

WETLAND DELINEATION AT THE MCCARTY LEASE SITE NEAR JOHNSTOWN, COLORADO

INTRODUCTION

Ms. Darcy A. Tiglas was contracted by K.P. Kauffman Company, Inc. to conduct a wetland delineation at the MCCARTY LEASE SITE NEAR JOHNSTOWN, COLORADO. The site is located east of Weld County Road 19 and north of Weld County Road 42 (WCR 42). The existing wells lie west of the Hillsboro Ditch and K.P. Kauffman Company proposes to relocate the wells to the east of the Ditch. The Hillsboro Ditch emanates from a spring just north of WCR 42 and flows northeast to the Little Thompson River. The surrounding lands are agricultural and are currently actively used as farmland. The Ditch has been channelized with several ponds constructed to reroute and capture surface water for and from agricultural purposes. The drainage is deeply incised in parts but is also flat and wide where agricultural practices have shaped it over many years.

Site Location

The project area lies in portions of the southwest and southeast of the southern half of Section 22, Township 4 North, Range 67 West. The longitude is 104 degrees, 52 minutes, 45 seconds and the latitude is 40 degrees, 17 minutes, 30 seconds. The NAD 27 UTM coordinates are Zone 13, Easting 510310 and Northing 4459928. The WGS 84 (NAD 83) coordinates for the site are Zone 13, Easting 510270 and Northing 4460100. The project area is approximately 4,850 feet above sea level. Figure 2 presents the project location on a USGS quadrangle map.

Prepared by:

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WETLAND DELINEATION

Prepared for:

Methods

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1675 Broadway, Suite 2800
Denver, Colorado 80202

The wetland delineation was conducted by the vegetation, soils, and hydrology of the sites according to the Corps of Engineers Wetland Delineation Manual (COE 1987). Plant communities were identified and ranked according to percent cover (i.e. the most dominant in each life form). The dominant species of each life form were cross referenced with the national wetland plant list (Reed 1988) to determine if the area supports a prevalence of hydrophytic vegetation. Hydric soil determinations were made following a review of the Weld County, Colorado Southern Part Soil Survey (SCS 1980), and the Colorado hydric soils list (SCS 1990), and from field observations (color, texture, depth to wetting) of May 2007.

WETLAND DELINEATION AT THE MCCARTY LEASE SITE NEAR JOHNSTOWN, COLORADO

INTRODUCTION

Ms. Darcy A. Tiglas was contracted by K.P. Kauffman Company, Inc. to conduct a wetland delineation for the McCarty lease site for the purpose of relocating several oil and gas wells currently existing on the property in anticipation of proposed residential development. The site is located east of Weld County Road 19 and north of Weld County Road 42 (WCR 42). The existing wells lie west of the Hillsboro Ditch and K.P. Kauffman Company proposes to relocate the wells to the east of the Ditch. The Hillsboro Ditch emanates from a spring just north of WCR 42 and flows northeast to the Little Thompson River. The surrounding lands are agricultural and are currently actively used as farmland. The Ditch has been channelized with several ponds constructed to reroute and capture surface water for and from agricultural purposes. The drainage is deeply incised in parts but is also flat and wide where agricultural practices have shaped it over many years.

Site Location

The project area lies in portions of the southwest $\frac{1}{4}$ and southeast $\frac{1}{4}$ of the southern half of Section 22, Township 4 North, Range 67 West. The longitude is 104 degrees, 52 minutes, 45 seconds and the latitude is 40 degrees, 17 minutes, 30 seconds. The NAD 27 UTM coordinates are Zone 13, Easting 510316 and Northing 4459928. The WGS 84 (NAD 83) UTM coordinates for the site are Zone 13, Easting 510270 and Northing 4460137. The elevation of the project area is approximately 4,850 feet above sea level. **Figure 1** presents a vicinity map of the project area. **Figure 2** presents the project area within the Johnstown, Colorado USGS quadrangle map.

WETLAND DELINEATION

Methods

The wetland delineation was conducted by characterizing the vegetation, soils, and hydrology of the sites according to the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual (COE 1987). Plant communities were identified and ranked according to percent cover (i.e. the most dominant in each life form). The dominant species of each life form were cross referenced with the national wetland plant list (Reed 1988) to determine if the area supports a prevalence of hydrophytic vegetation. Hydric soil determinations were made following a review of the Weld County, Colorado Southern Part Soil Survey (SCS 1980), and the Colorado hydric soils list (SCS 1990), and from field observations (color, texture, depth to wetting) of

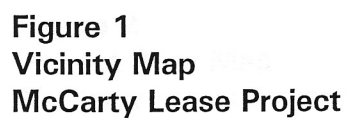


Figure 1 Vicinity Map McCarty Lease Project

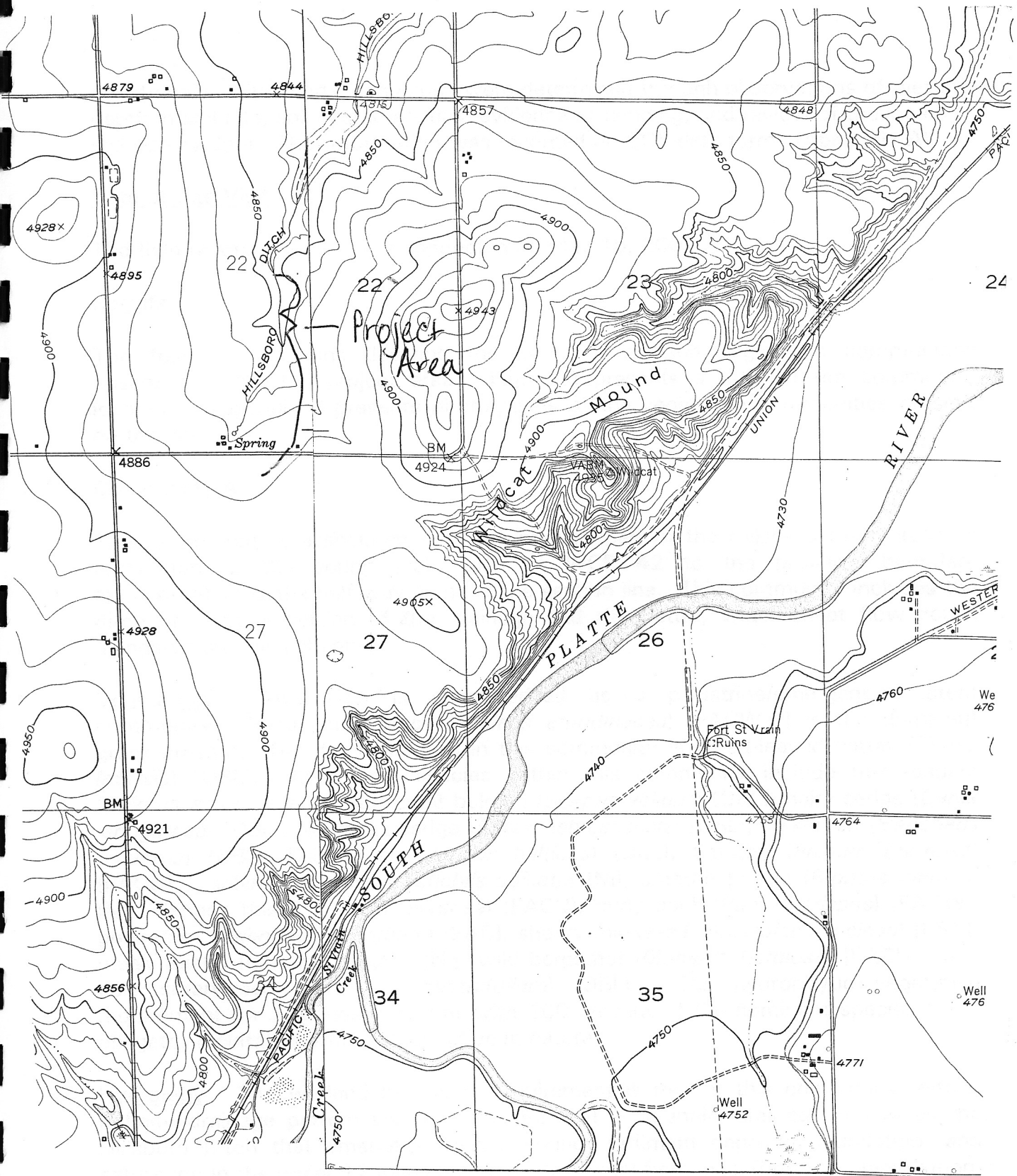


Figure 2
Project Area Map
McCarty Lease Project

on-site soils. Hydrologic conditions were determined through observations of wetting depth in soil pits, soil characteristics, evidence of flooding, and review of the local soil survey data. This information was recorded on COE data forms (**Appendix A**).

Date of Site Visit

The field reconnaissance was conducted on May 16, 2007.

Results

The following sections describe the potential wetland vegetation communities observed within the project area. **Figure 3** presents a map of the community locations. **Appendix B** presents photographs of the vegetation communities present on the site.

Community A

This community is associated with the primary part of the Hillsboro Ditch from its emanation at the spring just north of WCR 42 to the property boundary approximately at the half-way point of the section line. This community includes the ditch or channel portion of the drainage and the flatter, wider sheet flow zones alongside the main channel.

Vegetation. This area is characterized as a palustrine/emergent/persistent community. Reed canarygrass (*Phalaris arundinacea*) [FACW+] is the dominant grass present. The dominant forb in this community is broad-leaved cattail (*Typha latifolia*) [OBL]. Associated species within this community include three-square (*Scirpus americanus*) [OBL], great bulrush (*Scirpus validus*) [OBL], hairy sedge (*Carex lanuginosa*) [OBL], Nebraska sedge (*Carex nebrascensis*) [OBL], spikerush (*Eleocharis palustris*) [OBL], Baltic rush (*Juncus balticus*) [OBL], timothy (*Phleum pratense*) [FACU], Inland saltgrass (*Distichlis spicata*) [NI], smooth brome (*Bromus inermis*) [NI], Canada thistle (*Cirsium arvense*) [FACU], curly dock (*Rumex crispus*) [FACW], goosefoot (*Chenopodium album*) [FAC], showy milkweed (*Asclepias speciosa*) [FAC], musk thistle (*Carduus nutans*) [NI], wild bergamot (*Monarda fistulosa*) [FACU-], and pale smartweed (*Persicaria lapathifolium*) [OBL]. The hydrophytic vegetative requirement for wetlands was met with 100 percent of the dominant species being obligate, facultative wet, or facultative in nature.

Hydrology. The wetland hydrology requirement is met at this community with a definite drainage pattern visible in the form of a perennial drainage known as the Hillsboro Ditch that emanates from a spring, sediment deposits, inundation, and saturation in the upper 12 inches of soil. Hydrology from upland runoff, precipitation, and direct surface water from the drainage supports the hydrophytic vegetation present within this community.

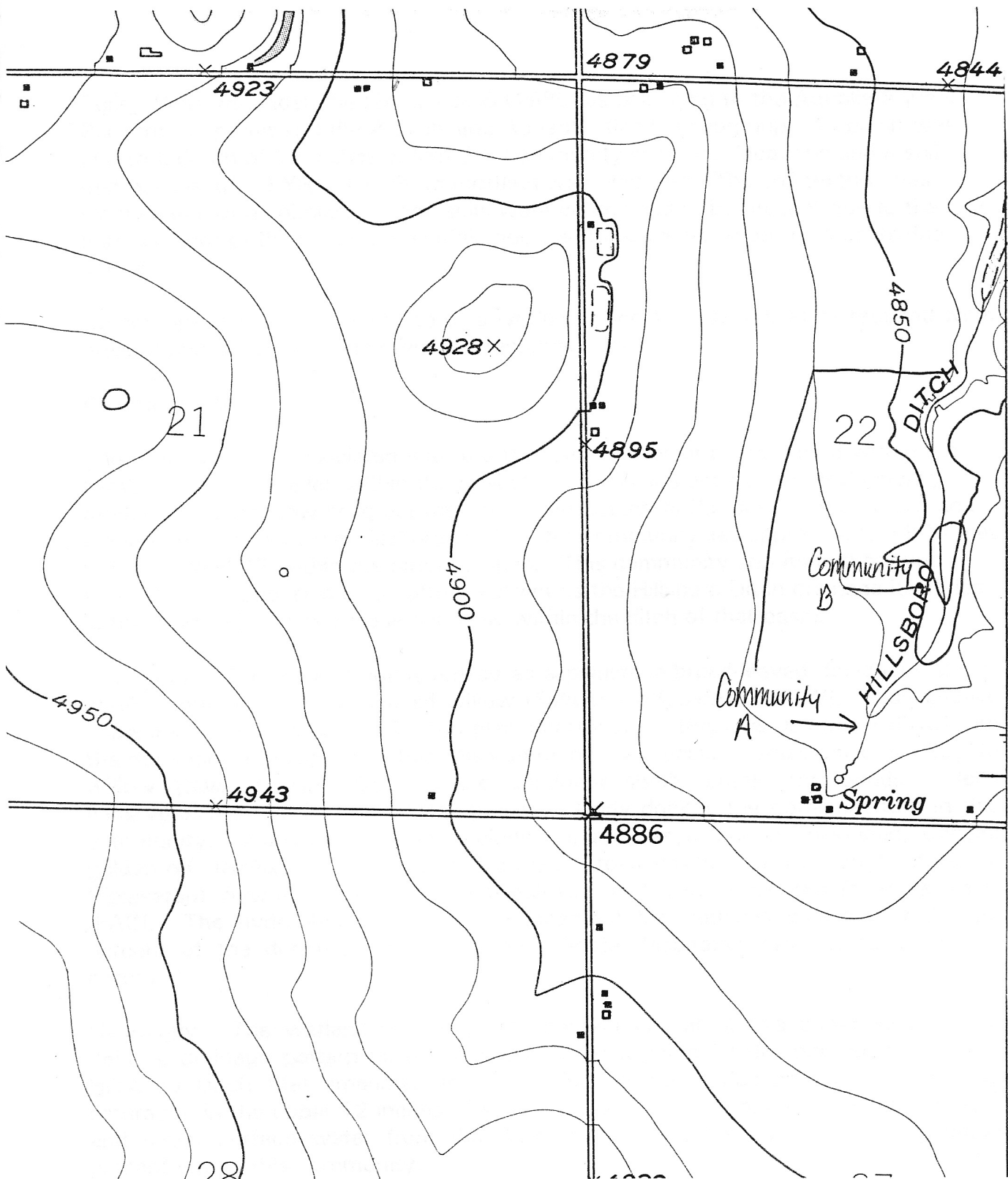


Figure 3
Community Locations
McCarty Lease Project

Soils. Soils were identified by the SCS (1980) as belonging to the Aquolls-Aquents-Bankard map unit and the Aquolls and Aquepts, flooded subgroup. A soil pit was dug to a depth of 16 inches within this community in several locations and a soil matrix color of 10 YR 2/1 with no mottling was observed. The soil texture was loamy sand with cobbles. Hydric soils were determined to be present due to the low-chroma color of the substrate, sulfidic odor, and the soil being on the local hydric soils list.

Community A was determined to be a wetland since all three indicators required were present and observed during the field reconnaissance.

Community B

This community is associated with the four depressions or ponds found within the Hillsboro Ditch complex within the project area. These ponds were mechanically dredged to create low-lying pockets to capture water, buffer agricultural runoff, and manage the flows of the Hillsboro Ditch. This community lies approximately 500 feet north of WCR 42 within the ditch complex. This community and its hydrophytic vegetation is supported by a bath-tub effect as the Hillsboro Ditch drainage itself lies within a wide basin and these ponds lie within the ditch of that basin.

Vegetation. This area is characterized as a palustrine/broad-leaved deciduous/shrub-scrub community. Peach-leaved willow (*Salix amygdaloides*) [FACW], Russian-olive (*Elaeagnus angustifolia*) [FAC], and plains cottonwood (*Populus deltoides*) [FAC] are the dominant tree species within this community and occur in small pockets. Coyote willow (*Salix exigua*) [OBL] is the dominant shrub around the ponds. Reed canarygrass is the dominant grass present. Curly dock is the dominant forb in this community. Associated species include Canada thistle, showy milkweed, Canada goldenrod (*Solidago canadensis*) [FACU], broad-leaved cattail, rough horsetail (*Equisetum hyemale*) [FACW], great bulrush, and witchgrass (*Panicum capillare*) [FAC]. The hydrophytic vegetative requirement for wetlands was met with 100 percent of the dominant species being obligate, facultative wet, or facultative in nature.

Hydrology. The wetland hydrology requirement is met at this community with a definite drainage pattern visible in the form of a perennial drainage known as the Hillsboro Ditch that emanates from a spring, sediment deposits, inundation, and saturation in the upper 12 inches of soil. Hydrology from upland runoff, precipitation, and direct surface water from the drainage supports the hydrophytic vegetation present within this community.

Soils. Soils were identified by the SCS (1980) as belonging to the Aquolls-Aquents-Bankard map unit and the Aquolls and Aquepts, flooded subgroup. A soil pit was dug to a depth of 16 inches within this community in several locations and a soil matrix color of 10 YR 2/1 with no mottling was observed. The soil texture was

loamy sand with cobbles. Hydric soils were determined to be present due to the low-chroma color of the substrate, sulfidic odor, and the soil being on the local hydric soils list.

Community B was determined to be a wetland since all three indicators required were present and observed during the field reconnaissance.

SUMMARY

Two wetland communities were identified within the project area during the field reconnaissance. These wetlands are self-sustaining healthy wetland communities.

REFERENCES

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service. FWS/OBS-79/31.
- Reed, Jr., P.B. 1988. National List of Plant Species that occur in Wetlands: Colorado. U.S. Department of the Interior, Fish and Wildlife Service. NERC-88/18.06.
- Soil Conservation Service (SCS). 1980. Soil Survey of Weld County, Colorado Southern Part. U.S. Department of Agriculture, Soil Conservation Service in cooperation with Colorado Agricultural Experiment Station. September, 1980. 135 pp.
- . 1990. Hydric Soils of Colorado. U.S. Department of Agriculture.
- . 1991. Hydric Soils of the United States. U.S. Department of Agriculture, Miscellaneous Publication Number 1491.
- U.S. Army Corps of Engineers (COE). 1987. Wetlands Delineation Manual. Waterways Experiment Station, Vicksburg, MS.
- Wetland Training Institute, Inc. (WTI). 1991. Field Guide for Wetland Delineation-1987 Corps of Engineers Manual.

WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site: <u>McCarty Lease Site</u>		Date: <u>5/16/07</u>
Applicant/Owner: <u>KPI Kaufman Company</u>		County: <u>Weld</u>
Investigator: <u>Darryl Tigles</u>		State: <u>CO</u>
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)		Community ID: <u>A</u> Transect ID: _____ Plot ID: _____

APPENDIX A

FIELD DATA FORMS

VEGETATION Hillsboro Ditch proper

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Phalaris arundinacea</u>	<u>H</u>	<u>FACW+</u>	9. <u>Juncus balticus</u>	<u>H</u>	<u>OBL</u>
2. <u>Typha latifolia</u>	<u>H</u>	<u>OBL</u>	10. <u>Phleum pratense</u>	<u>H</u>	<u>FACW</u>
3. <u>Scirpus americanus</u>	<u>H</u>	<u>OBL</u>	11. <u>Distichlis spicata</u>	<u>H</u>	<u>A/T</u>
4. <u>Scirpus validus</u>	<u>H</u>	<u>OBL</u>	12. <u>Bromus inermis</u>	<u>H</u>	<u>-</u>
5. <u>Carex lanuginosa</u>	<u>H</u>	<u>OBL</u>	13. <u>Cirsium arvense</u>	<u>H</u>	<u>FACW</u>
6. <u>Carex nebrascensis</u>	<u>H</u>	<u>OBL</u>	14. <u>Rumex crispus</u>	<u>H</u>	<u>FACW</u>
7. <u>Eleocharis palustris</u>	<u>H</u>	<u>OBL</u>	15. <u>Chenopodium album</u>	<u>H</u>	<u>FAC</u>
			16. <u>Asclepias speciosa</u>	<u>H</u>	<u>FAC</u>

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC+): 2/2 = 100%

Remarks: 17. Carduus nutans H NE
 18. Monarda fistulosa H FACW+
 19. Panicum capillare H OBL

HYDROLOGY

Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gauge Aerial Photographs Other No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input checked="" type="checkbox"/> Indicated <input checked="" type="checkbox"/> Saturated in Upper 12 inches <input checked="" type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Soil Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Cracking Patterns in Wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches <input checked="" type="checkbox"/> Water-Stained Leaves <input checked="" type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (Explain in Remarks)
Field Measurements: Depth of Surface Water: <u>3"</u> (in.) Depth to First Water Table: <u>0</u> (in.) Depth to Second Water Table: <u>0</u> (in.)	Remarks: <u>Hillsboro Ditch</u>

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>McCarty Lease Site</u>	Date: <u>5/16/07</u>
Applicant/Owner: <u>KP Kauffman Company</u>	County: <u>Weld</u>
Investigator: <u>Darcy Tiglas</u>	State: <u>CO</u>
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse.)	<div style="display: flex; justify-content: space-around;"> <div> <input checked="" type="radio"/> Yes <input type="radio"/> No </div> <div> <input type="radio"/> Yes <input checked="" type="radio"/> No </div> </div>
	Community ID: <u>A</u> Transect ID: _____ Plot ID: _____

VEGETATION Hillsboro Ditch proper

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
*1. <u>Phalaris arundinacea</u>	<u>H</u>	<u>FACW+</u>	9. <u>Juncus balticus</u>	<u>H</u>	<u>OBL</u>
*2. <u>Typha latifolia</u>	<u>H</u>	<u>OBL</u>	10. <u>Phleum pratense</u>	<u>H</u>	<u>FACW</u>
3. _____	_____	_____	11. <u>Distichlis spicata</u>	<u>H</u>	<u>NI</u>
4. <u>Scirpus americanus</u>	<u>H</u>	<u>OBL</u>	12. <u>Bromus inermis</u>	<u>H</u>	<u>-</u>
5. <u>Scirpus validus</u>	<u>H</u>	<u>OBL</u>	13. <u>Cirsium arvense</u>	<u>H</u>	<u>FACW</u>
6. <u>Carex lanuginosa</u>	<u>H</u>	<u>OBL</u>	14. <u>Rumex crispus</u>	<u>H</u>	<u>FACW</u>
7. <u>Carex nebrascensis</u>	<u>H</u>	<u>OBL</u>	15. <u>Chenopodium album</u>	<u>H</u>	<u>FAC</u>
8. <u>Eleocharis palustris</u>	<u>H</u>	<u>OBL</u>	16. <u>Asclepias speciosa</u>	<u>H</u>	<u>FAC</u>

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/2 = 100%

Remarks: 17. Carduus nutans H NI
18. Monarda fistulosa H FACW-
19. Persicaria lapathifolium H OBL

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>3"</u> (in.) Depth to Free Water in Pit: <u>0</u> (in.) Depth to Saturated Soil: <u>0</u> (in.)	
Remarks: <u>Hillsboro Ditch</u>	

SOILS

Map Unit Name

(Series and Phase):

Aguolls - Aquents - Bankard

Drainage Class:

Field Observations

Taxonomy (Subgroup):

Aguolls + Aquents, flooded

Confirm Mapped Type?

(Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
South end 0-16"	—	10 YR 2/1	—	—	loamy sand w/ cobbles
Middle 0-16"	—	10 YR 2/1	—	—	loamy sand w/ cobbles
North end 0-16"	—	10 YR 2/1	—	—	loamy sand w/ cobbles

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input checked="" type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input checked="" type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?

(Yes) No (Circle)

Wetland Hydrology Present?

(Yes) No

Hydric Soils Present?

(Yes) No

(Circle)

Is this Sampling Point Within a Wetland?

(Yes) No

Remarks:

Approved by HQUSACE 3/92

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>McCarty Lease Site</u>	Date: <u>5/16/07</u>								
Applicant/Owner: <u>KP Kauffman Company</u>	County: <u>Weld</u>								
Investigator: <u>Darcy Tiglas</u>	State: <u>CO</u>								
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse.)	<table border="0"> <tr> <td>Yes</td> <td>No</td> </tr> <tr> <td><input checked="" type="radio"/></td> <td><input checked="" type="radio"/></td> </tr> <tr> <td>Yes</td> <td>No</td> </tr> <tr> <td><input checked="" type="radio"/></td> <td><input checked="" type="radio"/></td> </tr> </table>	Yes	No	<input checked="" type="radio"/>	<input checked="" type="radio"/>	Yes	No	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Yes	No								
<input checked="" type="radio"/>	<input checked="" type="radio"/>								
Yes	No								
<input checked="" type="radio"/>	<input checked="" type="radio"/>								
	Community ID: <u>B</u>								
	Transect ID: _____								
	Plot ID: _____								

VEGETATION

Ponds w/i Hillsboro Ditch proper complex

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
*1. <u>Salix amygdaloides</u>	<u>T</u>	<u>FACW</u>	9. <u>Asclepias speciosa</u>	<u>H</u>	
*2. <u>Elaeagnus angustifolia</u>	<u>T</u>	<u>FAC</u>	10. <u>Solidago canadensis</u>	<u>H</u>	<u>FACU</u>
*3. <u>Populus deltoides</u>	<u>T</u>	<u>FAC</u>	11. <u>Typha latifolia</u>	<u>H</u>	<u>OBL</u>
*4. <u>Salix exigua</u>	<u>S</u>	<u>OBL</u>	12. <u>Equisetum hyemale</u>	<u>H</u>	<u>FACW</u>
*5. <u>Phalaris arundinacea</u>	<u>H</u>	<u>FACW+</u>	13. <u>Scirpus validus</u>	<u>H</u>	<u>OBL</u>
*6. <u>Rumex crispus</u>	<u>H</u>	<u>FACW</u>	14. <u>Panicum capillare</u>	<u>H</u>	<u>FAC</u>
7. _____			15. _____		
8. <u>Cirsium arvense</u>	<u>H</u>	<u>FACU</u>	16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 6/6 = 100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake, or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input checked="" type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>1"-2'</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	
<p>Remarks: <u>Hillsboro Ditch ponds</u></p>	

SOILS

Map Unit Name (Series and Phase): <u>Aguolls - Aquento - Bankard</u>		Drainage Class: <u> </u>	
Taxonomy (Subgroup): <u>Aguolls + Aquento, Flooded</u>		Field Observations Confirm Mapped Type? Yes <input type="radio"/> No <input checked="" type="radio"/>	

Profile Description:		Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, - Structure, etc.
Depth (inches)	Horizon				
0-116"	—	10 YR 2/1	—	—	loamy sand w/ cobbles

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input checked="" type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input checked="" type="checkbox"/> Organic Streaking in Sandy Soils <input checked="" type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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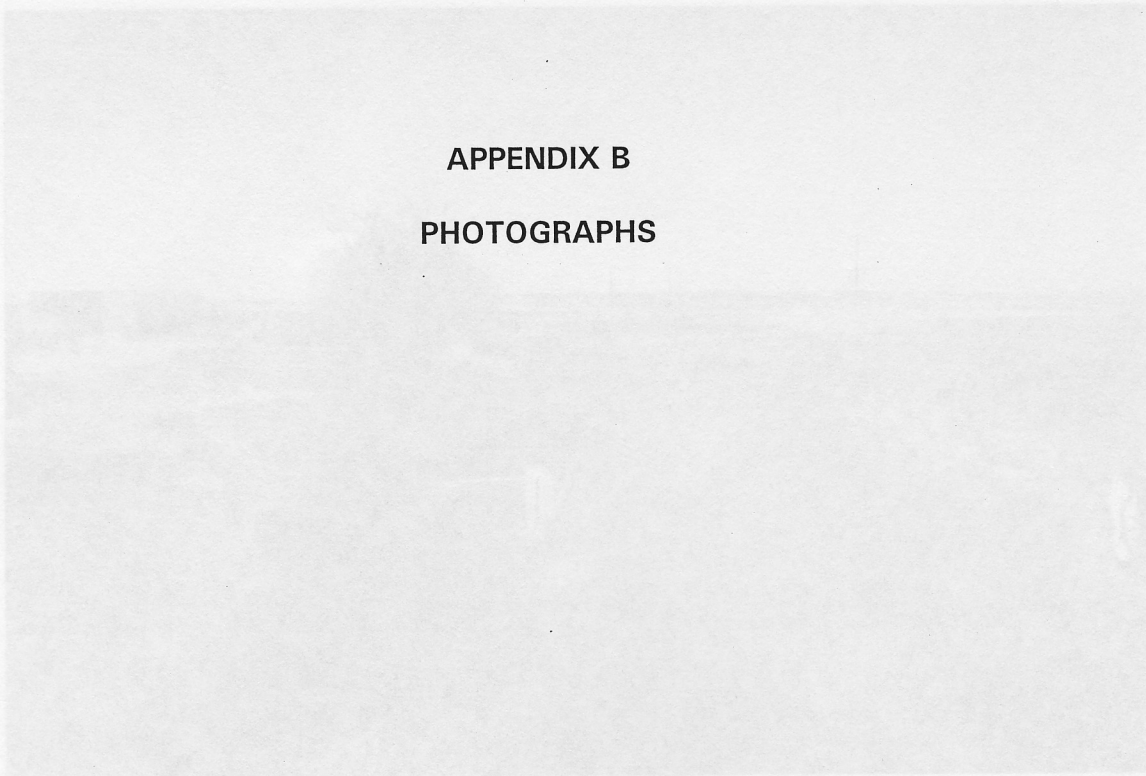
Remarks:

WETLAND DETERMINATION

<table style="width: 100%;"> <tr> <td style="width: 50%;">Hydrophytic Vegetation Present?</td> <td style="width: 50%; text-align: center;"> <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) </td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"> <input checked="" type="radio"/> Yes <input type="radio"/> No </td> </tr> <tr> <td>Hydric Soils Present?</td> <td style="text-align: center;"> <input checked="" type="radio"/> Yes <input type="radio"/> No </td> </tr> </table>	Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)	Wetland Hydrology Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<div style="text-align: right;">(Circle)</div> <p>Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No</p>
Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)						
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No						
Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No						
<p>Remarks:</p>							

Approved by HQUSACE 3/92

APPENDIX B
PHOTOGRAPHS



View of south end of Hillsboro Ditch by WCR 42 looking north.



View of agricultural practices adjacent to drainage wetland.



View of south end of Hillsboro Ditch by WCR 42 looking north.





View of broad-leaved cattail monoculture looking southeast.





View of pond within Hillsboro Ditch complex.

