OBL, FACW, or FAC:4 (A)
2				Total Number of Dominant
3				Species Across all Strata: 5 (B)
4 5				Percent of Dominant Species that are OBL, FACW, or FAC: 80.00% (A/B)
· · · · · · · · · · · · · · · · · · ·	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: )				Prevalence Index Worksheet
1 Tamarix chinensis	20	Y	FACW	Total % Cover of: Multiply by:
2 Ribes aureum	15	Y	FACU	OBL species <u>55</u> x 1 = <u>55</u>
3				FACW species $50 \times 2 = 100$
4				FAC species $0 \times 3 = 0$
°	35	= Total Cover		FACU species15 $x 4 =$ 60UPL species0 $x 5 =$ 0
Herb Stratum (Plot size: )				Column totals 120 (A) 215 (B)
1 Typha angustifolia	30	Y	OBL	Prevalence Index = $B/A = 1.79$
2 Agrostis stolonifera	30	Y	FACW	
3 Eleocharis palustris	25	Y	OBL	Hydrophytic Vegetation Indicators:
4				1 - Rapid Test for Hydrophytic Vegetation
5				X 2 - Dominance Test is >50%
6				X 3 - Prevalence Index is ≤3.0 ¹
		·		4 - Morphological Adaptations ¹ (provide
8				supporting data in Remarks or on a separate sheet)
10				Problematic Hydrophytic Vegetation ¹
	85	= Total Cover		(Explain)
Woody Vine Stratum (Plot size: )				¹ Indicators of hydric soil and wetland hydrology must be
1				present, unless disturbed or problematic
2				Hydrophytic
	0	= Total Cover		Vegetation Present? Y
% /Bare Ground in Herb Stratum	ata abaati			
Remarks: (Include photo numbers here or on a separa	ale sheet)			
Salt Ceda	r and Golde	en Currant ald	ong wetland	fringe
		canan an		

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abser	nce of indicators.)				
Profile Description:         (Describe to the depth needed to document the indicator or confirm the absence of indicators.)           Depth         Matrix         Redox Features												
(Inches) Color (moist) %				Type ¹	Loc ²	Texture	Remarks					
0 - 5"	10 YR 5/2	70	7.5 YR 5/6	5	CS	М	Sandy Loam	Restricted at 5"				
0 - 5"	10 YR 3/1	25		Ĵ								
0-5	10 TK 3/1	20										
1								2				
								² Location: PL = Pore Lining, $M = N$				
-	Indicators: (App	licable						lematic Hydric Soils ³ :				
	tosol (A1)				d Matrix	(S4)	1 cm Muck (A9)					
	tic Epipedon (A2)			ndy Redo	. ,			dox (A16) ( <b>LRR F, G, H</b> )				
	ck Histic (A3)			pped Mat	• •		Dark Surface (S	, ( )				
	Irogen Sulfide (A4)				y Mineral		High Plains Dep	. ,				
	atified Layers (A5)				ed Matrix	(F2)	(	e of MLRA 72 & 73)				
	n Muck (A9) ( <b>LRR</b>			pleted Ma			Reduced Vertic					
	leted Below Dark				Surface (	,	Red Parent Mate					
	ck Dark Surface (A				rk Surfac	` '		rk Surface (TF12)				
	ndy Mucky Mineral	. ,		•	essions (F	,	Other (Explain in	,				
	cm Mucky Peat or	Peat (S2			Depressio			phytic vegetation and wetland				
	RR G, H)		,	ILRA 72 a	& 73 of L	RR H)		present, unless disturbed or				
5 ci	m Mucky Peat or F	Peat (S3)	(LRR F)				F	problematic.				
Restrictive	Layer (if observe	ed):										
Type: Bedrock/Shale Hydric Soil Present? Y												
Depth (inche	es): 5"				-							
Remarks:												
rtemante.												
			Restricted at \$	5" due to	shale/be	drock lay	/er, Saturation at 3"					
						-						
HYDROLO	DGY											
Wetland Hy	drology Indicate	ors:										
-	cators (minimum		s required: check	all that a	(vlaa		Secondary In	dicators (minimum of two required)				
								e Soil Cracks (B6)				
	X Surface Water (A1) Salt Crust (B11) High Water Table (A2) Aquatic Inverteb											
X Saturatio					en Sulfide	•		je Patterns (B10)				
	larks (B1)				son Wate			d Rhizospheres on Living				
Sedimer	nt Deposits (B2)			Oxidized	d Rhizosp	heres on	Living Roots	(C3) (where tilled)				
Drift Dep	oosits (B3)			Roots	(C3) ( <b>whe</b>	ere not ti	lled) Crayfisl	n Burrows (C8)				
X Algal Ma	at or Crust (B4)			Presenc	e of Redu	uced Iron	(C4) Saturat	ion Visible on Aerial Imagery (C9)				
	oosits (B5)			_	ck Surfac	. ,		rphic Position (D2)				
	on Visible on Aeria	0.	y (B7)	Other (E	xplain in	Remarks		eutral Test (D5)				
Water-S	tained Leaves (B9	)					Frost-H	eave Hummocks (D7) ( <b>LRR F</b> )				
Field Obser												
	ter Present?	Yes	X No		Depth (i		3"					
Water Table		Yes	No No	X	Depth (i	,		dicators of Wetland				
Saturation P		Yes	X No		Depth (i	ncnes):	5" H	lydrology Present? Y				
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:												
Describe Re	ecorded Data (stre	eam gau	ge, monitoring w	ell, aerial	photos,	previous	inspections), if available					
Remarks:												
Flowing w	ater, very yellow/	gold cold	or									
L												

Applicant/Owner:         CDOT         State:         COLORADO         Sampling Point         WCN-2           anodform (hildspic) (strace, etc):         Hillslope         Local relief (conceve, conver, nonex, conver, conver	WETLAND DETERM		N DATA FO	RM - Grea	at Plains	Region		
westgator(s):       KH and JL       Section, Township, Range:       SECT 16, T2S, R65W         andform (hillidope, terrace, etc.):       Hillidope       Local relef (concave, convex, none):       Concave_Stope (%): 5to 15         Soli Map Unit Name:       Penrose-Minnequa complex       NVII classification:       N/A         Ave climatichydrologic conditions on the site typical to this time of the year?       N       N(A       NAD         Ave longing Charles on the site typical to this time of the year?       N       N(In explain in Remarks.)       NAA         SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.       Hydrohytic Vegetation Present?       N         Hydric Soil Present?       N       If yes, optional wetland site ID:	Project/Site: US-50 PEL	City/	County:	Pueblo		Sampling Date:	6/3/13	
andform (hillslope, terrace, etc.):         Hillslope         Local relief (concave, convex, none):         Concave         Store (in kRR):         LRR G         Lat:         38.316         Long:         -104.665         Deturm:         NAD 83           Subregion (LRR):         LRR G         Lat:         38.316         Long:         -104.665         Deturm:         NAD 83           Subregion (LRR):         LRR G         Lat:         38.316         Long:         -104.665         Deturm:         NAD 83           Subregion (LRR):         Solid         .or Hydrology         significantly disturbed?         N         N         Ave 1000000000000000000000000000000000000	Applicant/Owner: CDOT		State:	COLOR	ADO	Sampling Point:	WCN-2	2
Subregion (LRR):         LRR G         Lat:         38.316         Long:         -104.665         Datum:         NAD 83           Soll Map Unit Name / Penrose-Minnequa complex         NWI classification:         N/A           ve localisofication:         N/A           ve localisofication:         N/A           ve localisofication:         N/A           ve Vegetation         Soll	Investigator(s): KH and JL		Secti	on, Townshi	ip, Range:	SECT 16	6, T2S, R65W	
Soil Map Unit Name: Penrose-Minnequa complex       NWI classification:       N/A         Ve climatichydrologic conditions on the site typical for this time of the year?       N       (if no, explain in Remarks.)         Vara Vegetation	Landform (hillslope, terrace, etc.): Hillslope	е	Local relief	(concave, co	onvex, none	e): Concave	Slope (%):	5 to 15
Soil Map Unit Name: Penrose-Minnequa complex       NWI classification:       N/A         Ve climatichydrologic conditions on the site typical for this time of the year?       N       (If no, explain in Remarks.)         Ve Vegetation	Subregion (LRR): LRR G I	Lat:	38.316	Long:	-104	.665 Datu	m: NAD	83
Ave climatichydrologic conditions on the site typical for this time of the year?       N       (If no, explain in Remarks.)         Vere Vegetation       , Soil       . or Hydrology       significantly disturbed?       Are "romal incrumsnes" present?       Yes         Vere Vegetation       , Soil       . or Hydrology       maturally problematic?       (If no, explain any answers in Remarks.)         SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.       Hydrology       N         Hydrophytic Vegetation Present?       N       Is the Sampled Area Within a Wetland?       N         Indicators of Wetland Hydrology Present?       N       If yes, optional wetland site ID:       N         Remarks: (Explain alternative procedures here or in a separate report.)       Outpoint for WCN-1, extreme drought for 2 years.       Nosolute       N       N         Yees       Absolute       Dominant       Indicator       N       N       N         1       Ericamerica nauseosa       30       Y       UPL       Yees       A       (B)         2       Tamark chinansis       20       Y       FACU       FACW       FACW       FACW       FACW       FACW       FACW       FACW species       20       Y       FACW       FACU       FACW species       20				NWI	classificatio	on:	N/A	
Are Vegetation		nis time of th	e vear?					
Are Vegetation			-	`		,	present? Y	′es
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.         Hydric Vegetation Present?       N       Is the Sampled Area Within a Wetland?       N         Hydrophytic Vegetation Present?       N       If yes, optional wetland site ID								
Hydrophytic Vegetation Present?       N       Is the Sampled Area Within a Wetland?       N         Hydric Soil Present?       N       Is the Sampled Area Within a Wetland?       N         Remarks: (Explain alternative procedures here or in a separate report.)       Outpoint for WCN-1, extreme drought for 2 years.       N         VECETATION Use scientific names of plants.       Indicator       Dominant       Indicator         Tree Stratum       (Plot size:)       Absolute       Dominant       Indicator         2								
Hydric Soil Present?       N       Is the Sampled Area Within a Wetland?       N         Indicators of Wetland Hydrology Present?       N       If yes, optional wetland site ID;       N         Remarks: (Explain alternative procedures here or in a separate report.)       Outpoint for WCN-1, extreme drought for 2 years.         VEGETATION Use scientific names of plants.       Dominant Indicator Species Status       Dominant Species (ACW, or FAC: 1 (A))         1       Absolute       Dominant Species (ACW, or FAC: 1 (A))       (A)         2		wing samp		ations, tran	196013, mp			
Indicators of Wetland Hydrology Present?       If yes, optional wetland site ID:         Remarks: (Explain alternative procedures here or in a separate report.)       Outpoint for WCN-1, extreme drought for 2 years.         VEGETATION Use scientific names of plants.       Dominant       Indicator         Tree Stratum       (Plot size:)       Absolute % Cover       Dominant       Indicator         3		-	ls the Sa	ampled Are	a Within a	Wetland?	N	
Remarks: (Explain alternative procedures here or in a separate report.)         Outpoint for WCN-1, extreme drought for 2 years.         VEGETATION Use scientific names of plants.         Dominant Indicator         Dominance Test Worksheet         Number of Dominant Species         1         2         3         O         Total Cover         Prevalence Index Worksheet         Total Cover         Prevalence Index Worksheet         Total Cover         Total Cover         Tereation analyseosa         30       Y       FACW       FACW species       0         Total Cover         Total % Cover of:       Multiply by:         O       Fotal Cover         Total % Cover of:       Multiply by:         O       Fotal Cover         For ACW species       20       Y       FACW         FACW species       2       X = 5	· · · · · · · · · · · · · · · · · · ·	-		-			<u> </u>	
Outpoint for WCN-1, extreme drought for 2 years.         VECETATION Use scientific names of plants.         Image: Species Status         Dominant Indicator         Outpoint for Vector Species Status         Image: Species Status         Dominant Colspan="2">Cover Species Status         Dominant Colspan="2">Cover Species Status         Dominant Species Across all Strata: 4 (B)         Percent of Dominant Species         Sapting/Shrub Stratum (Plot size:)         O = Total Cover         Prevalence Index Worksheet         Total % Cover of: Multiply by:         O = Total Cover         Prevalence Index Worksheet         Total % Cover of: Multiply by:         O = Total Cover         O =				Dtional wetla	na site ID:			
VEGETATION Use scientific names of plants.         Tree Stratum       (Plot size:)       Absolute % Cover       Dominant Species       Indicator Status       Dominant species that are OBL, FACW, or FAC:1 (A)         2	Remarks: (Explain alternative procedures here or in a	separate re	eport.)					
VEGETATION Use scientific names of plants.         Tree Stratum       (Plot size:)       Absolute % Cover       Dominant Species       Indicator Status       Dominant species that are OBL, FACW, or FAC:1 (A)         2	Quitopint	for WCN-1	ovtromo dro	ught for 2 v	oare			
Image:	Outpoint		, extreme uro	ught for 2 y	ears.			
Image:	VEGETATION Use scientific names of plant	ts.						
Tree Stratum       (Plot size:)       % Cover       Species       Status       Number of Dominant Species         1			Dominant	Indicator	Dominar	nce Test Workshe	et	
2	Tree Stratum (Plot size: )		Species		Number of	Dominant Species	S	
3	1				that are Of	BL, FACW, or FAC	: 1	(A)
4	2				Total Num	ber of Dominant		_
5	3				Species Ad	cross all Strata:	4	(B)
O       = Total Cover         Sapling/Shrub Stratum       (Plot size:)         1       Ericamerica nauseosa       30       Y       UPL         2       Tamarix chirnensis       20       Y       FACW         3       Ribes aureum       10       N       FACU         4	4							
Sapling/Shrub Stratum       (Plot size:)       30       Y       UPL       Prevalence Index Worksheet         1       Ericamerica nauseosa       20       Y       FACW       OBL species       0       x 1 =       0         3       Ribes aureum       10       N       FACW       OBL species       0       x 1 =       0         4	5				that are Of	BL, FACW, or FAC	25.00%	(A/B)
1       Eicamerica nauseosa       30       Y       UPL         2       Tamarix chinensis       20       Y       FACW         3       Ribes aureum       10       N       FACU         4		0	= Total Cover				1	
2       Tamarix chinensis       20       Y       FACW       OBL species       0       x 1 =       0         3       Ribes aureum       10       N       FACU       FACW species       25       x 2 =       50         4	· · · · · · · · · · · · · · · · · · ·	20	V	וסו				
3       Ribes aureum       10       N       FACU       FACU       FACW species       25       x 2 =       50         4								
4					-			-
5	4	10		17.00				-
Herb Stratum(Plot size:) $\overline{60}$ = Total CoverUPL species $\overline{32}$ x 5 = $\overline{160}$ Column totals $\overline{97}$ (A) $\overline{370}$ (B)1Helianthus annuus10YFACUPrevalence Index = B/A = $3.81$ 2Bassia scoparia10YFACUHydrophytic Vegetation Indicators:3Astragalus agrestis5NFACU1 - Rapid Test for Hydrophytic Vegetation4Agrostis stolonifera5NFACU1 - Rapid Test for Hydrophytic Vegetation5Grindelia hirsutula5NFACU2 - Dominance Test is >50%6Cucurbita foetidissima1NUPL3 - Prevalence Index is ≤3.017Eragrostis spectabilis1NUPL4 - Morphological Adaptations1 (provide supporting data in Remarks or on a separate sheet)10377= Total CoverProblematic Hydrophytic Vegetation14Moody Vine Stratum(Plot size:)37= Total Cover1	5							-
1Helianthus annuus10YFACUPrevalence Index = B/A =3.812Bassia scoparia10YFACUPrevalence Index = B/A =3.813Astragalus agrestis5NFACUHydrophytic Vegetation Indicators:4Agrostis stolonifera5NFACU1 - Rapid Test for Hydrophytic Vegetation5Grindelia hirsutula5NFACU2 - Dominance Test is >50%6Cucurbita foetidissima1NUPL3 - Prevalence Index is $\leq 3.0^1$ 7Eragrostis spectabilis1NUPL4 - Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet)9		60	= Total Cover		-		5 = 160	-
2       Bassia scoparia       10       Y       FACU         3       Astragalus agrestis       5       N       FACU         4       Agrostis stolonifera       5       N       FACU         5       Grindelia hirsutula       5       N       FACU         6       Cucurbita foetidissima       1       N       UPL         7       Eragrostis spectabilis       1       N       UPL         8	Herb Stratum (Plot size: )						A) 370	(B)
2       Bassia scoparia       10       Y       FACU         3       Astragalus agrestis       5       N       FACU         4       Agrostis stolonifera       5       N       FACU         5       Grindelia hirsutula       5       N       FACU         6       Cucurbita foetidissima       1       N       UPL         7       Eragrostis spectabilis       1       N       UPL         8	1 Helianthus annuus	10	Y	FACU	Prevaler	nce Index = $B/A$ =	3.81	-
4       Agrostis stolonifera       5       N       FACW       1 - Rapid Test for Hydrophytic Vegetation         5       Grindelia hirsutula       5       N       FACU       2 - Dominance Test is >50%         6       Cucurbita foetidissima       1       N       UPL       3 - Prevalence Index is ≤3.01         7       Eragrostis spectabilis       1       N       UPL       4 - Morphological Adaptations1 (provide supporting data in Remarks or on a separate sheet)         9	2 Bassia scoparia	10	Y	FACU				-
5       Grindelia hirsutula       5       N       FACU       2 - Dominance Test is >50%         6       Cucurbita foetidissima       1       N       UPL       3 - Prevalence Index is ≤3.01         7       Eragrostis spectabilis       1       N       UPL       4 - Morphological Adaptations1 (provide supporting data in Remarks or on a separate sheet)         9	3 Astragalus agrestis	5	N	FACU	Hydropł	nytic Vegetation	Indicators:	
6       Cucurbita foetidissima       1       N       UPL       3 - Prevalence Index is ≤3.01         7       Eragrostis spectabilis       1       N       UPL       4 - Morphological Adaptations1 (provide supporting data in Remarks or on a separate sheet)         9	4 Agrostis stolonifera	5	Ν	FACW	1 - R	apid Test for Hydr	ophytic Vegeta	ation
7       Eragrostis spectabilis       1       N       UPL       4 - Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet)         9		5	N					
8					3 - P	revalence Index is	≤3.0'	
9		1	<u>N</u>	UPL				
10			· ·				marks or on a	
Woody Vine Stratum     (Plot size:)       1        2          Hydrophytic					· ·	,	() ( (	1
Woody Vine Stratum       (Plot size:)         1		37	- Total Covor				tic vegetation	י'
1	Woody Vine Stratum (Plot size)							
2 Hydrophytic	1							
	2							0
	L	0	= Total Cover		-			
15 Breent? N	% /Bara Ground in Harb Stratum 15	-			-			
Remarks: (Include photo numbers here or on a separate sheet)		ate sheet)						
		ie sneel)						
Drier upland area surrounding Williams Creek. Vegetation is stressed due to extreme drought	Drier unland area surrounding	Williams Cu	reek Vegetati	on is stress	ed due to e	extreme drought		
			i egotati			a. ought		

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix	Rec	dox Feat	ures					
(Inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0 - 8"	2.5 YR 6/2	100					Sand	Restricted at 8"	
¹ Type: $C = C$	Concentration. D :	= Depleti	on. RM = Reduce	ed Matrix	. CS = C	overed o	or Coated Sand Grains.	Location: PL = Pore Lining, M = M	
			to all LRRs, unle					ematic Hydric Soils ³ :	
-	osol (A1)				d Matrix (		1 cm Muck (A9) (	-	
	ic Epipedon (A2)			dy Redox		()		lox (A16) ( <b>LRR F, G, H</b> )	
	ck Histic (A3)			oped Mat	. ,		Dark Surface (S7		
	rogen Sulfide (A4)				y Mineral	(F1)	High Plains Depr		
	tified Layers (A5)			•	ed Matrix	. ,		of MLRA 72 & 73)	
	n Muck (A9) (LRR	· ,		leted Ma		( )	Reduced Vertic (I		
	leted Below Dark				Surface (	F6)	Red Parent Mate	rial (TF2)	
	k Dark Surface (A		·		rk Surface		Very Shallow Dar		
	dy Mucky Mineral	,			essions (F	. ,	Other (Explain in		
2.5	cm Mucky Peat or	Peat (S2	:) Higł	n Plains E	Depressio	ons (F16)	³ Indicators of hydror	phytic vegetation and wetland	
(LF	RR G, H)		(M	LRA 72 8	& 73 of L	RR H)	, ,	present, unless disturbed or	
5 cr	m Mucky Peat or F	Peat (S3)	(LRR F)				p	roblematic.	
Restrictive	Layer (if observe	ed):							
Type: B	edrock/shale						Hydric Soil Prese	nt? N	
Depth (inche	es): 8"								
Remarks:									
		V	ery dry sand, res	tricted at	t 8" due t	o drynes	s and/or bedrock/shale		
HYDROLO	DGY								
Wetland Hy	drology Indicate	ors:							
Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two required)									
Surface Water (A1)     Salt Crust (B11)     Surface Soil Cracks (B6)									
High Water Table (A2) Aquatic Invertebr						ates (B13	B) Sparsely	Vegetated Concave Surface (B8)	
Saturatio	on (A3)				n Sulfide			e Patterns (B10)	
	arks (B1)				son Wate	,		Rhizospheres on Living	
	nt Deposits (B2)				Rhizosp			C3) (where tilled)	
	posits (B3)				C3) (whe			Burrows (C8)	
	at or Crust (B4)			-	e of Redu			on Visible on Aerial Imagery (C9)	
	oosits (B5)	Imagan	(P7)	-	ck Surfac			phic Position (D2)	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F)									
Water Of		)							
Field Obser	vations:								
Surface Wat		Yes	No	Х	Depth (i	nches):			
Water Table	Present?	Yes	No	Х	Depth (i		Inc	licators of Wetland	
Saturation P		Yes	No	Х	Depth (i	nches):	H	ydrology Present? N	
(includes capillary fringe)									
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Remarks:									
			Ve	ery drv. s	sloped ba	anks of c	hannel		
				, ,,-					

WETLAND DETER					-			
Project/Site: US-50 PEL	City/	County:	Pueblo		Sampling Date:	6/3/13		
Applicant/Owner: CDOT		State:	COLOR		Sampling Point:	WCS-1		
Investigator(s): KH and JL			ion, Townsh	-		6, T2S, R65W		
Landform (hillslope, terrace, etc.):					e):	Slope (%):		
	Lat:	38.315	Long:		.664 Datu			
Soil Map Unit Name: Penrose-Minnequa complex				classification	-	PEMWi		
Are climatic/hydrologic conditions on the site typical for the			`		n in Remarks.)			
	ology				nal circumstances"	·		
	ology					swers in Remarks.)		
SUMMARY OF FINDINGS - Attach site map sh		oling point loo	cations, trar	isects, imp	ortant features,	etc.		
Hydrophytic Vegetation Present? Y	-				_			
Hydric Soil Present? Y	-	Is the Sampled Area Within a Wetland?						
Indicators of Wetland Hydrology Present? Y		If yes, optional wetland site ID: Wetland WCS-1						
Remarks: (Explain alternative procedures here or in a	a separate re	eport.)						
View - imilar to WON 4, outrome drought for 2 years	Dedrook/ob	-la present el	do	-th Coloni		he and have d on agont		
Very similar to WCN-1, extreme drought for 2 years.	Bearock/sne	ale present a	Shallow de	ptn. Selem	um present visio	ly and based on scent.		
VEGETATION Use scientific names of plan	its.							
	Absolute	Dominant	Indicator	Dominar	nce Test Worksh	eet		
Tree Stratum (Plot size:)	% Cover	Species	Status		Dominant Specie			
1				that are O	BL, FACW, or FA	C: <u>3</u> (A)		
2					ber of Dominant			
				•	cross all Strata:	(B)		
4					Dominant Specie BL, FACW, or FA			
³	0	= Total Cover	. <u> </u>			. 10.0070 (102)		
Sapling/Shrub Stratum (Plot size:	)			Prevale	nce Index Work	sheet		
1 Tamarix chinensis	30	Y	FACW	Total %	Cover of:	Multiply by:		
2 Ribes aureum	10	Y	FACU	OBL spe		k 1 = <u>90</u>		
3 Elaeagnus angustifolia	1	Ν	FACU	FACW s		k 2 = <u>80</u>		
4				FAC spe		$x^{3} = 0$		
5		Total Cover	<u>.</u>	FACU sp		4 = 44		
Herb Stratum (Plot size:	<u>41</u>	= Total Cover	-	UPL spe Column		x = 0 (A) 214 (B)		
1 Typha angustifolia	, 70	Y	OBL		nce Index = $B/A =$	· · · · · · · · · · · · · · · · · · ·		
2 Eleocharis palustris	20	<u> </u>	OBL	Fievalei	ice index - D/A -	- 1.52		
3 Agrostis stolonifera	10	 N	FACW	Hvdrop	hytic Vegetatior	Indicators:		
4						rophytic Vegetation		
5					Oominance Test is			
6				<u>Χ</u> 3 - Ρ	Prevalence Index is	s ≤3.0 ¹		
7						aptations ¹ (provide		
8					porting data in Re	emarks or on a		
9 10				I `	arate sheet)	with Magazatian ¹		
10	100	= Total Cover	·		olematic Hydroph olain)	ivite vegetation		
Woody Vine Stratum (Plot size:1	)				ors of hydric soil and present, unless distur	wetland hydrology must be bed or problematic		
2					rophytic			
% /Bare Ground in Herb Stratum	0	= Total Cover			etation sent? Y			
Remarks: (Include photo numbers here or on a separ	ate sheet)			•				
Vegetation stressed due to extreme dro	ought, south	western arroy	yo topograp	hy/vegetati	ion with distinct b	oundary.		

Depth         Matrix         Color (molst)         W.         Type         Loc'         Texture         Remarks           0 - 5'         10 YR 5/2         70         7.5 YR 5/6         5         CS         M         Sandy Loam         Restricted at 5'           0 - 5'         10 YR 3/1         25         10         Image: Color (molst)         M         Restricted at 5'           0 - 5'         10 YR 3/1         25         10         Image: Color (molst)         Restricted at 5'           0 - 5'         10 YR 3/1         25         10         Image: Color (molst)         Restricted at 5'           10 - 5'         10 YR 3/1         25         10         Image: Color (molst)         Restricted at 5'           17pe: Color (molst)         X         Sandy Clayer Matrix (S4)         Image: Color (Color (	Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the absen	ce of indicators.)					
(inches)         Color (moist)         %         Color (moist)         %         Type'         Loc'         Texture         Remarks           0 - 5'         10 YR 5/2         70         7.5 YR 5/6         5         CS         M         Sandy Loam         Restricted at 5'           0 - 5'         10 YR 3/1         25         10 II         III         IIII         IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Profile Description:         (Describe to the depth needed to document the indicator or confirm the absence of indicators.)           Depth         Matrix         Redox Features													
0 - 5'       10 YR 3/1       25		Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks					
0 - 5'       10 YR 3/1       25	0 - 5"	10 YR 5/2	70	7.5 YR 5/6	5	CS	М	Sandy Loam	Restricted at 5"					
Type: C = Concentration. D = Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. ² Location: PL = Pore Lining, M = N         Type: C = Concentration. D = Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. ³ Location: PL = Pore Lining, M = N         Type: C = Concentration. D = Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. ³ Location: PL = Pore Lining, M = N         Hittosol (A1)       Sandy Redox (S5)         Hittosol (A1)       Casar Parial Redox (A1)         Back Hast (A3)       Depleted Matrix (F3)         Red Dark Surface (F1)       CuRR F O. H)         Depleted Badro Xar Surface (A1)       Depleted Matrix (F3)         Red Dark Mucky Mineral (S1)       Redox Dark Surface (F6)         -2.5 cm Mucky Peat or Peat (S2)       High Plans Depressions (F6)         -10; (LR R F O. H)       (MLRA 72 & 73 of LR H)         Semicorex (F1)       The Chark Surface (F1)         -2.5 cm Mucky Peat or Peat (S2)       High Plans Depressions (F16)         -10; (LR R F O. H)       (MLRA 72 & 73 of LR H)         -5 cm Mucky Peat or Peat (S2)       High Plans Depressions (F16)         -10; (Pre: Bedicock/shale       Hight Plans Dep	0 - 5"	10 YR 3/1	25					,						
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils*:         Histosol (A1)       Sandy Gleyed Matrix (S4)       1 cm Muck (A9) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (A16) (LRR F, G, H)         Hydric Soil Presents       Loamy Muky Mineral (F1)       High Polans Depressions (F16)         Timck Dark Surface (A12)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2)       High Plains Depressions (F16)       'Undicators of hydrohydrix vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restricted at 5" from bedrock or shale, saturation at 3*       Hydric Soil Present?         HYDROLOGY       Sattortust (F11)       Surface Soil Cracks (B6)         Wetland Hydrology Indicators:       Primary Indicators (Minimum of one is required: check all that apply)       Stat Crust (B1)         Yauer Marks (B1)       Dry-Season Water Table (C2)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (G7)         Water Marks (B1) </td <td>0.0</td> <td>10 11( 3/1</td> <td>20</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	0.0	10 11( 3/1	20											
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils*:         Histosol (A1)       Sandy Gleyed Matrix (S4)       1 cm Muck (A9) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (A16) (LRR F, G, H)         Hydric Soil Presents       Loamy Muky Mineral (F1)       High Polans Depressions (F16)         Timck Dark Surface (A12)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2)       High Plains Depressions (F16)       'Undicators of hydrohydrix vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restricted at 5" from bedrock or shale, saturation at 3*       Hydric Soil Present?         HYDROLOGY       Sattortust (F11)       Surface Soil Cracks (B6)         Wetland Hydrology Indicators:       Primary Indicators (Minimum of one is required: check all that apply)       Stat Crust (B1)         Yauer Marks (B1)       Dry-Season Water Table (C2)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (G7)         Water Marks (B1) </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils*:         Histosol (A1)       Sandy Gleyed Matrix (S4)       1 cm Muck (A9) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (A16) (LRR F, G, H)         Hydric Soil Presents       Loamy Muky Mineral (F1)       High Polans Depressions (F16)         Timck Dark Surface (A12)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2)       High Plains Depressions (F16)       'Undicators of hydrohydrix vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restricted at 5" from bedrock or shale, saturation at 3*       Hydric Soil Present?         HYDROLOGY       Sattortust (F11)       Surface Soil Cracks (B6)         Wetland Hydrology Indicators:       Primary Indicators (Minimum of one is required: check all that apply)       Stat Crust (B1)         Yauer Marks (B1)       Dry-Season Water Table (C2)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (G7)         Water Marks (B1) </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils*:         Histosol (A1)       Sandy Gleyed Matrix (S4)       1 cm Muck (A9) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (A16) (LRR F, G, H)         Hydric Soil Presents       Loamy Muky Mineral (F1)       High Polans Depressions (F16)         Timck Dark Surface (A12)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2)       High Plains Depressions (F16)       'Undicators of hydrohydrix vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restricted at 5" from bedrock or shale, saturation at 3*       Hydric Soil Present?         HYDROLOGY       Sattortust (F11)       Surface Soil Cracks (B6)         Wetland Hydrology Indicators:       Primary Indicators (Minimum of one is required: check all that apply)       Stat Crust (B1)         Yauer Marks (B1)       Dry-Season Water Table (C2)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (G7)         Water Marks (B1) </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils*:         Histosol (A1)       Sandy Gleyed Matrix (S4)       1 cm Muck (A9) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (A16) (LRR F, G, H)         Hydric Soil Presents       Loamy Muky Mineral (F1)       High Polans Depressions (F16)         Timck Dark Surface (A12)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2)       High Plains Depressions (F16)       'Undicators of hydrohydrix vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restricted at 5" from bedrock or shale, saturation at 3*       Hydric Soil Present?         HYDROLOGY       Sattortust (F11)       Surface Soil Cracks (B6)         Wetland Hydrology Indicators:       Primary Indicators (Minimum of one is required: check all that apply)       Stat Crust (B1)         Yauer Marks (B1)       Dry-Season Water Table (C2)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (G7)         Water Marks (B1) </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils*:         Histosol (A1)       Sandy Gleyed Matrix (S4)       1 cm Muck (A9) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (A16) (LRR F, G, H)         Hydric Soil Presents       Loamy Muky Mineral (F1)       High Polans Depressions (F16)         Timck Dark Surface (A12)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2)       High Plains Depressions (F16)       'Undicators of hydrohydrix vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restricted at 5" from bedrock or shale, saturation at 3*       Hydric Soil Present?         HYDROLOGY       Sattortust (F11)       Surface Soil Cracks (B6)         Wetland Hydrology Indicators:       Primary Indicators (Minimum of one is required: check all that apply)       Stat Crust (B1)         Yauer Marks (B1)       Dry-Season Water Table (C2)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (G7)         Water Marks (B1) </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils*:         Histosol (A1)       Sandy Gleyed Matrix (S4)       1 cm Muck (A9) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (A16) (LRR F, G, H)         Hydric Soil Presents       Loamy Muky Mineral (F1)       High Polans Depressions (F16)         Timck Dark Surface (A12)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2)       High Plains Depressions (F16)       'Undicators of hydrohydrix vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restricted at 5" from bedrock or shale, saturation at 3*       Hydric Soil Present?         HYDROLOGY       Sattortust (F11)       Surface Soil Cracks (B6)         Wetland Hydrology Indicators:       Primary Indicators (Minimum of one is required: check all that apply)       Stat Crust (B1)         Yauer Marks (B1)       Dry-Season Water Table (C2)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (G7)         Water Marks (B1) </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils*:         Histosol (A1)       Sandy Gleyed Matrix (S4)       1 cm Muck (A9) (LRR F, G, H)         Black Histic (A3)       Stinpped Matrix (S6)       Dark Surface (S7) (LRR G)         Hydric Soil Indicators: (A1)       Loamy Muky Mineral (F1)       High Plains Depressions (F16)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduced Vertic (F18)         Tinck Dark Surface (A12)       Depleted Dark Surface (F6)       Red Parent Material (TF2)         Sandy Reds (A3) (LRR F, G, H)       Depleted Dark Surface (F6)       Red Parent Material (TF2)         Sandy Mucky Mineral (S1)       Redsox Depressions (F16)       "Indicators of hydrohydric vegetation and wetland hydrology must be present, unless disturbed or problematic."         Restrictive Layer (If Observed):       Type:       Bedrock/shale       Hydric Soil Present?       Y         Depth (inches):       5"       Satt Crust (B11)       Surface (A12)       Surface (A12)       Surface Material (TP2)         Ype:       Bedrock/shale       Depth (inches):       5"       "Indicators (for problematic Hydric Soils":       "Indicators (for problematic Hydric Soils":         Ype:       Bedrock/shale       Depth (inches):       5"       "Indicators (for problematic Hydric Soilsoils (f5)       This Material Inager	1						<u> </u>							
Histoso (A1)       Sandy Gleyed Matrix (S4)       1 cm Muck (A0) (LRR J, J)         Histo Epipedon (A2)       Sandy Redox (S5)       Coast Prairie Redox (A16) (LRR F, G, H)         Biack Histic (A3)       Loamy Mucky Mineral (F1)       Dark Surface (G7) (LRR G)         High Plains Depared Below Dark Surface (A11)       Depleted Matrix (F3)       Redvoed Verici (F18)         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)       Redvo Dark Surface (F7)       Very Shallow Dark Surface (TF12)         Sandy Mucky Mineral (S1)       Redvo Dark Surface (F7)       Other (Explain in Remarks)       Tindicators of hydrophytic vegetation and wetland hydrology must be present; (F18)         Restrictive Layer (if observed):       (ILR R F)       Publematic       Yery         Type:       Bedrock/shale       Publematic       Yery         Depth (inches):       5 ''       Sat Crust (B1)       Secondary Indicators (minimum of two required)         Yers       Satt Crust (B1)       Aquatic Invertbrate (B13)       Surface (B13)       Surface (B13)         Yers       Satt Crust (B1)       Aquatic Invertbrates (B13)       Surface Soil (C1)       Surface Soil (C2)       Surface Water (A1)       Surface Water (A1)														
Histic Epipedon (A2)       Straighe Redux (S5)       Coast Praine Redux (A16) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (S7) (LRR G)         High Plains Depressions (F16)       Loarny Mucky Mineral (F1)       Depleted Matrix (F2)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)       Red Parent Materia (TF2)         Thick Dark Surface (A12)       Depleted Matrix (F2)       Red Parent Materia (TF2)         Straitfiel Layers (A16) (LRR F, G, H)       Depleted Matrix (F2)       Wet Shallow Dark Surface (F16)         2.5 cm Mucky Peat or Peat (S2)       High Plains Depressions (F16)       "URR A roze (A12)"         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)       "Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restricted at 5* from bedrock or shale, saturation at 3*         Hydric Soil Present? Y         Metant Hydrology Indicators:         Primary Indicators (minimum of one is required: check all that apply)       Saturation (A3)       Saturation (A2)         Saturation (A3)       Dry-Season Water Table (C2)       Saturation (Y4)       Saturation Visible on Aerial Imagery (C9)         Sediment Deposits (B3)       Presence Red Reduced Inn (C4)       Saturation Visible on Aerial Imagery (C9)       Saturation Present? Y es X No       Depth (inches): <u>4'</u>	-													
Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (S7) (LRR G)         Hydrogen Suffide (A4)       Loamy Mucky Mineral (F1)       High Plains Depressions (F16)         1 cm Muck (A9) (LRR F, G, H)       Depleted Matrix (F2)       Reduce Vertic (F18)         2.5 cm Mucky Mineral (S1)       Redox Depressions (F16)       Reduce Vertic (F18)         2.5 cm Mucky Patro Peat (S2)       High Plains Depressions (F16)       Thick Dark Surface (A12)         Sandy Mucky Mineral (S1)       Redox Depressions (F16)       Thick Dark Surface (T12)         S andy Mucky Mineral (S1)       Redox Depressions (F16)       Thick Dark Surface (T12)         S andy Mucky Mineral (S1)       Redox Depressions (F16)       Thick Dark Surface (T12)         S andy Mucky Patro Peat (S2)       High Plains Depressions (F16)       Thick Derive Vegetated on and wetland hydrology must be present, unless disturbed or problematic.         Restricture Layer (If observed):       Type:       Bedrock/shale       Hydroigen Sulfde Cdor (S11)         Sufface Water (A11)       Satt Crust (S11)       Sattration at 3*         HYDROLOGY       Metriate Invertexites (B13)       Hydrogen Sulfde Cdor (C1)       Sufface S0i Crask (S6)         Sufface Water (A12)       Aquatic Invertexites (B13)       Dy-Season Water Table (A2)       Sufface Rhicospheres on Living         Sediment Deposits (B2)       Oxidized Rhicospheres on L		. ,					(S4)							
Hydrogen Sulfde (A4)       Loamy Mucky Mineral (F1)       High Plans Depressions (F16)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Red Acar Matrix (F3)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)       Red Parent Material (TF2)         Stadified Layers (A12)       Depleted Dark Surface (F7)       Need Parent Material (TF2)         Stadified Layers (A11)       Redox Depressions (F16)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2)       High Plans Depressions (F16)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S3) (LRR F)       Mucky And Consection and wetland hydrology must be present, unless disturbed or problematic.         Restricted at 5" from bedrock or shale, saturation at 3"         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required: check all that apply)         X Surface Water (A11)       Salt Crust (B11)         Saturation (A3)       Hydrogen Sulfide Cdor (C1)         Secondary Indicators (minimum of two required)         Secondary Indicators (minimum of two required)         Secondary Indicators (B1)       Salt Crust (B11)         Secondary Indicators (Minimum of two required)         Yeater Marks (B1)       Salt Crust (B11)         Secondary Indicators (C2)       Aquatic Invertentase (B13)					•	. ,								
Stratified Layers (A5) (LRR F)       Loamy Gleyed Matrix (F2)       (LRR H outside of MLRA 72 & 73)         I cm Muck (A9) (LRR F, G, H)       Depleted Matrix (F3)       Reduced Vertic (F18)         Depleted Below Dark Surface (A11)       Depleted Dark Surface (F6)       Red Parent Material (TF2)         Sandy Mucky Mieral (S1)       Depleted Dark Surface (F7)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2)       High Plains Depressions (F16)       "Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (If observed):       Type:       Bedrock/shale       Hydric Soil Present?       Y         Depth (inches):       5"       Mucky Peat or Peat (S3) (LRR F)       Hydric Soil Present?       Y         Remarks:       Restricted at 5" from bedrock or shale, saturation at 3"       Hydric Soil Present?       Y         Primary Indicators (minimum of one is required: check all that apply)       Saturation (A3)       Hydrogen Solitide Odor (C1)         X Surface Water (A1)       Saturation (K11)       Saturation (K3)       Saturation (K3)         Yeardse Water (A1)       Saturation Visible on Aerial Imagery (C2)       Oxidized Rhizospheres on Living         Saturation (K3)       Hydrogen Solitide Odor (C1)       Drainage Patterns (B10)       Saturation Visible on Aerial Imagery (C9)         Yadar Mat Crust (B4)<								· · · ·	, , ,					
I om Muck (A9) (LRR F, G, H)       Depleted Matrix (F3)       Reduced Vertic (F18)         Depleted Below Dark Surface (A12)       Redox Dark Surface (F6)       Red Parent Material (TF2)         Sandy Mucky Meetal (S1)       Redox Depressions (F8)       'Very Shallow Dark Surface (F7)       'Other (Explain in Remarks)         2.5 orn Mucky Peat or Peat (S2)       High Plains Depressions (F8)       'Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if observed):       Type:       Bedrock/shale       Hydric Soil Present?       Y         Poet in (inches):       5"       "Indicators (minimum of two required)'       Secondary Indicators:       Surface (F1)         Primary Indicators (Maintain of two required)       Saturation at 3"       Surface (F1)       Surface Soil Cracks (B8)         X Surface Water (A1)       Satt Crust (B11)       Surface Soil Cracks (B8)       Surface Soil Cracks (B8)         Y Surface Water (A3)       Hydrogen Suified Odf (C1)       Yene eno tilled)       Oxidized Rhizospheres on Living         Roots (C3) (where not tilled)       Oxidized Rhizospheres on Living       Roots (C3) (where not tilled)       Oxidized Rhizospheres on Living         Restrictive Layer (if observed):       This Muck Surface (C7)       Y       Secondary Indicators (minimum of two required)         X Surface Water (A1)       Saturat		• • • •						<b>.</b> .						
Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)       Red Parent Material (TF2)         Standy Mucky Mineral (S1)       Redox Depressions (F16)       Very Shallow Dark Surface (TF12)         2.5 cm Mucky Peat or Peat (S2)       High Plains Depressions (F16)       "Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         7 som Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)       "Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if observed):       Type:       Bedrock/shale       Hydric Soil Present?       Y         Remarks:       Restricted at 5" from bedrock or shale, saturation at 3"       Hydric Soil Present?       Y         Method Hydrology Indicators:       Primary Indicators (minimum of one is required: check all that apply)       Secondary Indicators (B6)       Surface Soil Cracks (B6)         X Surface Water (A1)       Saturation (A3)       Hydrogen Suffice Cdor (C1)       Surface Soil Cracks (B6)       Surface Soil Cracks (B6)         Yeas Saturation (A3)       Hydrogen Suffice Cdor (C1)       Oxidized Rhizospheres on Living       Roots (C3) (where not tilled)       Saturation Visible on Aerial Imagery (C9)         Other (Explain in Remarks)       Presence of Reduced (ron (C4)       Saturation Visible on Aerial Imagery (C9)       Saturation Visible on Aerial Imagery (C9)       Saturation Visible on Aeria							(F2)	,						
					leted Ma	trix (F3)		Reduced Vertic (I	F18)					
Sandy Mucky Mineral (S1)       High Plains Depressions (F8)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2)       High Plains Depressions (F8)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if observed):       Type:       Bedrock/shale         Depth (inches):       5''         Remarks:       Restricted at 5'' from bedrock or shale, saturation at 3''         HYDROLOGY       Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         X Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         Yet Mater Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living         Portiage Statution (A3)       Hydrogen Suffiel Odor (C1)       Oxidized Rhizospheres on Living         Rotic (C3) (where not tilled)       Oxidized Rhizospheres on Living       Cravisible on Aerial Imagery (C3)         Sturface Water Reveal (B4)       Presence of Reduced Iron (C4)       Saturation (S1)       Saturation (S1)         Yet Marks (B1)       Dry-Season Water Table (C2)       Cravisible on Aerial Imagery (C3)       Saturation (C2)       Saturation (C3)       Water Staturation (S1)       Saturation (S1)       Saturation (S1)       Saturation (S1)       Saturation (C3) </td <td></td> <td></td> <td></td> <td></td> <td></td> <td>```</td> <td>,</td> <td></td> <td></td>						```	,							
2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F)       High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Retrictive Layer (if observed): Type: Bedrock/shale         Type: Bedrock/shale       Hydric Soil Present?       Y         Depth (inches): 5°       Hydric Soil Present?       Y         Remarks:         Restrictive Layer (If Observed): Type: Bedrock/shale         Method by the present (Inches): 5°         Retrictive Layer (If Observed): Type: Bedrock/shale         Method by the present?         Y         Betrictive Layer (If Observed): Type: Bedrock/shale         Method by the present of the present of the present of the present?         Y         Betrictive Layer (If Observed): Type: Bedrock/shale         Wetraw Indicators (minimum of one is required: check all that apply)         X Surface Water (A1)       Salt Crust (B11)         X Surface Water (A2)       Aquatic Invertebrates (B13)         Y by Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dryp-Season Reduced Iron (C2)         Oxidized Phizospheres on Living       Roots (C3) (where tilled)		,		'			· · /		. ,					
(LRR G, H)       (MLRA 72 & 73 of LRR H)       hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if observed):       pp:       Bedrock/shale       Hydric Soil Present?       Y         Depth (inches):       5"					•	,	,							
		-	Peat (S2			•	. ,							
Restrictive Layer (if observed): Type:Bedrock/shale         Hydric Soil Present?Y         Depth (inches):5"				•	LRA 72 8	& 73 of L	RR H)							
Type:       Bedrock/shale       Hydric Soil Present?       Y         Depth (inches):       5"	5 ci	m Mucky Peat or F	Peat (S3)	(LRR F)				p	roblematic.					
Type:       Bedrock/shale       Hydric Soil Present?       Y         Depth (inches):       5"	Restrictive	Laver (if observe	ed):											
Depth (inches):       5"         Remarks:       Restricted at 5" from bedrock or shale, saturation at 3"         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         X       Surface Water (A1)       Salt Crust (B1)         Y       Surface Water (A1)       Salt Crust (B1)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living         Portif Deposits (B2)       Oxidized Rhizospheres on Living       Roots (C3) (where not tilled)         Dirth Deposits (B3)       Roots (C3) (where not tilled)       Crayfish Burrows (C8)         X Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B5)       Thin Muck Surface (C7)       X Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water Table Present?       Yes       X       No       Depth (inches):       4"         Water Table Present?       Yes       X       No       Depth (inches):       3"       Indicators of Wetland														
Remarks:       Restricted at 5" from bedrock or shale, saturation at 3"         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required: check all that apply)       Secondary Indicators (minimum of two required)         X Surface Water (A1)														
Restricted at 5" from bedrock or shale, saturation at 3"         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         X Surface Water (A1)       Salt Crust (B1)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Surface Soil Cracks (B6)         Y Saturation (A3)       Hydrogen Sulfide Odor (C1)       X Drainage Patterns (B10)       Oxidized Rhizospheres on Living         Sediment Deposits (B2)       Oxidized Rhizospheres on Living       Roots (C3) (where tilled)       Oxidized Rhizospheres on Living         Y Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)       Saturation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Secondary Indicators of Wetland         Field Observations:       Yes       X       No       Depth (inches):       4"         Water Table Present?       Yes       X       No       Depth (inches):       4"         Mater Table Present?       Yes       X       No       Depth (inches):       3"       Indicators of Wetland         Mater Table Present?       Yes       X       No       Depth (inches):       3"       Indicators of Wetl														
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required: check all that apply)       Secondary Indicators (minimum of two required)         X Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         X Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living         Drift Deposits (B3)       Roots (C3) (where not tilled)         X Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Inon Deposits (B5)       Thin Muck Surface (C7)         Invaduation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Field Observations:       X         Surface Water Present?       Yes         Surface Water Present?       Yes         Yes       No       Depth (inches):         Baturation Present?	Remarks:													
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required: check all that apply)       Secondary Indicators (minimum of two required)         X Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         X Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living         Drift Deposits (B3)       Roots (C3) (where not tilled)         X Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Field Observations:       X         Surface Water Present?       Yes         X No       Depth (inches):         Saturation Present?       Yes         Yes       No       Depth (inches):         Baturation Present?       Yes         Yes       No       Depth (inches):         Operation Present?       Yes         Yes       No       Depth (inches):         Depth (inches):       3"         Indicators of Wetland         Hydrol				Restricted a	t 5" from	bodrock	or shale	saturation at 3"						
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         X       Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface (B8)         X       Saturation (A3)       Hydrogen Sulfide Odor (C1)       X Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living         Sediment Deposits (B2)       Oxidized Rhizospheres on Living       Roots (C3) (where tilled)         Drift Deposits (B3)       Roots (C3) (where not tilled)       Crayfish Burrows (C8)         X Algal Ma or Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Inon Deposits (B5)       Thin Muck Surface (C7)       X Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water Table Present?       Yes       X       No       Depth (inches):       4"         Water Table Present?       Yes       X       No       Depth (inches):       3"       Indicators of Wetland Hydrology Present?       Y         Saturation Present?       Yes       X				Restricted a		Deulock								
Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         X Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         X Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B3)       Roots (C3) (where not tilled)         X Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water Table Present?       Yes         Surface Water Present?       Yes         Surface Water Table Present?       Yes         Surface Water Table Present?       Yes         Surface Water Present?       Yes         Surface Water Present?       Yes         Yes       No       Depth (inches):	HYDROLO	DGY												
Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         X Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         X Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B3)       Roots (C3) (where not tilled)         Trin Deposits (B5)       Presence of Reduced Iron (C4)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water Table Present?       Yes         Surface Water Present?       Yes         Surface Water Table Present?       Yes         Surface Water Table Present?       Yes         Surface Water Present?       Yes         Ves       No       Depth (inches):         -5"       Indicators of Wetland Hydrology Present?         Yes       No       Depth (inches):         -5"       Indicators of Wetland Hydrology Present?         Hydrology Present?       Yes         No       Depth (inches):       -5"         Indicators of Wetland Hydrology Present?       Y         Saturation Present?       Yes       No         Depth (inches):       -5"       3"     <			ors:											
X       Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface (B8)         X       Saturation (A3)       Hydrogen Sulfide Odor (C1)       X       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living       Roots (C3) (where tilled)         Drift Deposits (B3)       Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         X       Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       X       Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)       Frost-Heave Hummocks (D7) (LRR F)         Field Observations:       Yes       X       No       Depth (inches):       4"         Saturation Present?       Yes       X       No       Depth (inches):       3"         Gincludes capillary fringe)       No       Depth (inches):       3"       Indicators of Wetland         Hydrology Present?       Yes       X       No       Depth (inches):       3"       Indicators of Wetland         Hugh oldge Present?       Yes       X       No       Depth (inches):       3" <t< td=""><td>-</td><td></td><td></td><td>required: check</td><td>all that a</td><td>nnlv)</td><td></td><td>Secondary Inc</td><td>dicators (minimum of two required)</td></t<>	-			required: check	all that a	nnlv)		Secondary Inc	dicators (minimum of two required)					
High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface (B8)         X Saturation (A3)       Hydrogen Sulfide Odor (C1)       X Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living         Sediment Deposits (B3)       Oxidized Rhizospheres on Living       Roots (C3) (where tilled)         Drift Deposits (B3)       Roots (C3) (where not tilled)       Crayfish Burrows (C8)         X Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       X Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water Table Present?       Yes       X       No       Depth (inches):       4"         Water Table Present?       Yes       X       No       Depth (inches):       3"       Hydrology Present?       Y         Saturation Present?       Yes       X       No       Depth (inches):       3"       Hydrology Present?       Y         Mater Table Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:														
X       Saturation (A3)       Hydrogen Sulfide Odor (C1)       X       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living       Roots (C3) (where tilled)         Drift Deposits (B3)       Roots (C3) (where not tilled)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         X       Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frest-Heave Hummocks (D7) (LRR F)         Field Observations:       Sufface Water Present?       Yes       X       No       Depth (inches):       4"       Hydrology Present?       Y         Saturation Present?       Yes       X       No       Depth (inches):       3"       Hydrology Present?       Y         Saturation Present?       Yes       X       No       Depth (inches):       3"       Indicators of Wetland         Hydrology Present?       Yes       X       No       Depth (inches):       3"       Y         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:       Remarks:							ates (B13							
Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living         Sediment Deposits (B2)       Oxidized Rhizospheres on Living       Roots (C3) (where tilled)         Drift Deposits (B3)       Roots (C3) (where not tilled)       Roots (C3) (where tilled)         X Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B5)       Thin Muck Surface (C7)       X Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water Table Present?       Yes       X       No         Saturation Present?       Yes       X       No         Mater Table Present?       Yes       X       No       Depth (inches):       -5"         Saturation Present?       Yes       X       No       Depth (inches):       -5"         Includes capillary fringe)       Depth (inches):       3"       Indicators of Wetland Hydrology Present?       Y         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:       Remarks:								· · · ·	,					
Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3) (where tilled)       Roots (C3) (where tilled)         Drift Deposits (B3)       Roots (C3) (where not tilled)       Crayfish Burrows (C8)         X Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B5)       Thin Muck Surface (C7)       X Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Thin Muck Surface (C7)       Frost-Heave Hummocks (D7) (LRR F)         Field Observations:       Yes       X       No       Depth (inches):       4"         Water Table Present?       Yes       X       No       Depth (inches):       -5"       Indicators of Wetland         Saturation Present?       Yes       X       No       Depth (inches):       3"       Y         Uncludes capillary fringe)       Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:		. ,			, ,			,						
Drift Deposits (B3)       Roots (C3) (where not tilled)       Crayfish Burrows (C8)         X Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B5)       Thin Muck Surface (C7)       X Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Thin Muck Surface (C7)       Frost-Heave Hummocks (D7) (LRR F)         Field Observations:       Yes       X       No         Surface Water Present?       Yes       X       No         Mater Table Present?       Yes       X       No         Saturation Present?       Yes       X       No         Mater Table Present?       Yes       X       No         Saturation Present?       Yes       X       No         Motor Depth (inches):       3"       Indicators of Wetland Hydrology Present?         Maturation Present?       Yes       X       No       Depth (inches):       3"         Microlades capillary fringe)       Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:		· · ·						-						
X       Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B5)       Thin Muck Surface (C7)       Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Frost-Heave Hummocks (D7) (LRR F)         Field Observations:       Ves       X         Surface Water Present?       Yes       X         Water Table Present?       Yes       X         Vater Table Present?       Yes       X         No       Depth (inches):       -5"         Saturation Present?       Yes       X         No       Depth (inches):       3"         Indicators of Wetland       Hydrology Present?         Yes       X       No         Depth (inches):       3"         Includes capillary fringe)       Y         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:         Remarks:		• • • •			Roots (	(C3) ( <b>whe</b>	ere not ti							
Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Frost-Heave Hummocks (D7) (LRR F)         Field Observations:       Yes       X       No       Depth (inches):       4"         Water Table Present?       Yes       X       No       Depth (inches):       ~5"       Indicators of Wetland Hydrology Present?         Saturation Present?       Yes       X       No       Depth (inches):       3"       Hydrology Present?       Y         Includes capillary fringe)       Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:	X Algal Ma	at or Crust (B4)							on Visible on Aerial Imagery (C9)					
Water-Stained Leaves (B9)       Frost-Heave Hummocks (D7) (LRR F)         Field Observations:       Surface Water Present?       Yes       X       No       Depth (inches):       4"         Water Table Present?       Yes       X       No       Depth (inches):       -5"       Indicators of Wetland Hydrology Present?       Y         Saturation Present?       Yes       X       No       Depth (inches):       3"       Hydrology Present?       Y         Observations:       Yes       X       No       Depth (inches):       3"       Hydrology Present?       Y         Saturation Present?       Yes       X       No       Depth (inches):       3"       Hydrology Present?       Y         Uncludes capillary fringe)       Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:	Iron Dep	osits (B5)			Thin Mu	ck Surfac	e (C7)	X Geomor	phic Position (D2)					
Field Observations:         Surface Water Present?       Yes       X       No       Depth (inches):       4"         Water Table Present?       Yes       X       No       Depth (inches):       ~5"       Indicators of Wetland         Saturation Present?       Yes       X       No       Depth (inches):       3"       Hydrology Present?       Y         (includes capillary fringe)       Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:	Inundatio	on Visible on Aeria	al Imagery	/ (B7)	Other (E	xplain in	Remarks	) FAC-Ne	utral Test (D5)					
Surface Water Present?       Yes       X       No       Depth (inches):       4"         Water Table Present?       Yes       X       No       Depth (inches):       ~5"       Indicators of Wetland         Saturation Present?       Yes       X       No       Depth (inches):       3"       Hydrology Present?       Y         (includes capillary fringe)       Depth (inches):       3"       Indicators of Wetland       Hydrology Present?       Y         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:       Remarks:	Water-S	tained Leaves (B9	)					Frost-He	eave Hummocks (D7) ( <b>LRR F</b> )					
Surface Water Present?       Yes       X       No       Depth (inches):       4"         Water Table Present?       Yes       X       No       Depth (inches):       ~5"       Indicators of Wetland         Saturation Present?       Yes       X       No       Depth (inches):       3"       Hydrology Present?       Y         (includes capillary fringe)       Depth (inches):       3"       Indicators of Wetland       Hydrology Present?       Y         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:       Remarks:														
Water Table Present?       Yes       X       No       Depth (inches):       ~ 5"       Indicators of Wetland         Saturation Present?       Yes       X       No       Depth (inches):       3"       Hydrology Present?       Y         (includes capillary fringe)       Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:	Field Obser	vations:												
Saturation Present?       Yes       X       No       Depth (inches):       3"       Hydrology Present?       Y         (includes capillary fringe)       Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:	Surface Wat	ter Present?	Yes	X No		Depth (i	nches):	4"						
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	Water Table	Present?	Yes	X No				~ 5" Inc	dicators of Wetland					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	Saturation P	resent?	Yes	X No		Depth (i	nches):	3" H	ydrology Present? Y					
Remarks:	(includes ca	pillary fringe)												
Remarks:	Describe Re	corded Data (stre	eam gau	ge, monitoring we	ll, aerial	photos,	previous	inspections), if available:						
	Remarks:													
Water flowing through wetland in a channel. Water table present and assumed below soil pit depth due to presence of stream.														
	Wate	er flowing through	wetland	in a channel. Wa	ter table	present	and assu	umed below soil pit depth	due to presence of stream.					

WETLAND DE			ORM - Gre	at Plains	Region		
Project/Site: US-50 PEL	Ci	ty/County:	Pueblo		Sampling Date:	6/3/13	
Applicant/Owner: CDOT	State:	COLOR	RADO	Sampling Point:	WCS-2	2	
Investigator(s): KH & JL		Sec	tion, Townsh	nip, Range:	SECT 16,	T2S, R65W	
Landform (hillslope, terrace, etc.):	illslope	Local relie	f (concave, c	convex, none	e): Concave	Slope (%):	5 to 15
Subregion (LRR): LRR G	Lat:	38.315	Long:	-104	.664 Datum	n: NAD	83
Soil Map Unit Name: Penrose-Minnequa complex	x		NWI	classification	on:	N/A	
Are climatic/hydrologic conditions on the site typical	al for this time of	the year?	<u>N</u> (	(If no, explaii	n in Remarks.)		
Are Vegetation, Soil, or	Hydrology	significantly	disturbed?	Are "norm	nal circumstances" pr	resent? Y	'es
Are Vegetation , Soil , or	Hydrology	naturally pro	oblematic?	(If neede	d, explain any answ	vers in Remar	ks.)
SUMMARY OF FINDINGS - Attach site ma	ap showing sar	npling point lo	cations, trar	nsects, imp	ortant features, et	с.	
Hydrophytic Vegetation Present?	Ν						
Hydric Soil Present?	N	Is the S	ampled Are	ea Within a	a Wetland?	Ν	
Indicators of Wetland Hydrology Present?	N	lf yes, c	ptional wetla	and site ID:			
Remarks: (Explain alternative procedures here of		report )					
internative procedures here t	or in a separate	report.)					
Outpoint for WCS-1, ex	treme drought	for 2 years, up	ands stress	ed and spa	rse vegetation.		
VEGETATION Use scientific names of	plants.			<b>T .</b> .			
	Absolute		Indicator		nce Test Workshee	et	
<u>Tree Stratum</u> (Plot size: 1 <i>Populus deltoides</i>	_) % Cove 5	r Species Y	Status FAC		Dominant Species BL, FACW, or FAC:	2	(A)
2			TAC		ber of Dominant	2	_(^)
3					cross all Strata:	7	(B)
4				· ·	Dominant Species		_(_/
5					BL, FACW, or FAC:	28.57%	(A/B)
	5	= Total Cove	r				
Sapling/Shrub Stratum (Plot size:	)			Prevaler	nce Index Worksh	neet	
1 Tamarix chinensis	40	Υ	FACW			ultiply by:	
2 Ribes aureum	20	Y	FACU	OBL spe			_
3 Ericamerica nauseosa	10	N	UPL	FACW s			_
4				FAC spe FACU sp		3 = 15 4 = 220	-
<u> </u>		= Total Cove		UPL spe		5 = 105	-
Herb Stratum (Plot size:	)			Column			(B)
1 Helianthus annuus	′ 10	Y	FACU		the index = $B/A =$	3.47	_(_/
2 Bassia scoparia	10	- <u>·</u>	FACU	1 TOVAIO		0.11	-
3 Cirsium arvense	10	Y	FACU	Hydropł	hytic Vegetation I	ndicators:	
4 Convolvulus arvensis	10	Y	UPL	1 - R	apid Test for Hydro	phytic Vegeta	ation
5 Astragalus agrestis	5	N	FACU		ominance Test is >		
6 Lathyrus latifolius	1	N	UPL	3 - P	revalence Index is a	≤3.0 ¹	
7					/lorphological Adap		
8					porting data in Rem	harks or on a	
9 10				· · · · ·	arate sheet)		.1
	46	= Total Cove		(Exp	enatic Hydrophyt	lic vegetation	1
Woody Vine Stratum (Plot size:	)		I		-		
1	/				rs of hydric soil and we resent, unless disturbe		
2				-	rophytic	F	-
	0	= Total Cove	r		etation		
% /Bare Ground in Herb Stratum 10	_			Pres	sent? N	_	
Remarks: (Include photo numbers here or on a s	separate sheet			-			
Vegetation stre	essed especiall	y in the upland	s due to an	extreme dro	ought.		

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abse	nce of indicators.)			
Profile Description:         (Describe to the depth needed to document the indicator or confirm the absence of indicators.)           Depth         Matrix         Redox Features											
(Inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks			
0 - 8"	2.5 YR 6/2	100					Sand	Restricted at 8"			
¹ Type: $C = C$	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, CS = C	overed o	or Coated Sand Grains.	² Location: PL = Pore Lining, M = N			
	Indicators: (App							blematic Hydric Soils ³ :			
Hist	tosol (A1)		Sar	dy Gleye	d Matrix	(S4)	1 cm Muck (A9)	(LRR I, J)			
Hist	tic Epipedon (A2)		Sar	dy Redo	x (S5)		Coast Prairie Re	edox (A16) ( <b>LRR F, G, H</b> )			
Blac	ck Histic (A3)		Stri	oped Mat	rix (S6)		Dark Surface (S	7) (LRR G)			
	drogen Sulfide (A4)				y Mineral		High Plains Dep	pressions (F16)			
	atified Layers (A5)				ed Matrix	(F2)	,	le of MLRA 72 & 73)			
	m Muck (A9) ( <b>LRR</b>			leted Ma			Reduced Vertic				
	oleted Below Dark				Surface (	,	Red Parent Mat				
	ck Dark Surface (A	,			rk Surfac	. ,		ark Surface (TF12)			
	ndy Mucky Mineral	. ,			essions (F	,	Other (Explain i				
2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16) Indicators of hydrophytic vegetation and wetland (MLRA 72 & 73 of LRR H) hydrology must be present, unless disturbed or											
	RR G, H)	hat (C2)		LRA /2 (	& /3 OT L	RR H)		e present, unless disturbed or			
	m Mucky Peat or F							problematic.			
Restrictive Layer (if observed):											
Type: Hydric Soil Present? N											
Depth (inches):											
Remarks:											
				S	ame as \	NCN-2					
HYDROLO											
	drology Indicato	vre:									
-	cators (minimum		required: aback	all that a	nnly)		Cocordon d	diastara (minimum of two required)			
	Water (A1)	or one is	required, check	Salt Cru			-	ndicators (minimum of two required) e Soil Cracks (B6)			
	ater Table (A2)				Invertebra	ates (B13		e Soli Clacks (B0) ely Vegetated Concave Surface (B8)			
Saturatio					en Sulfide			ge Patterns (B10)			
	larks (B1)				son Wate			ed Rhizospheres on Living			
Sedimer	nt Deposits (B2)				d Rhizosp	,		s (C3) (where tilled)			
Drift Dep	posits (B3)			Roots (	(C3) ( <b>whe</b>	ere not ti	lled) Crayfis	h Burrows (C8)			
	at or Crust (B4)			_	e of Redu			tion Visible on Aerial Imagery (C9)			
	oosits (B5)		·		ck Surfac			orphic Position (D2)			
	on Visible on Aeria	0,	/ (B7)	Other (E	xplain in	Remarks		eutral Test (D5)			
water-S	tained Leaves (B9	)					FIOSI-F	leave Hummocks (D7) ( <b>LRR F</b> )			
Field Obser	rvations: ter Present?	Yes	No	v	Depth (i	nchoc);					
Water Table		Yes	No	$\frac{X}{X}$	Depth (i		I "	ndicators of Wetland			
Saturation F		Yes	No		Depth (i			Hydrology Present? N			
	pillary fringe)										
-		am gau	ge, monitorina we	ell, aerial	photos.	previous	inspections), if available	):			
		0		,			. ,,				
Remarks:											
			V	ery dry, s	sloped ba	anks of c	hannel				

WETLAND DET	ERMINATIO	N DATA FC	RM - Gre	at Plains Region
Project/Site: US-50 PEL	City	/County:	Pueblo	I V
Applicant/Owner: CDOT	State:	COLOR	ADO Sampling Point: PBS-1	
Investigator(s): KH & JL		Sec	tion, Townsh	ip, Range: SECT 15, T2S, R65W
Landform (hillslope, terrace, etc.):	rroyo	Local relief	(concave, c	onvex, none): <u>Concave</u> Slope (%): <u>0-2</u>
Subregion (LRR): LLR G	Lat:	38.315	Long:	-104.66 Datum: NAD 83
Soil Map Unit Name: Penrose-Minnequa complex			NWI	classification: PEMWi
Are climatic/hydrologic conditions on the site typical	for this time of th		`	lf no, explain in Remarks.)
	ydrology	significantly	disturbed?	Are "normal circumstances" present? Yes
	ydrology	naturally pro		(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map		oling point lo	cations, trar	isects, important features, etc.
Hydrophytic Vegetation Present?	Y			
Hydric Soil Present?	Y	Is the S	ampled Are	ea Within a Wetland? Y
Indicators of Wetland Hydrology Present?	Y	lf yes, o	ptional wetla	nd site ID: Wetland PBS-1
Remarks: (Explain alternative procedures here or	in a separate r	eport.)		
la a ciat fan DDC 4. cutarana daouaht fan Cu				
In-point for PBS-1, extreme drought for 2 y	ears now causi	ng stressed a	na sparse v	egetation. Wetland boundaries very distinct.
VEGETATION Use scientific names of p	plants.			
	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:	) % Cover	Species	Status	Number of Dominant Species
1 Ulmus pumila	5	Y	UPL	that are OBL, FACW, or FAC: <u>3</u> (A)
2				Total Number of Dominant
3				Species Across all Strata: 5 (B)
5				Percent of Dominant Species that are OBL, FACW, or FAC: 60.00% (A/B)
	5	= Total Cove		
Sapling/Shrub Stratum (Plot size:	)			Prevalence Index Worksheet
1 Tamarix chinensis	50	Y	FACW	Total % Cover of: Multiply by:
2 Ribes aureum	15	Y	FACU	OBL species $60 \times 1 = 60$
3 Salix interior	5	<u>N</u>	FACW	FACW species $55 \times 2 = 110$
4 5	·	·		FAC species $0$ $x 3 =$ $0$ FACU species18 $x 4 =$ 72
<u> </u>	70	= Total Cove		UPL species $5 \times 5 = 25$
Herb Stratum (Plot size:	)			Column totals 138 (A) 267 (B)
1 Schoenoplectus pungens	40	Y	OBL	Prevalence Index = $B/A = 1.93$
2 Typha angustifolia	20	Y	OBL	
3 Cirsium arvense	1	Ν	FACU	Hydrophytic Vegetation Indicators:
4 Bassia scoparia	1	N	FACU	1 - Rapid Test for Hydrophytic Vegetation
5 Astragalus agrestis	1	<u>N</u>	FACU	X 2 - Dominance Test is >50% $\overline{X}$ 3 - Prevalence Index is ≤3.0 ¹
6 7	·	·		I — .
8				4 - Morphological Adaptations ¹ (provide supporting data in Remarks or on a
9				separate sheet)
10				Problematic Hydrophytic Vegetation ¹
	63	= Total Cove		(Explain)
Woody Vine Stratum (Plot size:	)			¹ Indicators of hydric soil and wetland hydrology must be
1				present, unless disturbed or problematic
2		Total Cauro	<u> </u>	Hydrophytic Vegetation
% /Para Cround in Llark Stratum	0	= Total Cover		Present? Y
% /Bare Ground in Herb Stratum Remarks: (Include photo numbers here or on a se	eparate sheet)			I
Abundant	t dead kochia ai	nd saltcedar a	long banks	of channel
			J	

Profile Dese	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)												
Depth													
(Inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks					
0 - 5"	2.5 YR 4/2	100					Sandy Clay						
5 - 8"	2.5 YR 4/2			1	1		Sandy Clay	Saturated					
¹ Type: $C = C$	Concentration. D :	= Depleti	on. RM = Reduc	ed Matrix	(. CS = C	covered o	or Coated Sand Grains.	² Location: PL = Pore Lining, M = N					
	Indicators: (App							ematic Hydric Soils ³ :					
-	osol (A1)				d Matrix		1 cm Muck (A9)	•					
	ic Epipedon (A2)			idy Redo		(01)		dox (A16) ( <b>LRR F, G, H</b> )					
	ck Histic (A3)			pped Mat			Dark Surface (S						
	lrogen Sulfide (A4)	)			v Mineral	(F1)	High Plains Dep						
	atified Layers (A5)			,	ed Matrix	( )		e of MLRA 72 & 73)					
	n Muck (A9) (LRR	. ,		oleted Ma			Reduced Vertic (						
	leted Below Dark				Surface (	F6)	Red Parent Mate						
	k Dark Surface (A			leted Da	rk Surfac	é (F7)		rk Surface (TF12)					
San	dy Mucky Mineral	(S1)	Rec	lox Depre	essions (F	-8)	X Other (Explain in						
2.5 cm Mucky Peat or Peat (S2) High Plains Depressions (F16) ³ Indicators of hydrophytic vegetation and wetland													
(LRR G, H) (MLRA 72 & 73 of LRR H) hydrology must be present, unless disturbed or													
5 ci	5 cm Mucky Peat or Peat (S3) (LRR F) problematic.												
Restrictive	Restrictive Layer (if observed):												
	edrock/Shale	ou).					Hydric Soil Prese	nt? Y					
Depth (inches): 8"													
Remarks:													
Remarks.													
	P	ossible p	roblematic soils	rom new	/ fluvial d	eposits.	Restricted due to shale/b	edrock.					
HYDROLO	DGY												
Wetland Hy	drology Indicate	ors:											
-	cators (minimum		required: check	all that a	(vlaa		Secondary In	dicators (minimum of two required)					
X Surface				Salt Cru			-	e Soil Cracks (B6)					
	iter Table (A2)			-	Invertebra	ates (B13		y Vegetated Concave Surface (B8)					
X Saturatio					en Sulfide	•		je Patterns (B10)					
Water M	larks (B1)			Dry-Sea	son Wate	er Table (	C2) Oxidize	d Rhizospheres on Living					
Sedimer	nt Deposits (B2)			Oxidized	d Rhizosp	heres on	Living Roots	(C3) (where tilled)					
X Drift Dep					(C3) ( <b>whe</b>			n Burrows (C8)					
_	at or Crust (B4)			-	e of Redu			ion Visible on Aerial Imagery (C9)					
	oosits (B5)		(2-)	-	ck Surfac	( )		rphic Position (D2)					
	on Visible on Aeria		y (B7)	Other (E	xplain in	Remarks		eutral Test (D5)					
vvater-S	tained Leaves (B9	)					F105t-FI	eave Hummocks (D7) (LRR F)					
Field Obser Surface Wat		Yes	X No		Denth /	nchoc).	3"						
Water Table		Yes	X No X No		Depth (i Depth (i			dicators of Wetland					
Saturation P		Yes			Depth (i		-	lydrology Present? Y					
	pillary fringe)				(		<u> </u>						
		eam dau	ae. monitorina w	ell, aerial	photos	previous	inspections), if available						
2000100110		- Series	3-,	, aonar	r ²⁰¹⁰⁰ ,								
Remarks:													
		Water fl	owing through w	etlands, v	water tab	le at 8" c	lue to nearby stream cha	nnel.					

WETLAND DETER	MINATIO	N DATA FO	RM - Gre	at Plains	Region		
Project/Site: US-50 PEL	City	County:	Pueblo		Sampling Date:	6/3/13	
Applicant/Owner: CDOT		State:	COLOR	ADO	Sampling Point:	PBS-2	
Investigator(s): KH & JL		Secti	on, Townsh	ip, Range:	SECT 15	, T2S, R65W	
Landform (hillslope, terrace, etc.): Hillslope abov	e arroyo	Local relief	(concave, c			Slope (%):	5 to 15
Subregion (LRR): LLR G	Lat:	38.315	Long:	-104	4.66 Datur	n:	
Soil Map Unit Name: Penrose-Minnequa complex			NWI	classificati	on:	N/A	
Are climatic/hydrologic conditions on the site typical for the	nis time of th	e year?	<u>N</u> (1	lf no, explai	in in Remarks.)		
Are Vegetation, Soil, or Hydro	logy			Are "norn	nal circumstances" p	resent? Y	es
	logy				ed, explain any ans		ks.)
SUMMARY OF FINDINGS - Attach site map sho	owing samp	ling point loc	ations, tran	isects, imp	oortant features, et	ic.	
Hydrophytic Vegetation Present? N	_						
Hydric Soil Present? N	_	Is the Sa	ampled Are	ea Within a	a Wetland?	Ν	
Indicators of Wetland Hydrology Present? N	_	lf yes, op	otional wetla	nd site ID:			
Remarks: (Explain alternative procedures here or in a	separate re	eport.)					
Very dry; abundance of bare gr	ound and d	lead plant mai	erial. Extre	me drough	it for 2 years now.		
VEGETATION Use scientific names of plan	ts.						
	Absolute	Dominant	Indicator	Domina	nce Test Workshe	et	
Tree Stratum (Plot size: )	% Cover	Species	Status	Number of	f Dominant Species	;	
1				that are O	BL, FACW, or FAC	: 1	(A)
2				Total Num	ber of Dominant		
3					cross all Strata:	4	(B)
4					f Dominant Species		
5	0	= Total Cover		that are O	BL, FACW, or FAC	: 25.00%	(A/B)
Sapling/Shrub Stratum (Plot size: )				Prevale	nce Index Works	heet	
1 Ericameria nauseosa	20	Y	UPL	Total %	Cover of: M	ultiply by:	
2 Ribes aureum	10	Y	FACU	OBL spe	ecies 0 x	1 = 0	_
3 Tamarix chinensis	10	Y	FACW	FACW s		2 = 20	_
4				FAC spe		3 = 0	-
5		FACU species 31				4 = 124	-
Herb Stratum (Plot size: )	40	= Total Cover		UPL species $25 \times 5 = 125$ Column totals $66$ (A) $269$ (B)			
· · · · · · · · · · · · · · · · · · ·	45	V	FACU		nce Index = $B/A$ =	·	(D)
1 Grindelia hirsutula 2 Stanleva pinnata	<u>15</u> 5	<u> </u>	UPL	Prevaler	HCe HIGEX = D/A =	4.08	-
3 Cirsium arvense	5		FACU	Hydrop	hytic Vegetation	Indicators:	
4 Astragalus agrestis	1	N	FACU		Rapid Test for Hydro		tion
5					Dominance Test is >		
6				3 - F	Prevalence Index is	≤3.0 ¹	
7				4 - N	Morphological Ada	ptations ¹ (prov	vide
8					porting data in Rer	marks or on a	
9				· ·	arate sheet)		1
10	26	= Total Cover			blematic Hydrophy olain)	tic Vegetation	l'
Woody Vine Stratum (Plot size: )					ors of hydric soil and w	otland hydrology	must be
1					present, unless disturb	, ,,	
2				Hyd	Irophytic		
% /Bare Ground in Herb Stratum 35	0	= Total Cover			sent? N		
Remarks: (Include photo numbers here or on a separa	ate sheet)			<u>.</u>	<u>_</u>		
	,						
Abundant dea	d kochia ar	nd saltcedar a	long banks	of channel	I		

Profile Des	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)												
Depth	Matrix		Re										
(Inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks					
0 - 8"	2.5 YR 6/2	100					Sand	Dry					
1 Type: C = C	Concentration D	– Donloti	on RM – Reduc	d Matrix		overed c	yr Coated Sand Grai	ns. ² Location: PL = Pore Lining, M = N					
	Indicators: (App							Problematic Hydric Soils ³ :					
-	osol (A1)			ndy Gleye				(A9) (LRR I, J)					
	ic Epipedon (A2)			ndy Redo		(04)		ie Redox (A16) ( <b>LRR F, G, H</b> )					
	ck Histic (A3)			pped Mat		Dark Surface (S7) (LRR G)							
	rogen Sulfide (A4)			my Muck	. ,	(F1)		Depressions (F16)					
	itified Layers (A5)			imy Gleye	-			utside of MLRA 72 & 73)					
	n Muck (A9) (LRR	. ,		pleted Ma		(12)	Reduced V						
	leted Below Dark			dox Dark	. ,	F6)		Material (TF2)					
	k Dark Surface (A		·	pleted Da				w Dark Surface (TF12)					
	dy Mucky Mineral					. ,		ain in Remarks)					
Sandy Mucky Mineral (S1)       Redox Depressions (F8)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2)       High Plains Depressions (F16) ³ Indicators of hydrophytic vegetation and wetland													
	RR G, H)			ILRA 72				ist be present, unless disturbed or					
5 cm Mucky Peat or Peat (S3) (LRR F) problematic.													
Restrictive Layer (if observed):													
	edrock/Shale	cuj.					Hydric Soil F	Present? N					
Depth (inches): 8"													
Remarks:													
		Same	as others nure	sand Re	stricted	at 8" due	to dryness, bedroc						
		Carrie	, pulo	ound. ree		410 440							
HYDROLO	DGY												
Wetland Hy	drology Indicate	ors:											
Primary Indi	cators (minimum	of one is	required; check	all that a	<u>pply)</u>		Seconda	ary Indicators (minimum of two required					
Surface	Water (A1)			Salt Cru	st (B11)		Su	Irface Soil Cracks (B6)					
High Wa	iter Table (A2)			Aquatic	Invertebra	ates (B13	)	parsely Vegetated Concave Surface (B8)					
Saturatio	on (A3)					Odor (C1	·	ainage Patterns (B10)					
	arks (B1)					er Table (		kidized Rhizospheres on Living					
	nt Deposits (B2)			-	•	heres on	-	Roots (C3) (where tilled)					
	oosits (B3)					ere not til		ayfish Burrows (C8)					
-	at or Crust (B4)			_		uced Iron	· · /	aturation Visible on Aerial Imagery (C9)					
	oosits (B5) on Visible on Aeria	Imagan	( (P7)		ck Surfac			eomorphic Position (D2) \C-Neutral Test (D5)					
	tained Leaves (B9		/ (B7)		xpiain in	Remarks		ost-Heave Hummocks (D7) (LRR F)					
		)											
Field Obser	vations:						I						
Surface Wat		Yes	No	х	Depth (i	nches):							
Water Table		Yes	No		Depth (i	,		Indicators of Wetland					
Saturation P		Yes	No	X	Depth (i			Hydrology Present? N					
(includes ca	pillary fringe)			·	· · ·	-							
Describe Re	corded Data (stre	eam gau	ge, monitoring w	ell, aerial	photos,	previous	inspections), if avai	lable:					
Remarks:													
Dry uplands near Wetland PBS-1, sand.													
			Dry uplands near Wetland PBS-1, sand.										

WETLAND DETERMIN	NATION DA	TA FOR	RM - Gre	at Plains	Region					
Project/Site: US-50 PEL	City/Coun	ty:	Pueblo	)	Sampling Date:	6/3/13				
Applicant/Owner: CDOT		State:	COLOR	ADO	Sampling Point:	WHDC-	1			
Investigator(s): KH and JL		Section	on, Townsh	ip, Range:	SECT 1	5, T2S, R65W				
Landform (hillslope, terrace, etc.): Depression, arro	oyo Lo	cal relief (	(concave, c	onvex, none	e): Concave	Slope (%):	0 to 3			
Subregion (LRR): LRR G Lat:	: 38.3	313	Long:	-104.	.652 Datu	um: NAD	83			
Soil Map Unit Name: Manvel silt loam, 1 to 5 percent slope	es		NWI	classificatio	on:	PEMWi				
Are climatic/hydrologic conditions on the site typical for this ti	ime of the yea	ır?	N (I	lf no, explair	n in Remarks.)					
Are Vegetation , Soil , or Hydrology	/ sign	ificantly d	listurbed?	Are "norm	nal circumstances"	present? Y	es			
Are Vegetation , Soil , or Hydrology	/ natu	urally prob	plematic?	(If neede	d, explain any an	swers in Remarl	(S.)			
SUMMARY OF FINDINGS - Attach site map showin				sects, imp	ortant features,	etc.				
Hydrophytic Vegetation Present? Y										
Hydric Soil Present? Y		Is the Sa	mpled Are	ea Within a	Wetland?	Y				
Indicators of Wetland Hydrology Present? Y		If ves. op	tional wetla	nd site ID:	WETLAND WH	IDC-1				
Remarks: (Explain alternative procedures here or in a sep	parate report.	.)								
Marginal wetland along flowing creek, ex	xtreme droug	ht for 2 ye	ears causir	ng vegetatio	on to be very stre	essed.				
	-	-			-					
<b>VEGETATION</b> Use scientific names of plants.				-						
			Indicator		nce Test Worksh					
	Cover Sp	ecies	Status		Dominant Specie		( )			
1					BL, FACW, or FA	C: 2	(A)			
3					ber of Dominant cross all Strata:	2	(B)			
4				-	Dominant Specie		_(D)			
5					BL, FACW, or FA		(A/B)			
	0 = Tota	al Cover								
Sapling/Shrub Stratum (Plot size: )				Prevaler	nce Index Work	sheet				
1 Tamarix chinensis	30	Υ	FACW	Total %	Cover of:	Multiply by:				
2				OBL spe		x 1 =6	_			
3				FACW s	·	x 2 = 140	_			
4				FAC spe		$x^{3} = 0$	-			
5	30 = Tota	al Cover	<u> </u>	FACU sp		x 4 = 20 x 5 = 0	-			
Herb Stratum (Plot size: )	30 = 100	al Covel		UPL spe Column		(A) = 0	(B)			
· · · · · · · · · · · · · · · · · · ·	40	Y					(D)			
1 Agrostis stolonifera 2 Eleocharis palustris	40	<u>N</u>	FACW OBL	Prevalen	nce Index = B/A :	= 2.05	-			
3 Helianthus annuus	5	<u>N</u> –	FACU	Hydroph	nytic Vegetation	Indicators:				
4 Carex nebrascensis	1	N	OBL		apid Test for Hyd		tion			
5					ominance Test is					
6				<u></u> χ 3 - Ρ	revalence Index i	s ≤3.0¹				
7				4 - N	Iorphological Ad	aptations ¹ (prov	/ide			
8					oorting data in Re	emarks or on a				
9					arate sheet)		1			
10					lematic Hydroph	nytic Vegetation	'			
Woody Vine Stratum (Plot size: )	<u>51</u> = Tota	al Cover		(Exp						
1					rs of hydric soil and resent, unless distu	, ,,				
2				· · · ·	rophytic	bed of problematic	,			
	0 = Tota	al Cover		-	etation					
% /Bare Ground in Herb Stratum 50				-	sent? N	l				
Remarks: (Include photo numbers here or on a separate	sheet)			1						
	,									
Abunda	ant dead salto	cedar alo	ng channel	I						

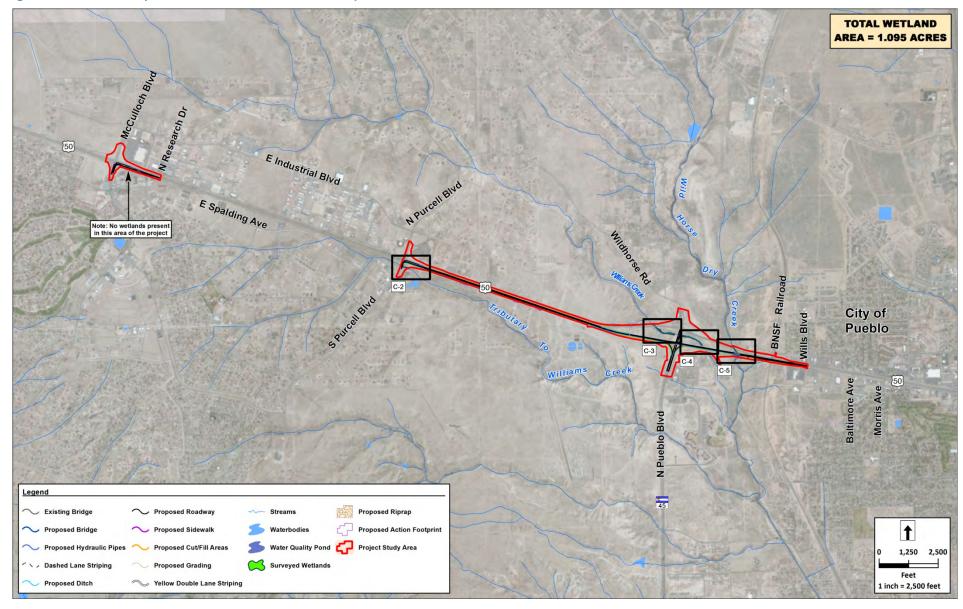
Profile Des	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth     Matrix     Redox Features												
(Inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks				
0 - 5"	10 YR 5/2	70	7.5 YR 5/6	5	CS	М	Sandy Loam	Restricted at 5"				
0 - 5"	10 YR 3/1	25										
¹ Type: $C = C$	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, CS = C	overed o	or Coated Sand Grains.	² Location: $PL = Pore Lining, M = N$				
	Indicators: (App							plematic Hydric Soils ³ :				
-	tosol (A1)				d Matrix		1 cm Muck (A9)	-				
	tic Epipedon (A2)			dy Redo		· · ·		dox (A16) ( <b>LRR F, G, H</b> )				
	ck Histic (A3)		Stri	oped Mat	rix (S6)		Dark Surface (S	7) (LRR G)				
Hyd	Irogen Sulfide (A4)	1	Loa	my Muck	y Mineral	(F1)	High Plains Dep	ressions (F16)				
Stra	atified Layers (A5)	(LRR F)	Loa	my Gleye	ed Matrix	(F2)	(LRR H outsid	e of MLRA 72 & 73)				
1 cr	m Muck (A9) ( <b>LRR</b>	$\mathbf{F},\mathbf{G},\mathbf{H})$	Dep	leted Ma	trix (F3)		Reduced Vertic	(F18)				
Dep	leted Below Dark	Surface (	A11) Rec	lox Dark	Surface (	F6)	Red Parent Mate	erial (TF2)				
Thic	ck Dark Surface (A	12)	Dep	leted Da	rk Surfac	e (F7)	Very Shallow Da	rk Surface (TF12)				
	ndy Mucky Mineral				essions (F	,	Other (Explain in	n Remarks)				
2.5 cm Mucky Peat or Peat (S2) High Plains Depressions (F16) ³ Indicators of hydrophytic vegetation and wetland												
(LRR G, H) (MLRA 72 & 73 of LRR H) hydrology must be present, unless disturbed or												
5 cm Mucky Peat or Peat (S3) (LRR F) problematic.												
Restrictive	Layer (if observe	ed):										
Type: Bedrock/shale Hydric Soil Present? Y												
Depth (inches): 5"												
Remarks:												
			Same as Will	iams Cre	eek, restr	icted due	e to bedrock/shale					
HYDROLO												
-	drology Indicate											
	cators (minimum	of one is						dicators (minimum of two required)				
X Surface	· · ·		X	Salt Cru	,			e Soil Cracks (B6)				
	ater Table (A2)				Invertebra	•		ly Vegetated Concave Surface (B8)				
X Saturatio	. ,				en Sulfide			ge Patterns (B10)				
	larks (B1) nt Deposits (B2)				son Wate d Rhizosp	•		d Rhizospheres on Living (C3) ( <b>where tilled</b> )				
	posits (B3)				(C3) ( <b>whe</b>		-	h Burrows (C8)				
	at or Crust (B4)				e of Redu			ion Visible on Aerial Imagery (C9)				
	posits (B5)				ck Surfac			rphic Position (D2)				
	on Visible on Aeria	I Imagery	/ (B7)		xplain in	. ,		eutral Test (D5)				
	tained Leaves (B9				•			eave Hummocks (D7) (LRR F)				
Field Obser												
Surface Wat		Yes	X No		Depth (i		2"					
Water Table		Yes	X No		Depth (i			dicators of Wetland				
Saturation P		Yes	No	X	Depth (i	nches):	・	lydrology Present? Y				
-	pillary fringe)		•. •			<u> </u>						
Describe Re	ecorded Data (stre	eam gau	ge, monitoring we	ell, aerial	photos,	previous	inspections), if available					
Remarks:	Remarks:											
	FI	wina wa	iter in an incised	channel	Much dr	ier bencł	nes on either side of the	channel				

WETLAND DET	ERMINATIO	N DATA FO	RM - Grea	at Plains	Region		
Project/Site: US-50 PEL	City	/County:	Pueblo COLOR		Sampling Date:	6/3/13	
Applicant/Owner: CDOT					Sampling Point:	WHDC-	2
Investigator(s): KH and JL		Sect	ion, Townshi	ip, Range:	Sect 15,	T2S, R65W	
Landform (hillslope, terrace, etc.): hill	slope	Local relief	(concave, co	onvex, none	e): Concave	Slope (%):	3 to 10
Subregion (LRR): LRR G	Lat:	38.313	Long:	-104	.652 Datum	n: NAD	83
Soil Map Unit Name: Manvel silt loam, 1 to 5 perce	ent slopes		NWI	classification	on:	N/A	
Are climatic/hydrologic conditions on the site typical	for this time of th	ne year?	N (I	lf no, explai	n in Remarks.)		
Are Vegetation, Soil, or H	ydrology	significantly	disturbed?	Are "norm	nal circumstances" pr	esent? Y	'es
Are Vegetation , Soil , or H	ydrology	naturally pro	blematic?	(If neede	d, explain any answ	ers in Remar	ks.)
SUMMARY OF FINDINGS - Attach site map	showing sam	oling point loo	ations, tran	sects, imp	ortant features, et	C.	
Hydrophytic Vegetation Present?	Ν						
Hydric Soil Present?	N	Is the S	ampled Are	ea Within a	a Wetland?	Ν	
Indicators of Wetland Hydrology Present?	N	lf yes, o	ptional wetla	nd site ID:			
Remarks: (Explain alternative procedures here or	in a separate r	eport)		_			
	in a coparato r	00011.)					
Outpoint for WHDC-1, extreme drou	ight for 2 years	stressing veg	etation alon	g streams	and especially in u	plands.	
VECETATION Line exientific normed of r	Jonto						
VEGETATION Use scientific names of p		Deminent	la d'antan	Domina	nce Test Workshee	<b>a</b> t	
Tree Stratum (Plot size:	Absolute % Cover	Dominant Species	Indicator Status		Dominant Species	FL	
1		oposico	Clarao		BL, FACW, or FAC:	1	(A)
2		· ·			ber of Dominant		_``
3		· ·		Species A	cross all Strata:	4	(B)
4				Percent of	Dominant Species		
5				that are O	BL, FACW, or FAC:	25.00%	(A/B)
	0	= Total Cover		<u> </u>	<u> </u>		
Sapling/Shrub Stratum (Plot size:	)	V			nce Index Worksh		
1 Ericameria nauseosa 2 Ribes aureum	<u> </u>	· <u> </u>	FACU	OBL spe		ultiply by: I = 0	
3		·	1700	FACW s			-
4		· ·		FAC spe	-		-
5				FACU s		4 = 24	-
	15	= Total Cover		5 = 105			
Herb Stratum (Plot size:	)			Column	totals 47 (A	) 169	(B)
1 Lepidium latifolium	20	Y	FACW	Prevaler	nce Index = B/A =	3.60	_
2 Cardaria draba	20	Y	UPL				
3 Astragalus agrestis	1	<u>N</u>	FACU		hytic Vegetation I		
4 Stanleya pinnata	1	<u>N</u>	UPL		Rapid Test for Hydro Dominance Test is >		ation
5 6		· ·			Prevalence Index is a		
7		· ·			Norphological Adap		vido
8		· ·			porting data in Rem		
9		· ·			arate sheet)		
10	42	= Total Cover			olematic Hydrophyt blain)	ic Vegetation	1 ¹
Woody Vine Stratum (Plot size:	)						
1	/				ors of hydric soil and we present, unless disturbe	, ,,	
2		· ·			rophytic		
	0	= Total Cover		Veg	etation		
% /Bare Ground in Herb Stratum 40				Pres	sent? N	_	
Remarks: (Include photo numbers here or on a se	eparate sheet)						
Abundant	dead kochia ai	nd saltcedar a	long banks	of channel			

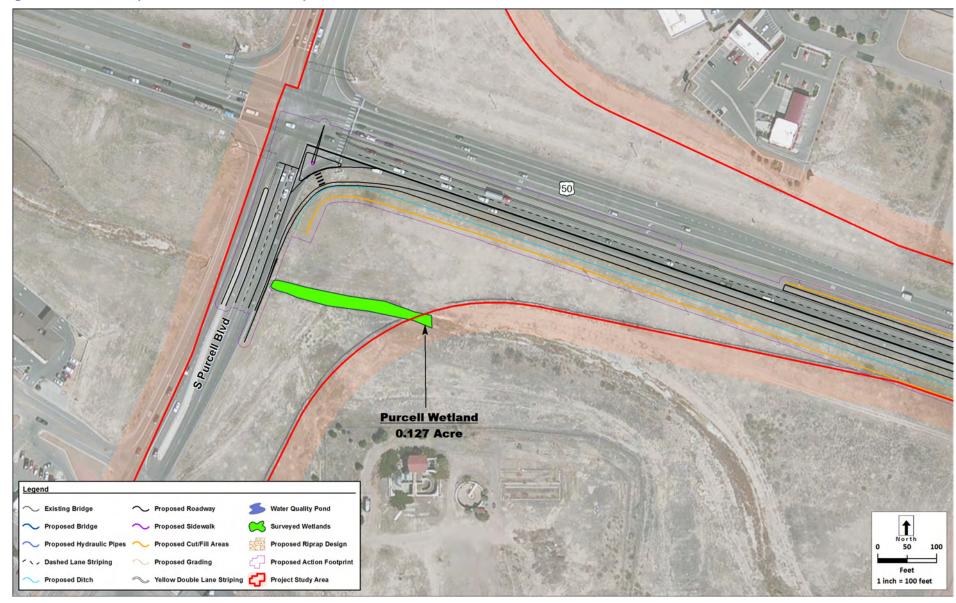
WHDC-	2
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Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abser	nce of indicators.)
Depth <u>Matrix</u>			Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 8"	2.5 YR 6/2	100					Sand	Restricted at 8"
								² Location: $PL = Pore Lining, M = N$
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ :								
Hist	tosol (A1)		San	dy Gleye	d Matrix	(S4)	1 cm Muck (A9)	(LRR I, J)
Hist	tic Epipedon (A2)		San	dy Redo	x (S5)		Coast Prairie Re	dox (A16) ( <b>LRR F, G, H</b> )
Blac	ck Histic (A3)		Strip	oped Mat	rix (S6)		Dark Surface (S7	7) (LRR G)
Hyd	Irogen Sulfide (A4)		Loa	my Muck	y Mineral	(F1)	High Plains Depr	ressions (F16)
	atified Layers (A5)			-	ed Matrix			e of MLRA 72 & 73)
	n Muck (A9) (LRR			leted Ma		( )	Reduced Vertic (	
	leted Below Dark				Surface (	F6)	Red Parent Mate	erial (TF2)
	ck Dark Surface (A		·		rk Surfac	,		rk Surface (TF12)
	idy Mucky Mineral	,			essions (F	. ,	Other (Explain in	. ,
	cm Mucky Peat or	. ,		•	Depressic	,	\	phytic vegetation and wetland
	RR G, H)	1 641 (62			& 73 of L			present, unless disturbed or
-	m Mucky Peat or F	Post (\$3)	,			ixix iii)		roblematic.
		( )				-	P	ioblematic.
Restrictive Layer (if observed):								
Type: Bedrock/shale Hydric Soil Present? N								
Depth (inche	es): 8"				_			
Remarks:					_			
	Sa	me as V	/CN-2, very dry s	and - res	stricted a	t 8" due	to dryness and/or bedroc	k/shale.
HYDROLO								
-	drology Indicate							
Primary Indi	cators (minimum	of one is	required; check	all that a	<u>pply)</u>			dicators (minimum of two required
Surface Water (A1) Salt Crust (B11)						Surface Soil Cracks (B6)		
	High Water Table (A2) Aquatic Invertebr					ates (B13	3) Sparsel	y Vegetated Concave Surface (B8)
Saturatio	Saturation (A3) Hydrogen Sulfide						1) Drainag	e Patterns (B10)
Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living								d Rhizospheres on Living
Sedimer	nt Deposits (B2)			Oxidized	d Rhizosp	heres on	Living Roots	(C3) (where tilled)
Drift Dep	posits (B3)				(C3) ( <b>whe</b>			n Burrows (C8)
Algal Ma	at or Crust (B4)				e of Redu		(C4) Saturati	on Visible on Aerial Imagery (C9)
Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2)								
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5)								
Water-S	tained Leaves (B9	)		-			Frost-H	eave Hummocks (D7) ( <b>LRR F</b> )
Field Obser	vations:							
Surface Wat	ter Present?	Yes	No	Х	Depth (i	nches):		
Water Table Present?   Yes   No   X   Depth (inches):						In	Indicators of Wetland	
Saturation P	Present?	Yes	No	Х	Depth (i	nches):	Н	lydrology Present? N
(includes ca	pillary fringe)				-			
Describe Re	ecorded Data (stre	am gau	ge, monitoring we	ell, aerial	photos,	previous	inspections), if available:	
	· ·				•		. ,	
Remarks:								
			Ve	ery dry, s	loped ba	inks of cl	hannel.	
				-				

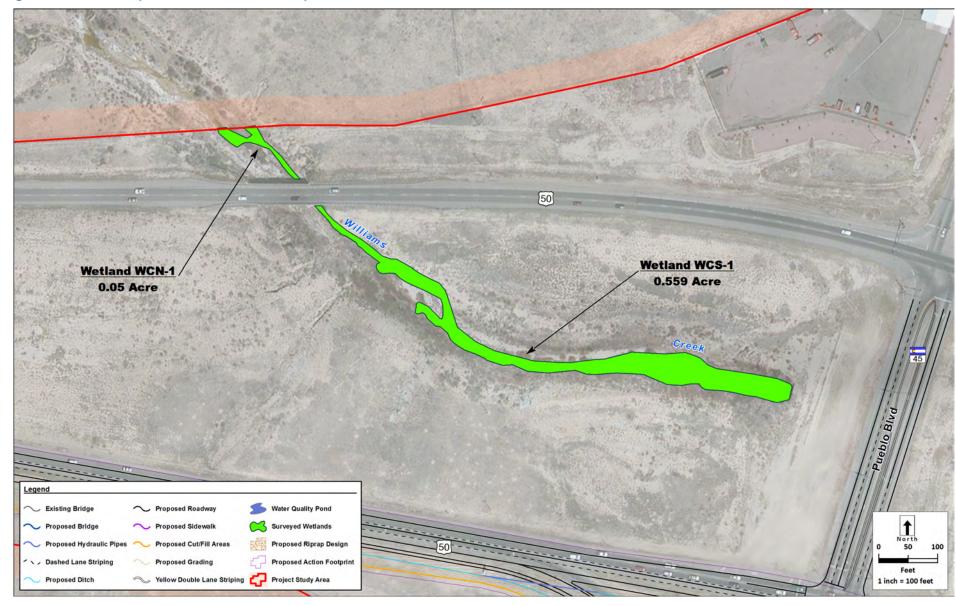
# Appendix C Surveyed Wetlands Detailed Maps (1" = 100')



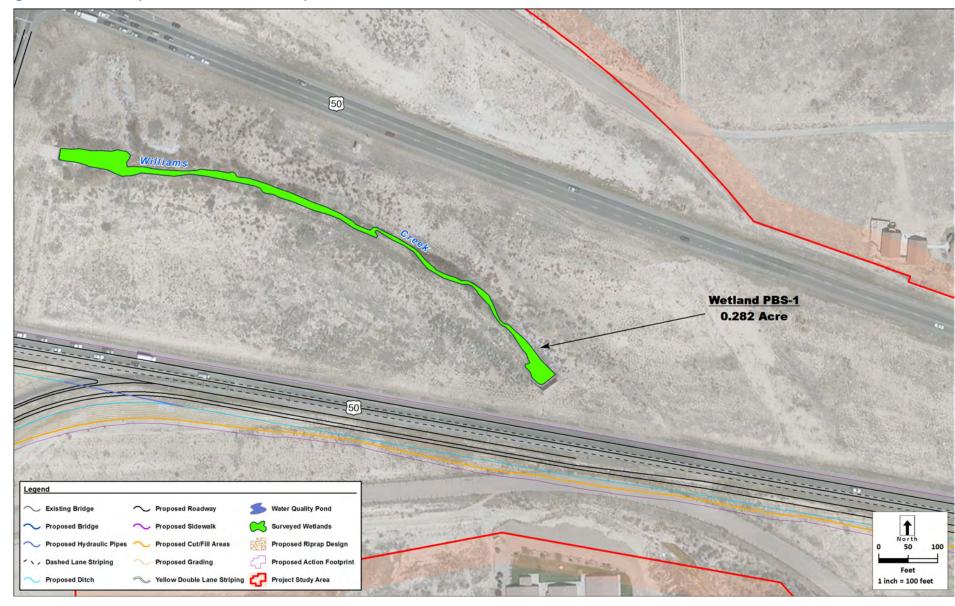
## Figure C-1. Surveyed Wetlands Detail Index Map



### Figure C-2. Surveyed Wetlands Detail Map



### Figure C-3. Surveyed Wetlands Detail Map



### Figure C-4. Surveyed Wetlands Detail Map



