APPENDIX H

Durango-La Plata County Airport

Wetland and Waters of the U.S. Preliminary Jurisdictional Delineation Report

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ACRONYMS AND ABBREVIATIONS

Ecosphere	Ecosphere Environmental Services, Inc.
GIS	Geographic Information System
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
OHWM	Ordinary High Water Mark
USACE	U. S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USGS	U.S. Geologic Survey
WDDF	Wetland Determination Data Form
WRCC	Western Regional Climate Center
WUS	waters of the U.S.

1. INTRODUCTION

1.1 Project Description

Ecosphere Environmental Services, Inc. (Ecosphere) was contracted by Jviation, Inc. to determine the presence of wetlands and other jurisdictional waters of the U.S. (WUS) located on property owned by the city of Durango, where the Durango-La Plata County Airport resides. Ecosphere delineated wetlands in the survey area and mapped wetlands and other (WUS using the National Wetland Inventory (NWI) mapping standards. All work was done to support planning efforts for the Durango - La Plata County Airport Master Plan. Future development at the airport may include relocation of the terminal or expansion of the existing terminal and expansion of other facilities, though exact locations are not currently known.

1.2 Scope of Services

The scope of work for the wetland delineations includes the following:

- Review existing Geographic Information System (GIS) data, including the National Hydrologic Dataset, NWI, and U.S. Geological Survey (USGS) soil data that identifies hydric soils
- Conduct pedestrian field surveys to delineate wetlands and WUS
- Verify and modify (as needed) the existing NWI mapping within the survey area
- Prepare a Wetland Delineation Report suitable for submittal to the U.S. Army Corps of Engineers (USACE)

1.3 Site Location

The airport is situated in the foothills of the San Juan Mountains in southwestern Colorado, approximately 14 miles southeast of the City of Durango (Figure 1, Appendix A). The airport is located in La Plata County on the Loma Linda, Colorado, 7.5-minute United States Geological Survey quadrangle. About 35 percent of the survey area is improved or paved as part of the runway and airport infrastructure. The airport is accessed via Colorado 172 and Airport Road.

The survey area is defined as the Durango – La Plata County Airport boundary comprising about 1,258 acres (Figure 2). The airport boundary is the survey area for this wetland delineation report. The mesa top is the portion of the property that includes the footprint of the airport proper, but the property boundary extends down to the Florida River to the west and to highway 172 to the north. The legal coordinates for the airport are as follows:

Sections 20, 29, 30, 31, 32 Township 34 North, Range 8 West
Section 6, Township 33 North, Range 8 West
Section 1, Township 33 North, Range 9 West

New Mexico Principal Meridian
La Plata County, Colorado

2. EXISTING CONDITIONS

2.1 Vegetation Conditions

According to SWReGAP (Southwest Regional Gap Analysis Project), the primary vegetation community in the survey area is mapped as agriculture both on the mesa top and in the Florida River valley. Although current uses at the airport are private, commercial, and industrial, the historical land use was agriculture. Agriculture, especially ranching, continues to dominate the surrounding area. The second most prominent vegetation community mapped is Colorado Plateau piñon-juniper (*Pinus edulis-juniperus scopulorom*) woodlands, covering the slopes leading up to the mesa and the slope across the Florida River above the valley floor. Other vegetation types include Inter-Mountain Basin big sagebrush (*Artemisia tridentata*) shrublands interspersed within the piñon–juniper woodlands and Inter-Mountain Basin semi-desert shrub steppe. The airport facilities and buildings occur in an area mapped as Inter-Mountain Basin greasewood flats, yet none of that habitat remains.

Eight Colorado-listed and La Plata County-listed noxious[1] and enforceable weed species were observed throughout the survey area. Enforceable Colorado List B species observed in the survey area include: bull thistle (*Cirsium vulgare*), Canada thistle (*Cirsium arvense*), houndstongue (*Cynoglossum officinale*), musk thistle (*Carduus nutans*), oxeye daisy (*Chrysanthemum leucanthemum*), Russian knapweed (*Acroptilon repens*), salt cedar (*Tamarix sp*.), and scotch thistle (*Onopordum acanthium*).

A list of plants observed during field work in the survey area is provided in Appendix B.

2.2 Soils

The surface geology of the project area includes the Nacimiento Formation, Gravels and Alluviums (Pinedale and Bull Lake Age), and San Jose Formation. About 5 to 10 percent cryptobiotic soils were observed in the piñon-juniper woodlands. Slopes within the survey area range from 0 to 20 degrees. A northwestern aspect occurs on the west side of the mesa and a southeastern aspect occurs on the eastern side of the mesa.

Based on the Soil Survey of La Plata County, Colorado, there are seven soil-mapping units present in the survey area as shown in Table 1 (NRCS[2] 2014). Three soil types—Falfa clay loam, Tefton loam, and Arboles clay—are partially hydric. Wetlands were observed predominantly in the Falfa clay loam soil type.

[1] Noxious weeds are non-native plants that disrupt native vegetation and ecosystems.

[2] NRCS = Natural Resource Conservation Service

Table 1. USDA Soil Types in the Project Area

Soil Type	Description and Slope	Erosion Hazard
Falfa clay loam	Well drained, prime farmland if irrigated, not hydric, 1 to 3 percent slopes	Slight
Falfa clay loam	Well drained, partially hydric, 3 to 8 percent slopes	Moderate
Tefton loam	Somewhat poorly drained, partially hydric, prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	Slight
Ustic Torriorthents-Ustollic	Well drained, not hydric, 12 to 60 percent slopes	Severe
Arboles clay	Well drained, partially hydric, 3 to 12 percent slopes	Moderate
Zyme-Rock outcrop complex	Well drained, not hydric, 12 to 65 percent slopes	Severe
Bodot clay	Well drained, not hydric, 3 to 10 percent slopes	Moderate

Source: NRCS, US Department of Agriculture (USDA) 2014

2.3 Hydrology

The airport is located on a plateau above the Florida River with an elevation range of 6,450 to 6,690 feet above mean sea level. The south-flowing Florida River, a tributary of the Animas River, is located about three-tenths of a mile west of the runway facility and is the predominant water feature within the airport vicinity. Salt Creek, an intermittent tributary of the Florida River, is located approximately on-half mile east of the airport. The Animas River is located approximately 6.5 miles west of the airport.

The project area is located in an arid landscape; annual precipitation at the airport is 12.6 inches per year (WRCC[3] 2014). The survey area includes lands that support agriculture and animal husbandry, particularly in the Florida River valley, and includes fallow agricultural lands in the northeastern corner. One active irrigation ditch located in the northeastern survey area conveys irrigation water across the airport property to support agricultural practices downstream. Pastures irrigated by center pivot and flood irrigation are located directly west and north of the northeastern survey area. These lands are up gradient and drain onto the fallow agricultural lands of the survey area. Many abandoned sub-lateral irrigation ditches in the northeastern survey area capture irrigation return flows from neighboring pastures and

[3] WRCC = Western Regional Climate Center

distribute water throughout. Irrigation in the region returns water to local streams and plays a significant role in supporting wetland hydrology in the survey area.

Irrigation return flows and surface drainage flow west into the Florida River and east into Salt Creek, depending on the side of the mesa. Salt Creek is tributary to the Florida River; the confluence is approximately one mile downstream of the proposed survey area. The Florida River is a perennial stream located within the San Juan Watershed (HUC 14080104).

3. METHODOLOGY

Wetlands in the project area were mapped on August 26, 27, and September 4 and 25, 2014, using the methodologies defined below.

3.1 Wetlands and Waters of the U.S.

Due to the large survey area and significant influence to the landscape from irrigation practices, and because available NWI mapping of the area was erroneous, two delineation methodologies were applied to delineate potentially jurisdictional wetlands and WUS in the airport planning area. The initial screening method consisted of review of 6-inch resolution color infrared aerial imagery from 2012 applying NWI Classification standards (Cowardin, et. al. 1979). In addition to mapping the boundaries of existing (accurate) NWI polygons, this approach served to calibrate and re-delineate apparent wetland areas according to NWI Classification standards. Approximately 57 acres of potentially jurisdictional wetlands were delineated and mapped in the survey area. The NWI classification is used by the U.S. Fish & Wildlife Services to inventory wetlands and deepwater habitats of the United States and may be used as a guide to inform development planning within the survey area. This wetland mapping approach is in conformance with Part IV, Section D, Subsection 3 of the Wetlands Delineation Manual (USACE 1987) for routine preliminary jurisdictional determinations of wetland complexes greater than 5 acres in size.

Once this initial delineation and mapping was completed, approximately 20 acres of the potentially jurisdictional 57 acres of wetlands were delineated using the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008a) and the Wetlands Delineation Manual. The delineation of this 20 acre subset using the referenced manuals was intended to validate the delineation boundaries mapped according to the NWI classification method. This amount of acreage represents a significant proportion of the total potential jurisdictional wetlands in the study area and is an appropriate validation methodology as defined by Part IV, Section D, Subsection 3 of the Wetlands Delineation Manual. Under the delineation procedures in these manuals, an area must exhibit characteristic wetland hydrology, hydric soils, and hydrophytic vegetation to be considered a wetland. Any area that appeared to display these characteristics was investigated using an approved USACE Arid West Wetland Determination Form. The delineation of these approximately 20 acres of wetlands were flagged in the field using pin flags and flagging tape to facilitate USACE field verification, and serves to validate wetland areas mapped by Ecosphere according to the NWI classification standards. The flag

locations and all mapped wetland boundaries may be relocated using a sub-meter Trimble GeoXT® global positioning system unit.

Results of the wetland survey (including wetland boundaries, flag points, photo points, and soil pits) are shown on detailed maps in Appendix A, Figures 3-9. Any plant species observed and hydric plant status may be found on the forms included in Appendix B. Completed determination forms are included in Appendix C; representative photographs are included in Appendix D.

Ordinary High Water Mark (OHWM) evaluations were prepared in accordance with the methodology identified in the USACE Field Guide to the Identification of OHWM (USACE 2008b). The National Hydrography Dataset, a general surface water database that contains features such as lakes, ponds, streams, rivers, canals, dams and stream gauges, was referenced prior to conducting the project fieldwork (USGS 2008).

This report provides the Minimum Standards for Acceptance of Preliminary Wetlands Delineations (USACE 2001). It should be noted that the methods applied to delineate study area wetlands and WUS represents a very conservative estimate of jurisdictional areas present in the planning area.

3.1.1 Hydrophytic Vegetation

The USACE Manual defines hydrophytic vegetation as “the community of macrophytes that occurs in areas where inundation or soil saturation is either permanent or of sufficient frequency and duration to exert a controlling influence on the plant species present” (USACE 2008a). Hydrophytic vegetation decisions are based primarily on the wetland indicator status, as defined by the USACE National Hydric Plant List (Lichvar 2013). Wetland indicator status ratings include obligate (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), upland (UPL), no indicator (NI), and not listed (NL). Scientific nomenclature of all plant species follows that of the PLANTS database (USDA 2012).

The locations of sampling points were selected to capture the primary vegetation communities of the wetland and adjacent upland areas. Points were sometimes located near each other to highlight the transition from wetland to upland. At each sample plot, trees and shrubs within a 25-foot radius and graminoids and forbs within a 5-foot radius were identified and recorded on the wetland determination form. The Dominance Test is the basic hydrophytic vegetation indicator that was applied to every point sampled. The Dominance Test identifies the most abundant species in the community and uses a repeatable and objective procedure for selecting dominant plant species. The Prevalence Index was calculated if the Dominance Test failed. The Prevalence Index takes into consideration the percent cover of all plants identified at the sampling point.

3.1.2 Hydric Soils

The National Technical Committee for Hydric Soils defines a hydric soil as “a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part” (USACE 1987). Most hydric soils exhibit characteristic

morphologies that result from repeated periods of saturation or inundation for more than a few days. Saturation or inundation combined with microbial activity in the soil causes the depletion of oxygen. These processes are evident in the field and can include high organic contents, gley formations, development of redoximorphic features, and other hydric indicators as outlined in the Arid West Supplement (USACE 2008a).

Soil samples were obtained at each data point by digging a pit to a depth of sufficient depth to determine hydric characteristics. Soil samples were then examined for soil texture and hydric soil indicators. Soil colors were evaluated using a Munsell® soil color chart (Gretag/Macbeth 2000).

3.1.3 Wetland Hydrology

Hydrophytic vegetation and hydric soil indicators typically represent a site's medium- to long-term history. Wetland hydrology indicators provide evidence that the "site has a continuing wetland hydrologic regime and that hydric soils and hydrophytic vegetation are not relics of a past hydrologic regime" (USACE 2008a). Hydrology indicators are the most inconsistent of wetland indicators, especially in the arid west where extended dry seasons are common and precipitation within a year has extreme temporal and spatial variability.

Assessment of the hydrologic criterion was based on primary and secondary indicators, as described in the Arid West Supplement (USACE 2008a). Primary indicators include observation of surface water or saturation, as well as evidence of recent inundation (e.g., oxidized rhizospheres along living roots) or current or recent soil saturation (e.g., hydrogen sulfide odor, oxidized rhizospheres). Secondary indicators also include some indicators of recent inundation or saturation (e.g., drainage patterns, saturation visible on aerial imagery).

4. Results

4.1 Wetlands and Other Waters of the U.S. in the Survey Area

Six wetland verification areas were delineated within the study area totaling over 20 acres. These wetland areas are described in detail in Sections 4.1.1 thru 4.1.5 below. Table 2 contains a summary of all the wetlands delineated according to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008a) and the Wetlands Delineation Manual (USACE 1987) within the survey area.

Table 2. Delineated Verification Wetlands within the Survey Area

Name	NWI Classification[1]	Latitude[2]	Longitude[2]	Area (Acre)	Method Used
Wetland	PEM1C	37.16	-107.7424	2.61	Field

Name	NWI Classification[1]	Latitude[2]	Longitude[2]	Area (Acre)	Method Used
Wetland	PEM1F	37.1668	-107.7443	0.57	Field
Wetland I	PEM1C	37.1655	-107.7377	16.42	Field
Wetland	PEM1F	37.1618	-107.7493	0.06	Field
Wetland L	PEM1F	37.1618	-107.7487	0.004	Field
Wetland	PEM1F	37.1579	-107.7532	0.45	Field
			Total	**20.1**	

[1] PEMC1C = Palustrine emergent, seasonal, seasonally flooded; PEM1F = palustrine emergent, persistent, semi-permanently flooded (Cowardin, et al. 1979)

[2] North American Datum 83, decimal degrees

Other wetlands within the study area were identified using the NWI classification method described above. An additional 36.9 acres were delineated and mapped in the study area as potentially jurisdictional wetlands using NWI classification standards. In total, approximately 57 acres of potentially jurisdictional wetlands were delineated and mapped in the study area.

4.1.1 Fallow Pasture, Northeast Corner

Roughly 17 acres of wetlands were delineated north of County Road 309a (Wetlands G and I) (Figure 3). Another 26.9 acres were classified as wetlands based on color infrared imagery, NWI classification standards (collectively, these are labeled H1 through H16). Wetlands in this pasture persist in part due to irrigation return flows from adjacent land use. Irrigation runoff from neighboring pastures introduce a seasonal supply of water to the fallow pasture. A network of ditches and laterals convey this water throughout and disperse water into mapped wetland areas (Photo 9). A total of 1.8 miles of ditches and laterals were measured from the color IR imagery in the northeast corner alone. This network of ditches and laterals flow into and out of three ponds (Photo 8). For some perspective, a review of historic aerial imagery shows surrounding land uses employed flood irrigation since 1993. A center pivot was added in an adjoining, tributary field by 2005, likely reducing irrigation return flows onto the property since that time. However, flood irrigation is still employed in the adjacent, tributary pasture.

Dominant hydrophytic vegetation in the fields included redtop (*Agrostis gigantea*), inland sedge (*Carex interior*), cattails (*Typha latifolia*), arctic rush (*Juncus arcticus*), barnyard grass (*Echinochloa crus-galli*) and creeping meadow foxtail (*Alopecurous arundinaceus*) (WDDF 1h-3h) (Photo 10). Hydric soils in the field were predominantly red parent material with a low chroma and evidence of reducing conditions.

4.1.2 Wetlands within the Secured, Fenced Interior of the Durango - La Plata County Airport

Wetlands found within the secured, fenced interior of the Durango - La Plata County Airport were commonly observed below the mesa rim within drainages (Photo 11; Figure 7, 8 & 9). Wetland hydrology generally included saturated soil. All but one of the areas lacked surface flow, but instead included persistent hydrophytic vegetation such as cattails, arctic rush and redtop. One seep was observed below a sandstone outcrop, also in a natural drainage (Figure 6). Downstream of the seep, a wetland is formed on a narrow bench below the mesa rim within the piñon-juniper woodland (Photo 13). Once the gradient increases in the drainage, a narrow, wetland fringe buffers the stream. A jurisdictional ephemeral wash forms the headwater of this minor drainage.

4.1.3 Wetlands near Administrative Buildings and Main Terminal Parking

Wetlands J and M are man-made palustrine emergent wetlands designed to manage stormwater runoff from developed airport facilities (Photos 1 and 2; Figures 4 and 7). A concrete spillway and excavated basin collects and detains stormwater for treatment. Larger precipitation events will fill and eventually spill over the concrete structure into a man-made earthen channel to the Florida valley floor below. Hydrophytic vegetation was predominantly cattails. A narrow band of coyote willows (*Salix exigua*) was observed growing along the northwest shoreline. There are three storm inlets to Wetland M and two storm inlets into Wetland J. Hydric soil includes red parent material (WDDF 1m).

4.1.4 The Florida River, Valley Floor and Tributary Waters

The Florida River is a managed, perennial stream tributary to the Animas River. Surrounding floodplains, as a result, infrequently flood, unless as the result of a lower elevation, localized precipitation event. Lemon Reservoir is located roughly 20 miles upstream. Lemon reservoir is managed by the U.S. Bureau of Reclamation as a Colorado River Storage Project. The outflow from the reservoir on September 27, 2014, was 10 cubic feet per second. The Florida Water Conservancy District manages irrigation water deliveries from the reservoir. Irrigation return flows increase streamflow in the Florida River along its course and until its confluence with the Animas River.

Within the survey area, cattle have access to most all the river corridor, perhaps limiting establishment of woody riparian species, such as coyote willow. A few palustrine scrub shrub communities were identified, however. These were small, scattered communities of coyote willow and/or hawthorne (*Cratageus* spp).

Over 11.8 acres of palustrine emergent wetlands were mapped as wetlands west of the airport based on the color infrared imagery (Figures 4, 6, 7 & 8). Most wetlands have origin from the mesa top, as irrigation return flows and active ditches convey water from the mesa to the valley floor. Irrigation water is actively managed in ditches and laterals throughout this portion of the survey area. Approximately 1.1 miles of ditches were mapped west of the airport as part of this survey. Some ponds may be found throughout the valley floor, typically excavated areas fed by ditch laterals. Land uses on the valley floor include active agricultural (hay), animal husbandry (cows) and natural gas development.

Some palustrine emergent wetlands may be found adjacent to the Florida River. These are supported by a high groundwater table and often are found in abandoned oxbows or low river terraces (Photo 2). Pastures close to the river also receive supplemental irrigation return flows from flood irrigation of upper pastures.

4.1.5 Tributary Drainage to Salt Creek

The unnamed tributary to Salt Creek east of the airport (Wetland F) collects a significant portion of irrigation return flows from the fallow pasture in the northeast corner of the survey area. One airport stormwater drain outlet contributes to the stream flow (Photo 3). The drainage in most sections support a defined and active (vegetated) channel approximately 2 feet wide by 6 inches deep, depending on location. The upper portion of the drainage is low-gradient (Photos 6 and 7). The gradient does increase the further south it travels. The drainage supports a palustrine emergent wetland community along its course. Approximately 2.61 acres were delineated as part of this mapping effort (Figures 3 & 5). Another 0.44 acre was classified as wetland using the NWI classification standard (Figure 9). Dominant hydrophytic vegetation near the active channel included cattails with intermittent and sparing communities of northwest territory sedge (*Carex utriculata*). Hydrophytic vegetation near the wetland boundary was typically dominated by bluejoint (*Calamagrostis canadensis*) and Canada thistle (*Cirsium arvense*). Hydric soil near the wetland boundary included a depleted matrix with low chroma and a soil matrix containing redoxymorphic features (WDDF 1F through 5f). Portions of the drainage support coyote willow, typically when the stream gradient increases and the flood-prone area decreases.

5. REFERENCES

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Gretag/Macbeth. 2000. Munsell® color. New Windsor, New York.

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Appendix A: Wetland Delineation Maps and Figures

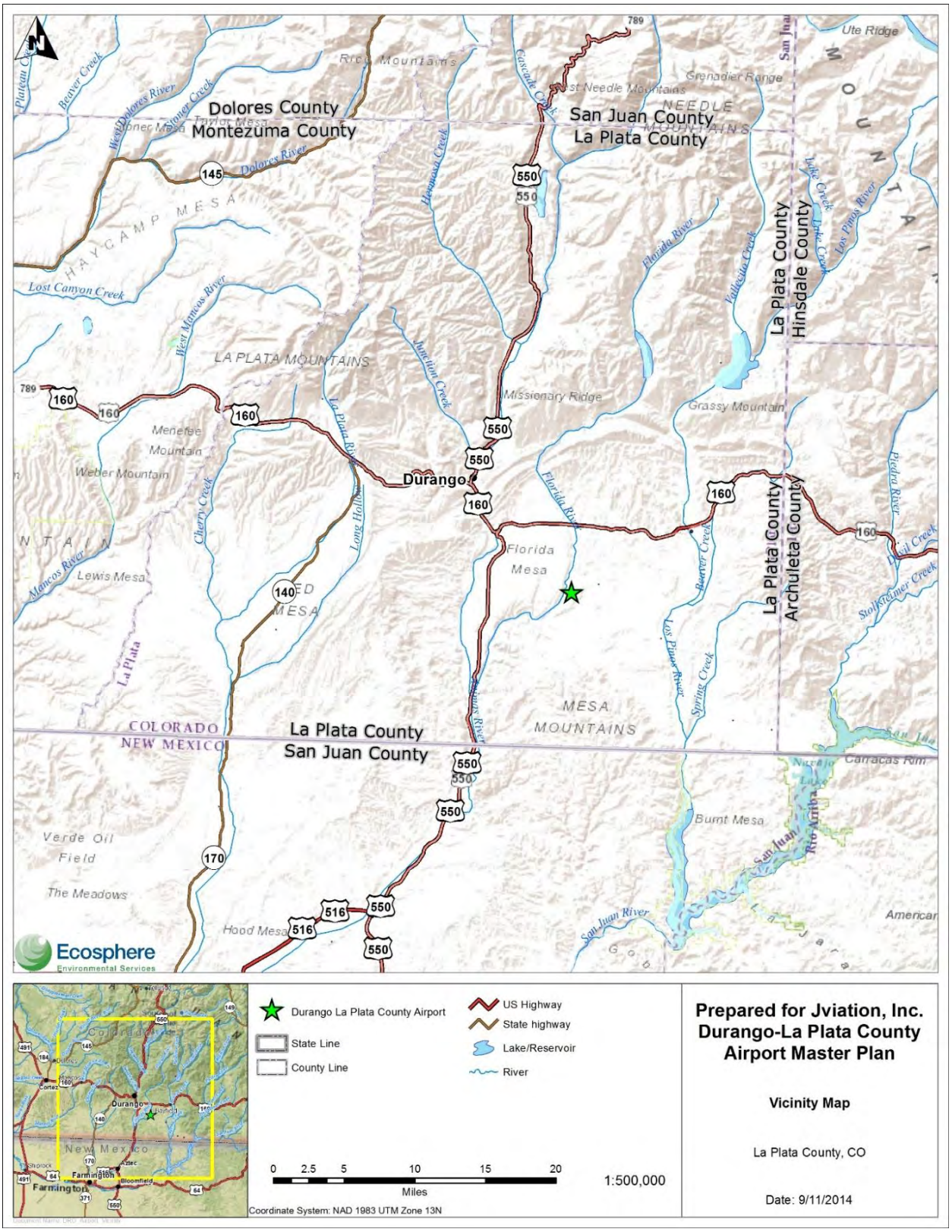

Figure 1. Vicinity Map of Durango-La Plata County Airport

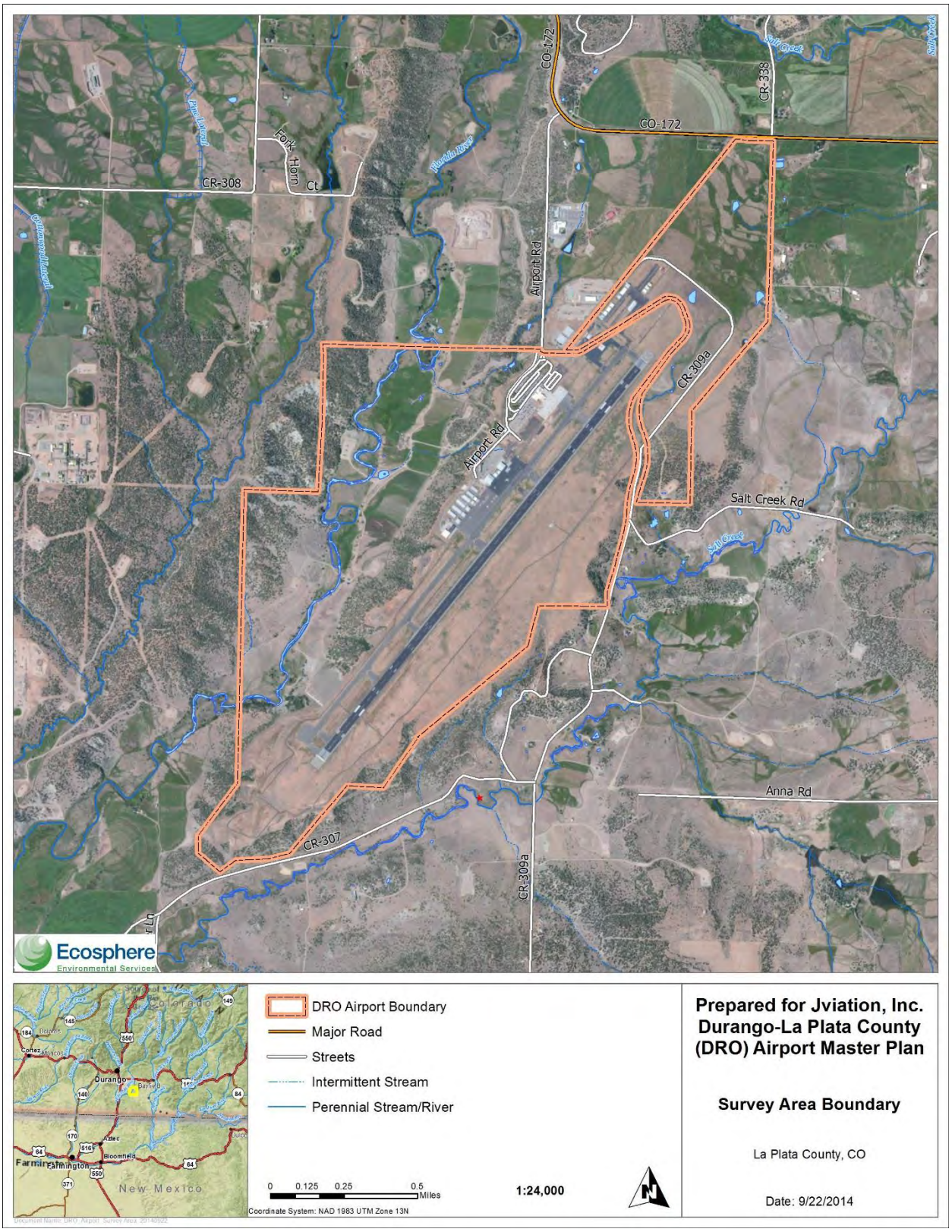

Figure 2. Survey Area Boundary

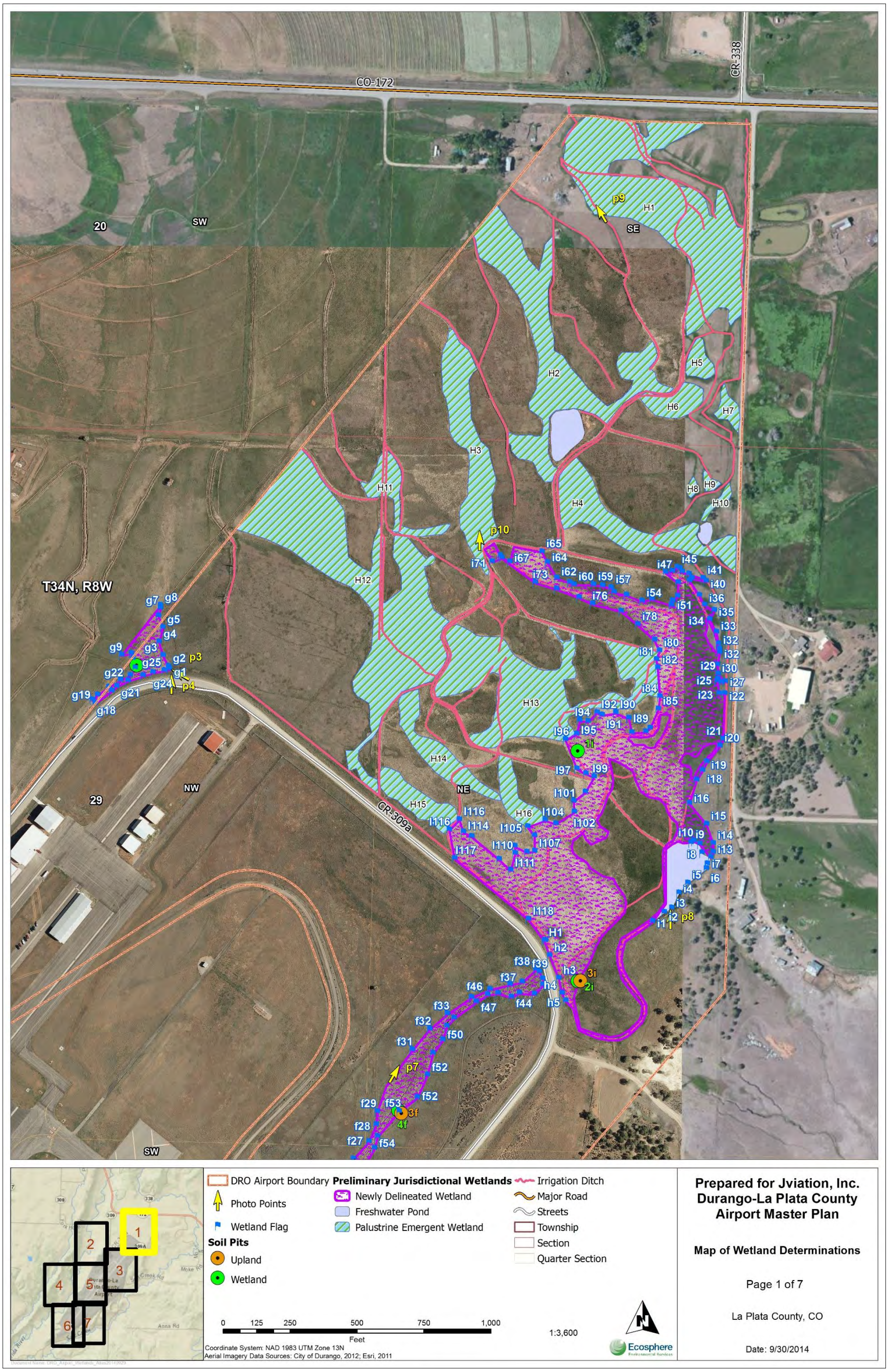

Figure 3. Wetland Determinations Map Book, page 1 of 7

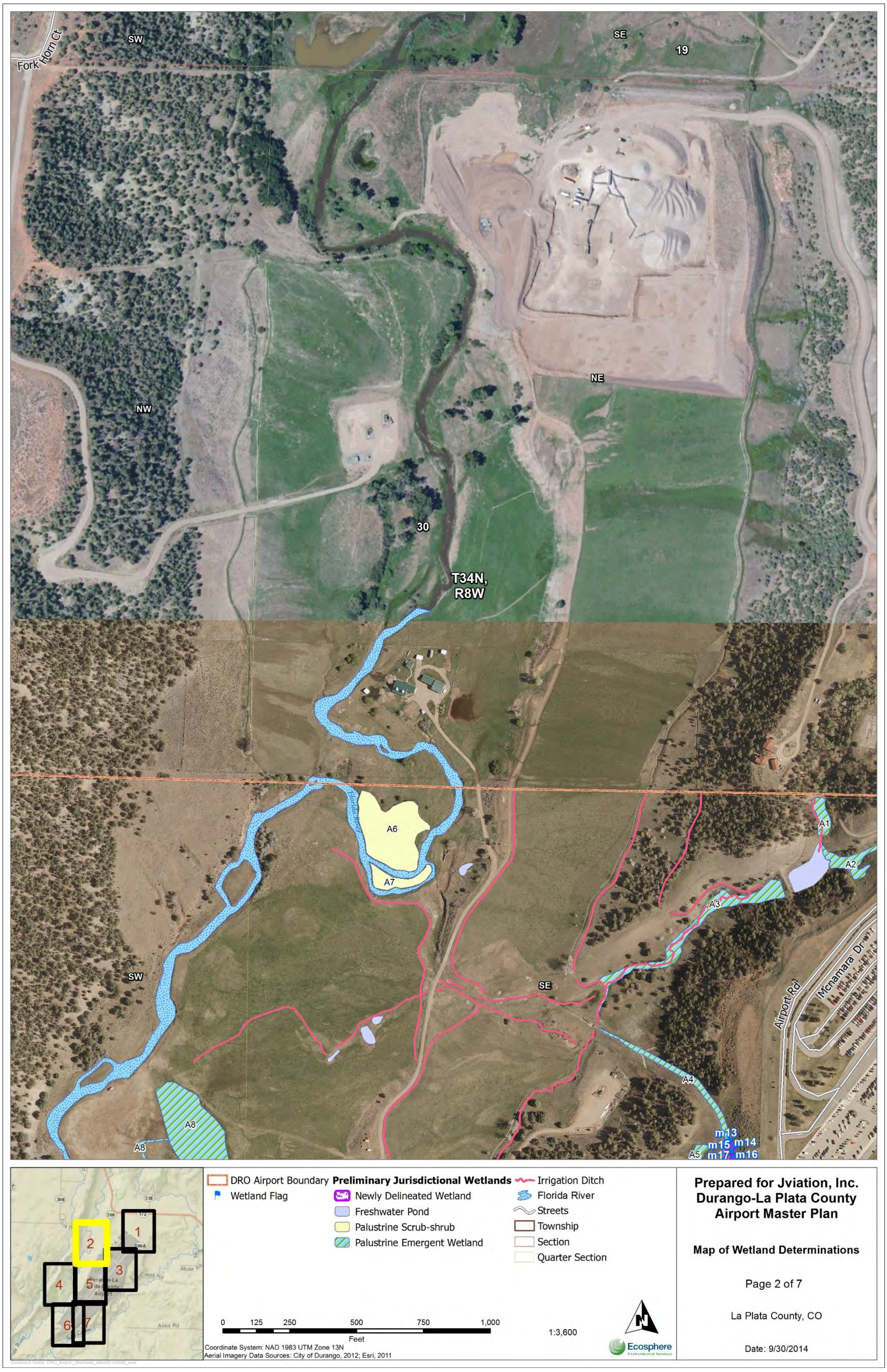

Figure 4. Wetland Determinations Map Book, page 2 of 7

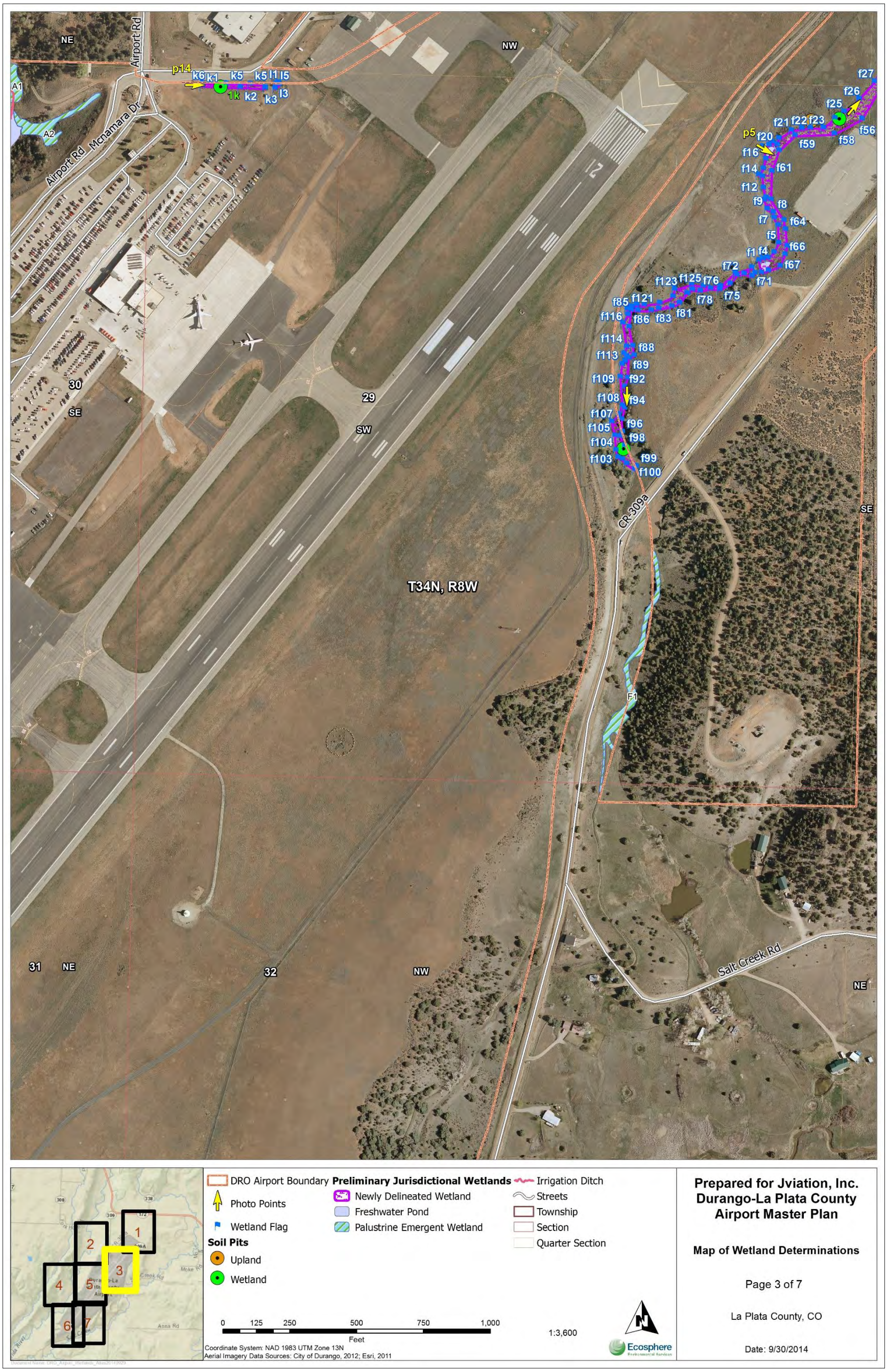

Figure 5. Wetland Determinations Map Book, page 3 of 7

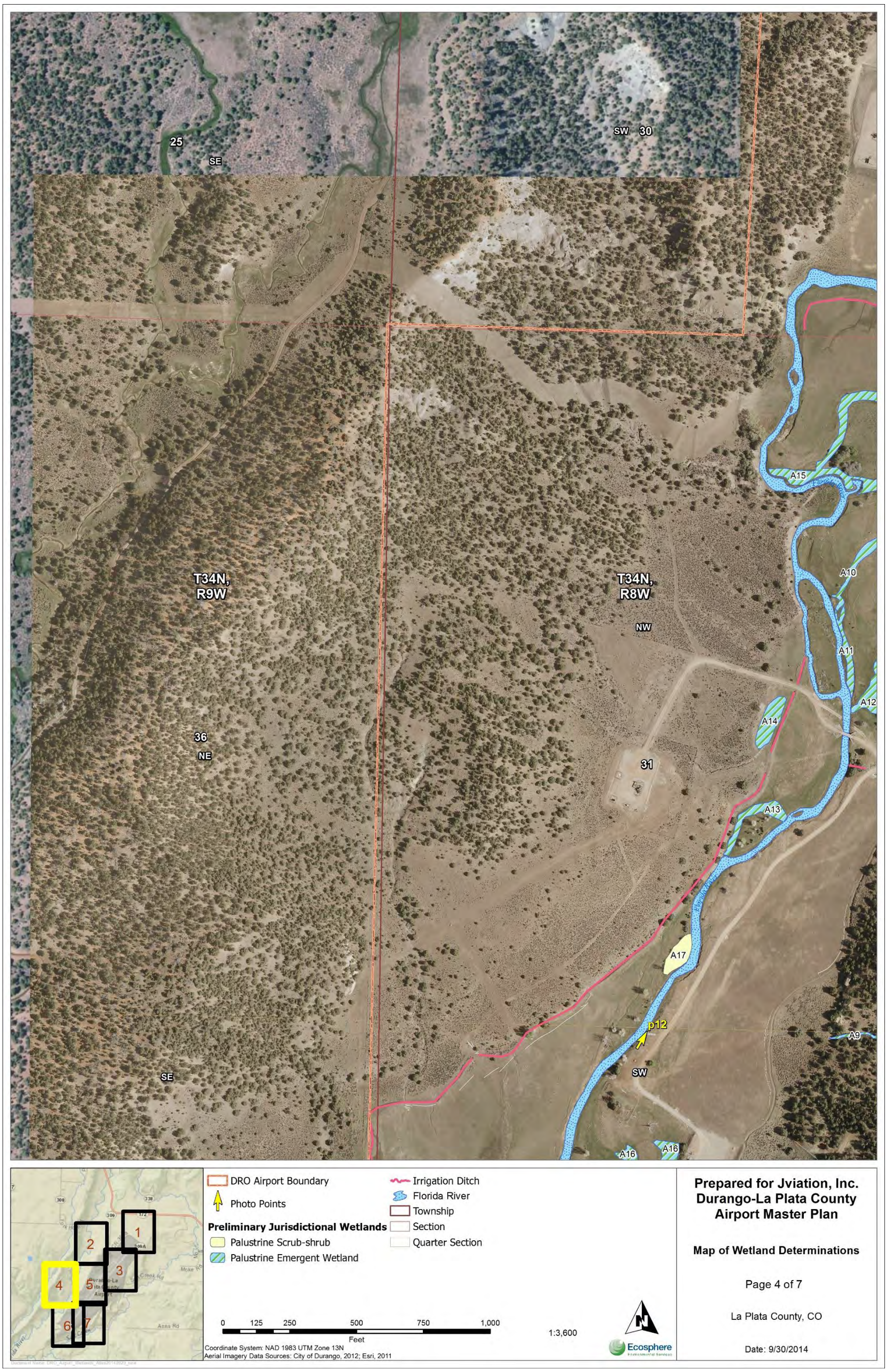

Figure 6. Wetland Determinations Map Book, page 4 of 7

Figure 7. Wetland Determinations Map Book, page 5 of 7

Figure 8. Wetland Determinations Map Book, page 6 of 7

Figure 9. Wetland Determinations Map Book, page 7 of 7

Appendix B: Plant Species Observed

Scientific Name	Common Name	Family	Wetland Indicator Status[1]
TREES			
Juniperus osteosperma	Utah juniper	Cupressaceae	NI
Pinus edulis	twoneedle pinyon	Pinaceae	NI
Populus fremontii	Fremont cottonwood	Salicaceae	FAC
Populus angustifolia	Narrowleaf cottonwood	Salicaceae	FACW
Ulmus pumila	Siberian elm	Ulmaceae	UPL
SHRUBS			
Juniperus communis	common juniper	Cupressaceae	FACU
Ribes aureum	golden currant	Grossulariaceae	FAC
Rosa woodsii	Wood's rose	Rosaceae	FACU
Salix amygdaloides	peach-tree willow	Salicaceae	FACW
Salix exigua	narrowleaf willow	Salicaceae	FACW
FORBS			
Agrostis gigantea	redtop	Poaceae	FACW
Asclepias speciosa	Showy milkweed	Asclepiadaceae	FAC
Cirsium arvense	Canada thistle	Asteraceae	FACU
Carduus nutans	Nodding plumeless thistle	Asteraceae	FACU
Convolvulus arvensis	bindweed	Convolvulaceae	NI
Cynoglossum officinale	Houndstongue	Boraginaceae	FACU
Epilobium ciliatum	Fringed willowherb	Onagraceae	FACW
Helianthus annuus	sunflower	Asteraceae	FACU
Hordeum jubatum	Foxtail barley	Poaceae	FAC
Lepidium spp.	pepperweed	Brassicaceae	UPL
Melilotus officinalis	sweet clover	Fabaceae	FACU
Plantago lanceolata	plantain	Plantaginaceae	FAC
Plantago major	common plantain	Plantaginaceae	FAC
Polygonum amphibium	Water smartweed	Polygonaceae	OBL
Rumex crispus	curly dock	Polygonaceae	FAC
Sagittaria cuneata	Arumleaf arrowhead	Alismataceae	OBL
Symphiotrichum lanceolatum	White panicle aster	Poaceae	OBL
Typha latifolia	broadleaf cattail	Typhaceae	OBL
Verbascum thapsus	great mullein	Scrophulariaceae	FACU

Scientific Name	Common Name	Family	Wetland Indicator Status[1]
Viola nephrophylla	northern bog violet	Violaceae	FACW
Xanthium strumarium	rough cocklebur	Asteraceae	FAC
GRAMINOIDS			
Alopecurus arundinaceus	Creeping meadow foxtail	Poaceae	FAC
Agrostis gigantea	Redtop	Poaceae	FACW
Bromus inermis	smooth brome	Poaceae	FACU
Calamagrostis canadensis	Bluejoint	Poaceae	FACW
Carex bebbii	Bebb's sedge	Cyperaceae	OBL
Carex interior	Inland sedge	Cyperaceae	OBL
Carex utriculata	Northwest territory sedge	Cyperaceae	OBL
Echinochloa crus-galli	Barnyard grass	Poaceae	FACW
Eleocharis palustris	common spikerush	Cyperaceae	OBL
Equisetum hyemale	scouringrush horsetail	Equisetaceae	FACW
Glyceria striata	Fowl mannagrass	Poaceae	OBL
Hordeum jubatum	foxtail barley	Poaceae	FAC
Juncus arcticus	Arctic rush	Juncaceae	FACW
Phleum pratense	timothy	Poaceae	FACU
Poa palustris	Fowl bluegrass	Poaceae	FAC
Poa pratensis	Kentucky bluegrass	Poaceae	FAC
Puccinellia nuttalliana	Nuttall's alkaligrass	Poaceae	FACW
Scirpus americanus	American threesquare	Cyperaceae	OBL
Scirpus tabernaemontani	softstem bulrush	Cyperaceae	OBL

1: OBL=obligate, FACW=facultative wetland, FAC=facultative, FACU=facultative upland, UPL-upland, NI= no indicator, NL=not listed

Appendix C: Wetland Delineation Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: La Plata County Airport City/County: La Plata Sampling Date: 08/27/2014
Applicant/Owner: La Plata County/City of Durango State: CO Sampling Point: 1f
Investigator(s): Ryan Unterreiner Section, Township, Range: Sec.29, T34N, R82
Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): 2
Subregion (LRR): Interior Deserts (LRR D) Lat: 1.00000000 Long: 1.00000000 Datum: WGS84
Soil Map Unit Name: Falfa Clay Loam, 3-8% NWI classification:
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)
Are Vegetation X, Soil __, or Hydrology __ significantly disturbed? Are "Normal Circumstances" present? Yes
Are Vegetation __, Soil __, or Hydrology __ naturally problematic? (if needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes Hydric Soil Present? No Wetland Hydrology Present? No	**Is the Sampled Area within a Wetland?** No
Remarks: This is a fan-like feature with surface runoff from the airport that supports willows, but lacks persisent water supply to develop hydric soil characteristics.	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 0) 1. 2. 3. 4. Total Cover = 0			
Sapling/Shrub Stratum (Plot size: 0) 1. Salix exigua 2. 3. 4. 5. Total Cover = 40	40	Yes	FACW
Herb Stratum (Plot size: 0) 1. Carduus nutans 2. Cynoglossum officinale 3. 4. 5. 6. 7. 8. Total Cover = 25	5 20	No Yes	FACU FACU
Woody Vine Stratum (Plot size: 0) 1. 2. Total Cover = 0			

% Bare Ground in Herb Stratum: 75
% Cover of Biotic Crust: 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1(A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	65 (A)		180 (B)

Prevalence Index = B/A = 2.77

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
X Prevalence Index is ≤ 3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes

Remarks: Willow community adjacent to creek, but dying. Understory is disturbed primarily due to the presence of thistle.

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

SOIL Sampling Point 1f

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/4	100		0			Loam	
10-16	10YR 3/4	80	10YR 5/8	20	C	M	Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (LRR C)
___ 1 cm Muck (A9) (LRR D)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (LRR C)
___ 2 cm Muck (A10) (LRR B)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type:
Depth (inches): 0

Hydric Soil Present? No

Remarks: Falfa clay loam is partially hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (Nonriverine)
___ Sediment Deposits (B2) (Nonriverine)
___ Drift Deposits (B3) (Nonriverine)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (two or more required)

___ Water Marks (B1) (Riverine)
___ Sediment Deposits (B2) (Riverine)
___ Drift Deposits (B3) (Riverine)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? No Depth (inches):
Water Table Present? No Depth (inches):
Saturation Present? No Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: None

Remarks: There is some surface runoff from the airport into this fan-like feature. Periodic flooding possible given geomorphic position (depressional).

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: La Plata County Airport City/County: La Plata Sampling Date: 08/27/2014
Applicant/Owner: La Plata County/City of Durango State: CO Sampling Point: 1g
Investigator(s): Ryan Unterreiner Section, Township, Range: Sec.29, T34N, R8W
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): Interior Deserts (LRR D) Lat: 1.00000000 Long: 1.00000000 Datum: WGS84
Soil Map Unit Name: Falfa clay loam, 3-8% NWI classification: PEM
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)
Are Vegetation __, Soil __, or Hydrology __ significantly disturbed? Are "Normal Circumstances" present? Yes
Are Vegetation __, Soil __, or Hydrology __ naturally problematic? (if needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	**Is the Sampled Area within a Wetland?** Yes
Remarks: This is a depressional wetland that collects and channels water into a roadside ditch adjacent to CR 309a. Heavily influenced by irrigation return flows.	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
Total Cover = 0			
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
Total Cover = 0			
Herb Stratum (Plot size: 0)			
1. Hordeum jubatum	20	Yes	FAC
2. Rumex crispus	10	No	FAC
3. Poa pratensis	30	Yes	FAC
4. Alopecurus aequalis	20	Yes	OBL
5. Agrostis gigantea	30	Yes	FACW
6.			
7.			
8.			
Total Cover = 100			
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
Total Cover = 0			
% Bare Ground in Herb Stratum: 0			
% Cover of Biotic Crust: 0			

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4(A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	20	x 2 =	40
FAC species	60	x 3 =	180
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		240 (B)

Prevalence Index = B/A = 2.40

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤ 3.0[1]
X Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes

Remarks: Cattails predominant in the middle of the wetland area.

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

SOIL Sampling Point 1g

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	7.5YR 4/3	70	5YR 4/6	30	C	M	Clay Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
X Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type:
Depth (inches): 0

Hydric Soil Present? Yes

Remarks: Falfa clay loam, 3-8% is partially hydric. Red parent material predominant in northeastern study area (fallow agricultural field). Redoxymorphic features evident up to soil surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

X Surface Water (A1)
___ High Water Table (A2)
X Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (two or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
X Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
X Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes Depth (inches): 6
Water Table Present? No Depth (inches):
Saturation Present? Yes Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Area frequently flooded from runoff by adjacent flood irrigation practices. Up to 6 inches of water was present in the middle of the wetland area. Saturation more common along the wetland boundary.

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: La Plata County Airport City/County: La Plata Sampling Date: 09/25/2014
Applicant/Owner: La Plata County/City of Durango State: CO Sampling Point: 1I
Investigator(s): Ryan Unterreiner Section, Township, Range: Sec.29, T34N, R8W
Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): Interior Deserts (LRR D) Lat: 12.00000000 Long: 12.00000000 Datum: WGS84
Soil Map Unit Name: Falfa clay loam, 3-8% NWI classification: PEM
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)
Are Vegetation __, Soil __, or Hydrology __ significantly disturbed? Are "Normal Circumstances" present? Yes
Are Vegetation __, Soil __, or Hydrology __ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	**Is the Sampled Area within a Wetland?** Yes
Remarks:	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
Total Cover = 0			
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
Total Cover = 0			
Herb Stratum (Plot size: 0)			
1. Alopecurus arundinaceus	60	Yes	FAC
2. Carex bebbii	10	No	OBL
3. Carex interior	15	No	OBL
4. Typha latifolia	3	Yes	OBL
5. Echinochloa crus-galli	3	No	FACW
6.			
7.			
8.			
Total Cover = 91			
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
Total Cover = 0			

% Bare Ground in Herb Stratum: 9
% Cover of Biotic Crust: 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2(A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species	28	x 1 =	28
FACW species	3	x 2 =	6
FAC species	60	x 3 =	180
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	91 (A)		214 (B)

Prevalence Index = B/A = 2.35

Hydrophytic Vegetation Indicators:
_X_ Dominance Test is >50%
_X_ Prevalence Index is ≤ 3.0[1]
_X_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes

Remarks: Pit located approximately 10 feet below abandoned ditch lateral with some standing water. Adjacent upland grasses include crested wheatgrass.

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

SOIL Sampling Point 1i

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 4/2	80	7.5YR 6/8	20	C	M	Clay Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
X Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type:
Depth (inches): 0

Hydric Soil Present? Yes

Remarks: Falfa clay loam, 3-8% is partially hydric

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
X Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
X Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (two or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? No Depth (inches):
Water Table Present? No Depth (inches):
Saturation Present? (includes capillary fringe) Yes Depth (inches): 10

Wetland Hydrology Present? Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Nearby abandoned lateral has some standing water.

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: La Plata County Airport City/County: La Plata Sampling Date: 09/25/2014
Applicant/Owner: La Plata County/City of Durango State: CO Sampling Point: 1k
Investigator(s): Ryan Unterreiner Section, Township, Range: Sec.29, T34N, R8W
Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): concave Slope (%): 2
Subregion (LRR): Interior Deserts (LRR D) Lat: 11.00000000 Long: 11.00000000 Datum: WGS84
Soil Map Unit Name: Falfa clay loam, 3-8% NWI classification: R2SB7x
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)
Are Vegetation __, Soil __, or Hydrology __ significantly disturbed? Are "Normal Circumstances" present? Yes
Are Vegetation __, Soil __, or Hydrology __ naturally problematic? (if needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	**Is the Sampled Area within a Wetland?** Yes
Remarks: Uniform, linear excavated channel adjacent to CR 309a conveying irrigation return flows to the Florida River valley floor.	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 0)			
1. Populus angustifolia	5	Yes	FACW
2.			
3.			
4.			
Total Cover = 5			
Sapling/Shrub Stratum (Plot size: 0)			
1. Salix exigua	10	Yes	FACW
2.			
3.			
4.			
5.			
Total Cover = 10			
Herb Stratum (Plot size: 0)			
1. Typha latifolia	70	Yes	OBL
2. Juncus balticus	10	No	FACW
3. symphiotrychum lanceolatum	5	No	OBL
4. Asclepias incarnata	10	Yes	OBL
5.			
6.			
7.			
8.			
Total Cover = 95			
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
Total Cover = 0			
% Bare Ground in Herb Stratum: 0			
% Cover of Biotic Crust: 0			

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4(A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		135 (B)

Prevalence Index = B/A = 1.23

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤ 3.0[1]
X Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes

Remarks: Abrupt transition to upland with steep, 2:1 sideslopes.

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

SOIL Sampling Point 1k

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)	___ Sandy Redox (S5)	___ 1 cm Muck (A9) (**LRR C**)
___ Histic Epipedon (A2)	___ Stripped Matrix (S6)	___ 2 cm Muck (A10) (**LRR B**)
___ Black Histic (A3)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Red Parent Material (TF2)
___ Stratified Layers (A5) (**LRR C**)	___ Depleted Matrix (F3)	X Other (Explain in Remarks)
___ 1 cm Muck (A9) (**LRR D**)	___ Redox Dark Surface (F6)	
___ Depleted Below Dark Surface (A11)	___ Depleted Dark Surface (F7)	
___ Thick Dark Surface (A12)	___ Redox Depressions (F8)	[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
___ Sandy Mucky Mineral (S1)	___ Vernal Pools (F9)	
___ Sandy Gleyed Matrix (S4)		

Indicators for Problematic Hydric Soils[3]:

Restrictive Layer (if present):
Type:
Depth (inches): 0

Hydric Soil Present? Yes

Remarks: No soil pit, riverine wetland. Hydric soil assumed, or developing.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
X Surface Water (A1)	___ Salt Crust (B11)	___ Water Marks (B1) (**Riverine**)
___ High Water Table (A2)	___ Biotic Crust (B12)	___ Sediment Deposits (B2) (**Riverine**)
X Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Drift Deposits (B3) (**Riverine**)
___ Water Marks (B1) (**Nonriverine**)	___ Hydrogen Sulfide Odor (C1)	X Drainage Patterns (B10)
___ Sediment Deposits (B2) (**Nonriverine**)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3) (**Nonriverine**)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Inundation Visible on Aerial Imagery (B7)	___ Thin Muck Surface (C7)	___ Shallow Aquitard (D3)
___ Water-Stained Leaves (B9)	___ Other (Explain in Remarks)	___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	Depth (inches): 2
Water Table Present?	No	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	Depth (inches): 0

Wetland Hydrology Present? Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Flow may be perennial, but at a minumum seasonal due to irrigation return flows.

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: La Plata County Airport City/County: La Plata Sampling Date: 09/25/2014
Applicant/Owner: La Plata County/City of Durango State: CO Sampling Point: 1m
Investigator(s): Ryan Unterreiner Section, Township, Range: Sec.30, T34N, R8W
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): Interior Deserts (LRR D) Lat: 10.00000000 Long: 10.00000000 Datum: WGS84
Soil Map Unit Name: Falfa clay loam, 3-8% NWI classification: PEM
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)
Are Vegetation __, Soil __, or Hydrology __ significantly disturbed? Are "Normal Circumstances" present? Yes
Are Vegetation __, Soil __, or Hydrology __ naturally problematic? (if needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	**Is the Sampled Area within a Wetland?** Yes
Remarks: This is a man-made, stormwater detention basin with a controlled outlet. Area recieves stormwater runoff from airport facilities, including parking areas, runways, commercial and private aviation facilities. Abrupt transition to upland with steep sideslopes.	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
Total Cover = 0			
Sapling/Shrub Stratum (Plot size: 0)			
1. Salix exigua	10	Yes	FACW
2.			
3.			
4.			
5.			
Total Cover = 10			
Herb Stratum (Plot size: 0)			
1. Typha latifolia	70	Yes	OBL
2. Agrostis gigantea	15	No	FACW
3. Glyceria striata	10	No	OBL
4. Juncus balticus	5	No	FACW
5.			
6.			
7.			
8.			
Total Cover = 100			
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
Total Cover = 0			
% Bare Ground in Herb Stratum: 0			
% Cover of Biotic Crust: 0			

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2(A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		140 (B)

Prevalence Index = B/A = 1.27

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤ 3.0[1]
X Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes

Remarks: Abrupt transition to upland species, including smooth brome and rubber rabbitgrass.

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

SOIL Sampling Point 1m

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
12	7.5YR4/3	80	5YR4/6	20	C	M	Clay Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)

___ Sandy Redox (S5)
___ Stripped Matrix (S6)
X Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
X Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type:
Depth (inches): 0

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

X Surface Water (A1)
___ High Water Table (A2)
X Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)

___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (two or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes Depth (inches): 1
Water Table Present? No Depth (inches):
Saturation Present? (includes capillary fringe) Yes Depth (inches): 0

Wetland Hydrology Present? Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Area frequently flooded.

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: La Plata County Airport City/County: La Plata Sampling Date: 08/27/2014
Applicant/Owner: La Plata County/City of Durango State: CO Sampling Point: 2f
Investigator(s): Ryan Unterreiner Section, Township, Range: Sec.29, T34N, R8W
Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): Interior Deserts (LRR D) Lat: 2.00000000 Long: 2.00000000 Datum: WGS84
Soil Map Unit Name: Falfa Clay Loam, 3-8% NWI classification: PEM
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)
Are Vegetation __, Soil __, or Hydrology __ significantly disturbed? Are "Normal Circumstances" present? Yes
Are Vegetation __, Soil __, or Hydrology __ naturally problematic? (if needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	**Is the Sampled Area within a Wetland?** Yes
Remarks: Slightly unusual depressional area with a less defined wetland boundary, as compared to elsewhere along the drainage.	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
Total Cover = 0			
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
Total Cover = 0			
Herb Stratum (Plot size: 0)			
1. Calamagrostis canadensis	80	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover = 80			
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
Total Cover = 0			

% Bare Ground in Herb Stratum: 20
% Cover of Biotic Crust: 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1(A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		160 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤ 3.0[1]
X Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes

Remarks: Monoculture of bluejoint just away from the typical, narrow wetland band along the creek. Depressional area likely gets periodic flooding.

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

SOIL Sampling Point 2f

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 5/2	80	5YR 4/6	20	C	PL	Silt Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type:
Depth (inches): 0

Hydric Soil Present? Yes

Remarks: Falfa clay loam is partially hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
X Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (two or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? No Depth (inches):
Water Table Present? No Depth (inches):
Saturation Present? Yes Depth (inches): 6
(includes capillary fringe)

Wetland Hydrology Present? Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Depressional area below but away from streambed likely gets peridocially flooded.

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: La Plata County Airport City/County: La Plata Sampling Date: 08/27/2014
Applicant/Owner: La Plata County/City of Durango State: CO Sampling Point: 3f
Investigator(s): Ryan Unterreiner Section, Township, Range: Sec.29, T34N, R8W
Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): Interior Deserts (LRR D) Lat: 1.00000000 Long: 1.00000000 Datum: WGS84
Soil Map Unit Name: Falfa Clay Loam, 3-8% NWI classification: PEM
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)
Are Vegetation X, Soil __, or Hydrology __ significantly disturbed? Are "Normal Circumstances" present? No
Are Vegetation X, Soil __, or Hydrology __ naturally problematic? (if needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

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

Remarks: Vegetation is disturbed simply due to the presence of Canada thistle and evidence of dead cattails. Perhaps when the upgradient pasture was actively managed and irrigated, there was more irrigation runoff that cuased this depressional area to flood more regularly. Lack of hydric soil or hydrology removed this area from wetland consideration.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
Total Cover = 0			
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
Total Cover = 0			
Herb Stratum (Plot size: 0)			
1. Cirsium arvense	70	Yes	FACU
2. Poa palustris	10	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover = 80			
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
Total Cover = 0			

% Bare Ground in Herb Stratum: 20
% Cover of Biotic Crust: 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0(A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	80 (A)		310 (B)

Prevalence Index = B/A = 3.88

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤ 3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes

Remarks: Dead cattails in this low-lying, depressional area adjacent to the channel indicates this a potential relic wetland. Canada thistle may be more "facultative" than "facultative upland," depsite its listed indicator status in the Arid West Supplement. In the nearby Western Mountains Supplement, the wetland indicator status is "facultative." The growth habit along this drainage would suggest this to be true here.

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

SOIL Sampling Point 3f

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 4/3	85	7.5YR 5/8	15	C	M	Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type:
Depth (inches): 0

Hydric Soil Present? No

Remarks: Falfa clay loam, 3-8% is partially hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (two or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? No Depth (inches):
Water Table Present? No Depth (inches):
Saturation Present? No Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Low-lying area adjacent to the drainage...may recieve periodic flooding.

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: La Plata County Airport City/County: La Plata Sampling Date: 08/27/2014
Applicant/Owner: La Plata County/City of Durango State: CO Sampling Point: 4f
Investigator(s): Ryan Unterreiner Section, Township, Range:
Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): Interior Deserts (LRR D) Lat: 4.00000000 Long: 4.00000000 Datum: WGS84
Soil Map Unit Name: _ NWI classification: pem
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)
Are Vegetation X, Soil __, or Hydrology __ significantly disturbed? Are "Normal Circumstances" present? Yes
Are Vegetation X, Soil __, or Hydrology __ naturally problematic? (if needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	**Is the Sampled Area within a Wetland?** Yes
Remarks:	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
Total Cover = 0			
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
Total Cover = 0			
Herb Stratum (Plot size: 0)			
1. Cirsium arvense	90	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover = 90			
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
Total Cover = 0			

% Bare Ground in Herb Stratum: 10
% Cover of Biotic Crust: 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0(A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	90 (A)		360 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤ 3.0[1]
_X_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes

Remarks: Dead cattails in this low-lying, depressional area adjacent to the channel indicates this a potential relic wetland. Canada thistle may be more "facultative" than "facultative upland," depsite its listed indicator status in the Arid West Supplement. In the nearby Western Mountains Supplement, the wetland indicator status is "facultative." The growth habit along this drainage would suggest this to be true here. Therefore, vegetation is assumed to be hydric for this reason.

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SOIL Sampling Point 4f

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	80	7.5YR 5/8	20	C	M	Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)	___ Sandy Redox (S5)	**Indicators for Problematic Hydric Soils[3]:**
___ Histic Epipedon (A2)	___ Stripped Matrix (S6)	___ 1 cm Muck (A9) (**LRR C**)
___ Black Histic (A3)	___ Loamy Mucky Mineral (F1)	___ 2 cm Muck (A10) (**LRR B**)
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Reduced Vertic (F18)
___ Stratified Layers (A5) (**LRR C**)	X Depleted Matrix (F3)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9) (**LRR D**)	___ Redox Dark Surface (F6)	___ Other (Explain in Remarks)
___ Depleted Below Dark Surface (A11)	___ Depleted Dark Surface (F7)	
___ Thick Dark Surface (A12)	___ Redox Depressions (F8)	[3]Indicators of hydrophytic vegetation and
___ Sandy Mucky Mineral (S1)	___ Vernal Pools (F9)	wetland hydrology must be present, unless
___ Sandy Gleyed Matrix (S4)		disturbed or problematic.

Restrictive Layer (if present):
Type:
Depth (inches): 0

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
___ Surface Water (A1)	___ Salt Crust (B11)	___ Water Marks (B1) (**Riverine**)
___ High Water Table (A2)	___ Biotic Crust (B12)	___ Sediment Deposits (B2) (**Riverine**)
___ Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Drift Deposits (B3) (**Riverine**)
___ Water Marks (B1) (**Nonriverine**)	___ Hydrogen Sulfide Odor (C1)	X Drainage Patterns (B10)
___ Sediment Deposits (B2) (**Nonriverine**)	X Oxidized Rhizospheres along Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3) (**Nonriverine**)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)	X Saturation Visible on Aerial Imagery (C9)
___ Inundation Visible on Aerial Imagery (B7)	___ Thin Muck Surface (C7)	___ Shallow Aquitard (D3)
___ Water-Stained Leaves (B9)	___ Other (Explain in Remarks)	___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	No	Depth (inches):
Water Table Present?	No	Depth (inches):
Saturation Present? (includes capillary fringe)	No	Depth (inches):

Wetland Hydrology Present? Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: La Plata County Airport City/County: La Plata Sampling Date: 08/27/2014
Applicant/Owner: La Plata County/City of Durango State: CO Sampling Point: 5f
Investigator(s): Ryan Unterreiner Section, Township, Range: Sec.29, T34N, R8W
Landform (hillslope, terrace, etc.): Stream terrace Local relief (concave, convex, none): convex Slope (%): 3
Subregion (LRR): Interior Deserts (LRR D) Lat: 5.00000000 Long: 5.00000000 Datum: WGS84
Soil Map Unit Name: Falfa clay loam, 3-8% NWI classification: PEM
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)
Are Vegetation __, Soil __, or Hydrology __ significantly disturbed? Are "Normal Circumstances" present? Yes
Are Vegetation __, Soil __, or Hydrology __ naturally problematic? (if needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	**Is the Sampled Area within a Wetland?** Yes
Remarks: A high terrace/wet meadow adjacent to the drainage.	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
Total Cover = 0			
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
Total Cover = 0			
Herb Stratum (Plot size: 0)			
1. Juncus balticus	40	Yes	FACW
2. Panicum virgatum	30	Yes	FACW
3. Asclepias speciosa	3	No	FAC
4. Epilobium ciliatum	10	No	FACW
5. Poa palustris	5	No	FAC
6.			
7.			
8.			
Total Cover = 88			
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
Total Cover = 0			
% Bare Ground in Herb Stratum: 12			
% Cover of Biotic Crust: 0			

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2(A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	8	x 3 =	24
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	88 (A)		184 (B)

Prevalence Index = B/A = 2.09

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤ 3.0[1]
X Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes

Remarks:

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SOIL Sampling Point 5f

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/2	95	7.5YR 4/6	5	C	PL	Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)	___ Sandy Redox (S5)	___ 1 cm Muck (A9) (LRR C)
___ Histic Epipedon (A2)	___ Stripped Matrix (S6)	___ 2 cm Muck (A10) (LRR B)
___ Black Histic (A3)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Red Parent Material (TF2)
___ Stratified Layers (A5) (LRR C)	X Depleted Matrix (F3)	___ Other (Explain in Remarks)
___ 1 cm Muck (A9) (LRR D)	___ Redox Dark Surface (F6)	
___ Depleted Below Dark Surface (A11)	___ Depleted Dark Surface (F7)	
___ Thick Dark Surface (A12)	___ Redox Depressions (F8)	[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
___ Sandy Mucky Mineral (S1)	___ Vernal Pools (F9)	
___ Sandy Gleyed Matrix (S4)		

Indicators for Problematic Hydric Soils[3]:

Restrictive Layer (if present):
Type:
Depth (inches): 0

Hydric Soil Present? Yes

Remarks: Falfa clay loam, 3-8% is partially hydric

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
___ Surface Water (A1)	___ Salt Crust (B11)	___ Water Marks (B1) (Riverine)
___ High Water Table (A2)	___ Biotic Crust (B12)	___ Sediment Deposits (B2) (Riverine)
___ Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Drift Deposits (B3) (Riverine)
___ Water Marks (B1) (Nonriverine)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2) (Nonriverine)	X Oxidized Rhizospheres along Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3) (Nonriverine)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Inundation Visible on Aerial Imagery (B7)	___ Thin Muck Surface (C7)	___ Shallow Aquitard (D3)
___ Water-Stained Leaves (B9)	___ Other (Explain in Remarks)	___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	No	Depth (inches):
Water Table Present?	No	Depth (inches):
Saturation Present? (includes capillary fringe)	No	Depth (inches):

Wetland Hydrology Present? Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Evidence of a high water table.

Wetlands data compiled using Electronic Data Solutions' Everglade™ wetland delineation software. Arid West Region

Appendix D: Photographs

Photograph 1. Looking north at Wetland M, a stormwater detention basin.

Photograph 2. Looking northwest at Wetland J, a stormwater detention basin.

Photograph 3. View looking west at Wetland G.

Photograph 4. View looking north at Wetland G.

Photograph 5. View looking southeast from airport storm drain into Wetland F.

Photograph 6. View looking northeast at Wetland F

Photograph 7. View looking northeast along Wetland F boundary, dominated by Canada thistle.

Photograph 8. View looking north across excavated pond at the Wetland I boundary.

Photograph 9. Typical ditch/lateral in northeast agricultural field.

Photograph 10. Typical irrigated wetland habitat, northeast agricultural field.

Photograph 11. Typical seep wetland forming below the rim in a natural drainage.

Photograph 12. Looking upstream at Florida River, typical cross section.

Photograph 13. Looking upstream at the bench wetland east of the airport.

Photograph 14. Looking upstream at the CR 309a roadside drainage conveying irrigation return flows to the Florida River valley floor.