

Thorn Creek Road to Moscow

Determination of Jurisdictional Waters of the United States

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TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 SOURCE MATERIALS AND METHODS	1
2.1 Source Materials	1
2.2 Data Collection Methods	2
3.0 EXISTING SITE CHARACTERISTICS	2
3.1 Landscape Context and Position	2
3.2 Topography and Hydrology	3
3.3 Soils	3
4.0 JURISDICTIONAL WATERS OF THE UNITED STATES AND WETLAND FINDINGS	7
4.1 Data Compilation	7
5.0 CONCLUSIONS	7
6.0 REFERENCES	29
LIST OF TABLES AND FIGURES	
Figure 1. Project Location Map	4
Table 1. Soil Series Associated with Test Sties	5
Table 2. Jurisdictional Wetland Information	7
Table 3. Jurisdictional Waters of the United States	21
Table 4. Non-Jurisdictional Waters of the United States	27
APPENDIX A - Wetland, Test Sites and Tributaries Location Map	
APPENDIX B - Data Sheets	
APPENDIX C - Backup Documentation	

1.0 INTRODUCTION

Shelly Gilmore, Resource Planning Unlimited, Inc., performed the preliminary recognizance work, field inventory, and report writing. The report was requested and authorized by Zachary Funkhouser, Idaho Transportation Department, Lewiston, Idaho. The project name is Thorn Creek to Moscow Jurisdictional Waters of the United States and Wetland Determination.

The project includes an area bordering US Highway 95 from Thorn Creek Road north to near Moscow's city limits. The legal description is defined as (see Figure 1 Project Location Map):

- Township 38N, Range 5W, Sections 5, 6, 7, 8, 17, 18
- Township 38N, Range 6W, Sections 1, 12, 13
- Township 39N, Range 5W, Sections 19, 20, 29, 30, 31, 32
- Township 38N, Range 6W, Sections 24, 25, 36

This report includes general and site-specific information to justify determination of jurisdictional waters of the United States and wetland assessment. The report also includes wetland delineation data sheets, found in Appendix B, and back-up documentation found in Appendix C.

The first draft of this report, dated May 2005, was reviewed at the project site by Nicholle Rowell, US Army Corps of Engineers. Ms. Rowell accompanied Ms. Gilmore on October 13, 2005 and November 17, 2005 to review the report and associated maps. The May 2005 draft report and accompanying maps were revised and included in this version of the report.

2.0 SOURCE MATERIALS AND METHODS

2.1 Source Materials

Methods followed those outlined in the Wetlands Delineation Manual (COE 1987) for a "routine" determination. The US Army Corps of Engineers recognize the use of the COE (1987) manual for delineation of wetlands. The manual (COE 1987) provides technical criteria, field indicators, and recommended procedures to be followed in determining a jurisdictional wetland, as well as in determining the location of wetland boundaries.

Wetland evaluation followed definitions found in Title 33 Code of Federal Regulations, Part 328 for jurisdictional limits of the authority of the US Army Corps of Engineers under the Clean Water Act. According to CFR summarizes "waters of the United States" to include all interstate waters and their tributaries, intrastate waters with foreign or interstate commerce connections and their tributaries, and wetlands adjacent to other waters of the United States. A recent Supreme Court of the United States decision (January 9, 2001)¹ excludes isolated, non-navigable intrastate waters from federal jurisdiction.

"Ordinary high mark" is defined as the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. In the absence of adjacent wetlands, the jurisdiction in non-tidal waters extends to the ordinary high

¹ Solid Waste Agency of Northern Cook County v. US Army Corps of Engineers, No. 99-1178.

water mark, or when adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands. When the water of the United States consists only of wetlands, the jurisdiction extends to the limit of the wetland.

In addition to delineated wetlands, all intermittent streams as well as all ephemeral streams that are tributaries to other waters of the United States are subject to Clean Water Act jurisdiction (defined as “waters of the United States.”) When a defined bed and bank is present and water is conveyed to a larger stream or other body of water, the intermittent ditches or canals are determined jurisdictional.² For the purpose of this report, these water conveyances are called “tributaries.”

2.2 Data Collection Methods

Field work was performed between August 2004 and April 2005, beginning the west side of US Highway 95. Data sites were selected to provide a valid representation of present site conditions. To facilitate on-site gathering of data, preliminary information collected included the report titled Waters of the United States Identification-US 95 Top of Lewiston Hill to Moscow, performed by Entranco (2000); the USGS topographic maps of area quadrants (Moscow West and Moscow East); National Wetland Inventory Map (USDI FWS 1981); soil survey data from the Latah County Area, Idaho (USDA SCS 1981); the Latah County Area, Idaho hydric soils list (USDA SCS 1993); and the 1979 aerial photos from USDA Farm Service Agency that contained wetland identification within agricultural lands.

Plant identification was performed and wetland indicators assigned using the Region 9 USFWS plant list (1988 list and 1993 update), Whitson et al. (2000), and Hitchcock and Cronquist (1998). In addition to data collected from representative sampling locations selected to justify the location of wetland/non-wetland boundaries, sites were also investigated between data points to verify changes in soils and hydrology. Data was recorded in the field on standard data collection sheets. A summary of field data sheets is presented in Table B-1 (Appendix B). Sampling site locations are recorded on the Wetland, Test Site and Jurisdictional Waters of the United States Location Map Figure A-1 (Appendix A). Tributaries and drainages were examined within the project boundaries to determine whether a defined bed and bank was present—specifying those areas as tributaries.

² Headwaters, Inc. v. Talent Irrigation District, 243 F.3d 526 (9th Cir. 2001) defined CWA jurisdiction over all tributaries to other jurisdictional waters of the United States as binding on the U.S. Army Corps of Engineers, Northwestern Division, in the geographic jurisdiction of the U.S. Court of Appeals for the Ninth Circuit.

3.0 EXISTING SITE CHARACTERISTICS

3.1 Landscape Context and Position

The project boundaries were defined and explained to Gilmore by Zachary Funkhouser, Idaho Transportation Department, Lewiston, Idaho. The project boundaries included areas to the east and west of US 95 from Thorn Creek Road north toward Moscow, Idaho. See Figure 1. for project boundary limits.

3.2 Topography and Hydrology

Elevation of the project site ranged from approximately 2,600 feet above sea level along the South Fork Palouse River and Thorn Creek to near 3,000 feet along the west facing slopes of Paradise Ridge. Average annual precipitation, as recorded near Moscow, Idaho is 27 inches; average total snow fall is 50 inches; and the growing season length is approximately 162 days.³

The topography of the surrounding area is characterized by gentle rolling hills, primarily in annually cropped farmland. The watershed's natural topography is dissected by US 95. The northern approximate 2/3 of the project area is in the South Fork Palouse River watershed. The watershed originates at Paradise Ridge and surface runoff is conveyed by a series of small intermittent tributaries road culverts in a west, southwesterly direction toward the South Fork. The eastern third of the project area is within the Thorn Creek watershed. This watershed also originates at Paradise Ridge and surface water is conveyed by a series of small intermittent tributaries road culverts in a southerly direction toward Thorn Creek. Both the South Fork Palouse River and Thorn Creek are intermittent tributaries (according to the USGS topographic map) to the Palouse River. The Palouse River conveys the runoff in a westerly direction to its confluence with the Snake River, to the Columbia River, then on to the Pacific Ocean.

Antecedent weather conditions at the project sites included normal precipitation in the summer and fall of 2004; warmer and drier than normal end of the year for 2004, first of the year for 2005, and spring of 2005.

3.3 Soils

General soil map units within the project site included two units (USDA SCS 1981). The majority of the area is mapped as the Palouse-Naff unit. Generally, these soils are very deep, well drained, gently sloping to moderately steep soils that formed in loess. Soils found at individual test sites used to determine wetland/non-wetland boundaries included those displayed in Table 1.

³ 50% chance of the growing season occurring between 4/27 and 10/5 at \$28EF as recorded at Moscow, Idaho, referenced at internet site <http://www.wcc.nrcs.usda.gov/support/climate/wetlands/id/16057.txt>

Figure 1. Project Location Map (blue area represents the west side of US Highway 95, purple area represents the east side)

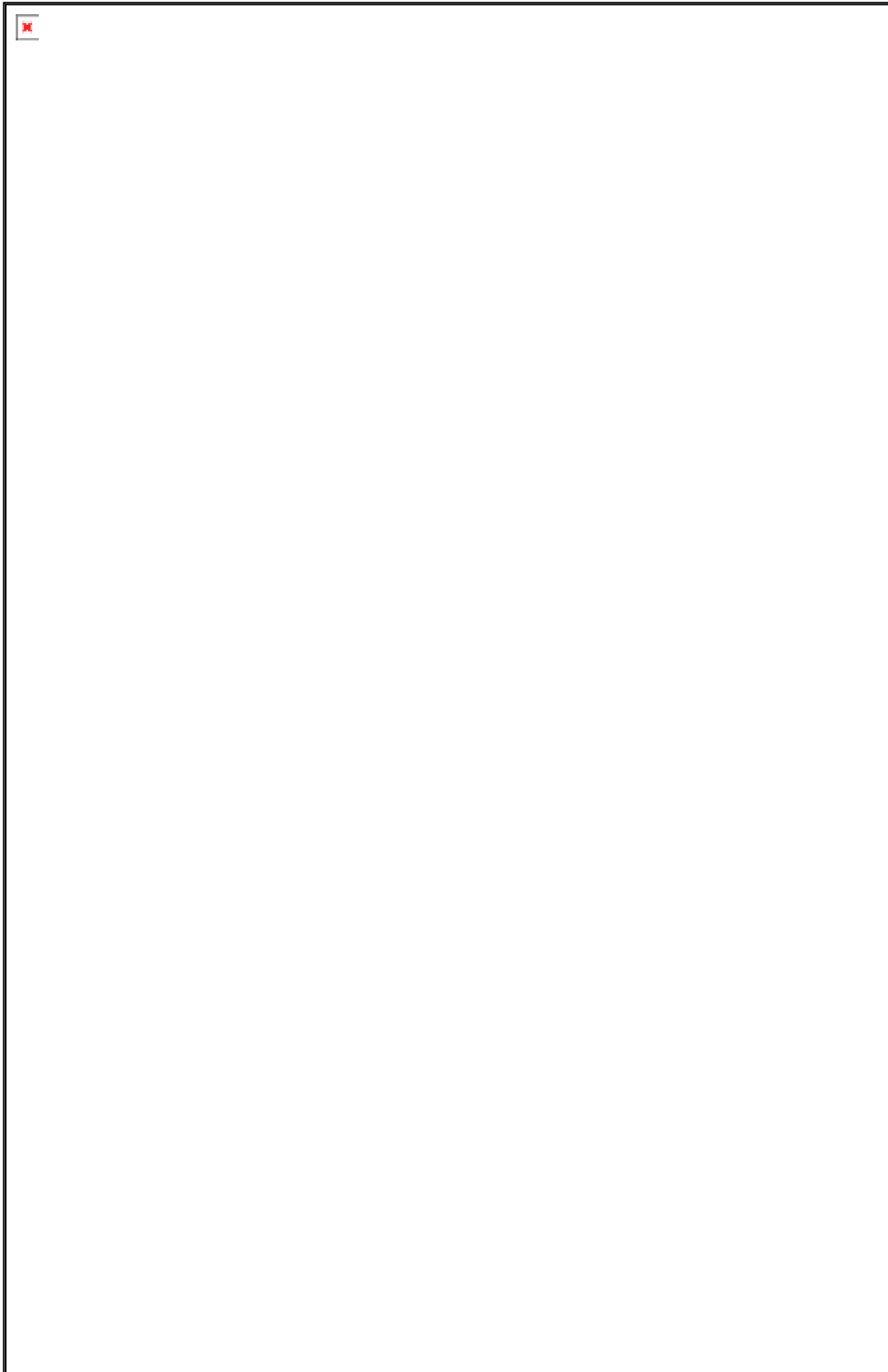


Table 1. Soil Series Associated with Test Sites (USDA SCS 1981)

Soil Series	Name	Drainage and Permeability	General Characteristics	Potential Native Vegetation[^]
25	Latah Silt Loam 0-3% (Hydric inclusions: wet areas, depressions. Meets saturation and ponding criteria.)*	Very deep, somewhat poorly drained, permeability very slow.	Found on valley floors, formed in alluvium derived dominantly from loess, seasonal perched water table.	Natural vegetation is mainly grasses and shrubs.
26	Latahco Silt Loam 0-3% (Hydric inclusions: wet areas, depressions. Meets saturation criteria.)*	Very deep, somewhat poorly drained, permeability moderately slow.	Found on valley floors, formed in alluvium derived dominantly from loess, seasonal perched water table (above subsoil in spring).	Natural vegetation is mainly coniferous trees.
28	Latahco-Thatuna Silt Loam 0-5% (Hydric inclusions: wet areas, depressions. Meets saturation criteria.)*	Latahco: Very deep and somewhat poorly drained, permeability is moderately slow. Thatuna: Very deep and moderately well drained. Permeability slow.	Found on narrow valley floors and toe slopes. Formed in alluvium derived dominantly from loess. Subject to occasional, brief periods of flooding in spring, water is perched above the subsoil early in spring.	Natural vegetation is mainly grasses and coniferous trees.
33	Naff-Palouse Silt Loam 7-25%	Naff: Very deep and well drained, moderately slow permeability. Palouse: Very deep and well drained, moderate permeability.	Found on south-facing slopes on uplands.	Natural vegetation is mainly grasses.
34	Naff-Thatuna Silt Loam 7-25%	Naff: Very deep and well drained, moderately slow permeability. Thatuna: Very deep and moderately well drained, slow permeability.	Found on north-facing slopes on uplands. Thatuna soil exhibits a seasonally perched water table.	Natural vegetation is mainly grasses.
36	Palouse Silt Loam 7-25%	Very deep and well drained, moderate permeability.	Found on south-facing slopes on uplands, formed in loess.	Natural vegetation is mainly grasses.
37	Palouse-Latahco Silt Loam 7-25% (Hydric inclusions: wet areas, depressions. Meets saturation and ponding criteria.)*	Palouse: Very deep and well drained, moderate permeability. Very deep, somewhat poorly drained, permeability moderately slow.	Found on low terraces. The soil is subject to occasional, brief periods of flooding in winter and early in spring.	Natural vegetation is mainly grasses and coniferous trees.

Table 1. Soil Series Associated with Test Sites (USDA SCS 1981) *continued*

Soil Series	Name	Drainage and Permeability	General Characteristics	Potential Native Vegetation [^]
54	Thatuna-Naff Silt Loam 25-40%	Thatuna: Very deep and moderately well drained, slow permeability. Naff: Very deep and well drained, moderately slow permeability	Found on north-facing slopes on uplands. Water is perched above the buried subsoil early in spring.	Natural vegetation is mainly grasses.
56	Tilma-Naff Silt Loam 7-25%	Tilma: Very deep and moderately well drained, slow permeability. Naff: Very deep and well drained, moderately slow permeability.	Found on uplands. Formed in loess. Water is perched above the buried subsoil in early spring.	Natural vegetation is mainly grasses.
57	Tilma-Thatuna Silt Loam 7-25%	Tilma: Very deep and moderately well drained, slow permeability. Thatuna: Very deep and moderately well drained, slow permeability.	Found on uplands. Formed in loess. Water is perched above the buried subsoil early in spring.	Natural vegetation is mainly grasses.
65	Westlake-Latahco Silt Loam 0-3% (Hydric inclusions: wet areas, depressions. Meets saturation criteria.)*	Westlake: Very deep and somewhat poorly drained, permeability moderately slow. Latahco: Very deep and somewhat poorly drained, permeability is moderately slow.	Found of valley floors. Formed mainly in loess. Seasonal high water table is at a depth of 6 to 18 inches late in winter and in spring. This soil is subject to frequent, brief periods of flooding in winter and early in spring.	Natural vegetation is mainly grasses.

[^] According to the Latah County, Idaho Soil Survey (1981)

* Latah County Area, Idaho Hydric Soils List (USDA SCS 1993)

4.0 JURISDICTIONAL WATERS OF THE US AND WETLAND FINDINGS

4.1 Data Compilation

One hundred fifteen test sites were evaluated during the field investigation. The findings are displayed on field data sheets and test site summaries displayed in Table A-1 (located in Appendix A). Using a handheld GPS unit (Garmin Venture, datum WGS 84), waypoint coordinates were taken of the test sites. Waypoint coordinates were also taken of wetland/nonwetland boundaries and jurisdictional waters (tributaries). Waypoint coordinates were provided to Idaho Transportation Department, Ron Perkins-Survey Department, in an electronic file format. Survey flags were placed at general delineated areas. Perkins transferred the survey points to a location map, Appendix A.

5.0 CONCLUSIONS

Locations of the wetlands and jurisdictional waters of the United States are displayed on Figure A-1 in Appendix A. The wetlands were classified using the Cowardin et al. (1979) hierarchy system and the information is displayed in Table 2. Jurisdictional waters of the United States are referenced in Table 2 with jurisdictional determination narratives found in Table 3.

Table 2. Jurisdictional Wetland Information⁺

Wetland	Wetland Information	Accompanying Test Sites
W1	<p>Wetland 1 consists of an east flowing drainage way (Tributary A) and associated wetlands. The watershed drained by this system is a large (220 acres) watershed comprised of annual cropland and permanent vegetative cover (Conservation Reserve Program-CRP) land use. A defined channel is found in the bottom of the drainage way, with apparent bed and banks that confine the flow throughout the majority of the drainage length. Associate wetlands occur on each side of this channel throughout the entire length. Many tile line outlets were found in the channel, most originating from the croplands to the south of the drainage way. Associated wetlands include two significantly sized (approximately 40 acres) sub-watersheds and many seeps and ditch-side springs that resulted in obligate vegetation within the channel and standing water in the channel bottom during this dry August investigation period.</p> <p>Wetland Plant Communities: Grasses (reed canary grass, jungle-rice grass) and forbs (panicle willoweed, mayweed, prickly lettuce)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	1, 2, 3, 4, 5, 6
W2	<p>Wetland 2 includes two wetland areas and south flowing drainage ways (Tributaries B and C) along Jacksha Road. A wetland area exists on the west side of Jacksha Road in a south-facing bowl formation. This wetland is positioned in a low gradient drainage pattern in a small watershed (approximately 10 acres) that drains toward the roadside ditch (Tributary B). The vegetation surrounding this wetland area is non-cropped perennial vegetation (appears to be CRP). Another wetland area exists on the east side of Jacksha Road (on the opposite side of the road) and is positioned in annually cropped agricultural land. The wetland is in a drainage area that slopes to the southeast toward a roadside ditch (Tributary C) along the west side of Jacksha Road. The wetland has a small, confined channel cut in the drainage way bottom, which has a defined bed and bank) and associated wetland edges along the length of the drainage.</p>	7, 8, 9, 10, 11, 12, 13

Table 2. Jurisdictional Wetland Information⁺ (*continued*)

Wetland	Wetland Information	Accompanying Test Sites
W2 <i>continued</i>	<p>Wetland Plant Communities: Grasses and grass-like plants (jungle-rice grass, toad rush, reed canary grass) and forbs (mayweed, field horsetail)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	
W3 Replaced with NJW 7	<p>Wetland 3 consists of a small, circular shaped depression on the west side of Jacksha Road. The site appears to be a rock quarry from years past. The depression allows water from runoff and hillside seeps to be trapped against the highway and keep soils saturated. The area is found in the headwater area of the project boundary’s watershed that flows north toward the South Fork Palouse River. There is not apparent drainage ditch carrying surface water away from this wetland, although it appears that the water seeps through the relatively porous soil away from the depression. Therefore the area was not originally classified as isolated.</p> <p>Rowell (2005a) determined the wetland to be non-jurisdiction upon the site visit. No surface water connection was apparent, therefore the jurisdictional wetland determination was overturned. Wetland 3 label was replaced with NJW 7.</p> <p>Wetland Plant Communities: Grasses (reed canary grass), trees (Pacific willow or hybridized willow), and forbs (cow parsnip and white bryony)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Scrub-Shrub <i>Subclass</i> – Persistent <i>Water Regime</i> – Non-tidal, seasonally flooded</p>	14, 15
W4	<p>Wetland 4 includes a two grassy draws that slope to the north. The draws are in the bottomlands of annually cropped lands. The overland flow from the uplands drains across these grassy draws as well as in a roadside ditch (Tributary D) along the east side of Jacksha Road. Both the wetland and tributary drain through a road culvert toward Wetland 5.</p> <p>Wetland Plant Communities: Grasses (reed canary grass)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	16, 17, 18, 19
W5	<p>Wetland 5 is a hayed grassy waterway within the bottomlands of an annually cropped agricultural field located south and west of Jacksha Road. The watershed has a northeast facing aspect. The overland flow from the uplands drains across this grassy draw in a northerly direction toward the roadway. The wetland drains through a road culvert toward Tributary F.</p> <p>Wetland Plant Communities: Grasses (reed canary grass, meadow foxtail)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	24, 25
W6	<p>Wetland 6 consists of grassy waterway within the bottomlands of an annually cropped agricultural field located east of Jacksha Road. The overland flow from the uplands drains across this grassy draw in a westerly direction toward the roadway. A small defined channel (Tributary E) is present in the lower portion of the wetland. Both the wetland and tributary drain through a road culvert toward Tributary F.</p>	20, 21, 22, 23

Table 2. Jurisdictional Wetland Information⁺ (*continued*)

Wetland	Wetland Information	Accompanying Test Sites
W6 <i>continued</i>	<p>Wetland Plant Communities: Grasses (reed canary grass)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	
W7	<p>Wetland 7 includes a grassy drainage way toeslope in a north facing draw on the west side of Jacksha Road. The wetland originates near an unnamed secondary roadway and carries overland flow in a northerly direction toward Wetland 9. The grassy draw conveys water by a farmstead in the upper watershed toward a drainage ditch along Jacksha Road in the watershed’s valley (Tributary G).</p> <p>Wetland Plant Communities: Grasses (reed canary grass, quackgrass, meadow foxtail)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	29, 30, 31
W8	<p>Wetland 8 can best be described as wetlands adjacent to a north sloping cropland field drainage ditch. Tributary H drains approximately 165 acres of gently sloping cropland toward Wetland 9. The associated adjacent wetlands appear to receive wetland hydrology from near surface seeps and overland runoff.</p> <p>Wetland Plant Communities: Grasses (reed canary grass)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	37, 38
W9	<p>Wetland 9 includes a grassy, non-farmed drainage way which receives surface water from upland wetlands and tributaries from a very large watershed (nearly 3 square miles). The grassy drainage way flows in a northerly direction, originating near the intersection of Jacksha Road (north) and Highway 95, toward the South Fork Palouse River through a series of wetlands, tributaries and road culverts.</p> <p>Wetland Plant Communities: Grasses (jungle-rice grass, reed canary grass)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	35, 36
W10	<p>Wetland 10 is a non-farmed grassy drainage way in the gently sloped bottomland (valley) of a very large drainage pattern that receives runoff from the east and west sides of Highway 95. The wetlands are closer to the top of the defined wetland and surrounded by annual cropland. The wetland drains in a northwest direction toward Snow Road through Tributary I. The lower most portion of this wetland and Tributary I is classified as FW (farmed wetland).</p> <p>The wetland receives runoff from a reported jurisdictional stream (Station 1178+60) by the Entranco report (2000); the stream flows perpendicular to and under US Highway 95 from the east and is intercepted by several ornamental ponds with landscaping and other features before crossing the road (to the west).</p> <p>The NWI map (USDI FWS 1981) lists the drainage way as PEM1A (palustrine/emergent/persistent/temporary flooded) from its confluence with the South Fork Palouse River to its intercept with US Highway 95.</p>	64, 65

Table 2. Jurisdictional Wetland Information⁺ (*continued*)

Wetland	Wetland Information	Accompanying Test Sites
W10 <i>continued</i>	<p>Wetland Plant Communities: Grasses (jungle-rice grass) and forbs (field horsetail)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	
W11	<p>Wetland 11 consists of a long (nearly 1.8 miles), gently sloping drainage way. The upper ¼ of the drainage way has associated wetland characteristics along an unharvested grassy drainage pattern. Overland flow from the north-facing drainage of annually cropped land is conveyed to a larger drainage way that conveys the water in a westerly direction toward the South Fork Palouse River through a confined channel—Tributary J.</p> <p>Wetland Plant Communities: Grasses (reed canary grass)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	27, 28
W12	<p>Wetland 12 consists of large, north facing draw that drains toward the South Fork Palouse River through overland flow and a series of secondary road culverts. The wetland is located on the westerly side of the defined project boundaries, and appears to continue beyond the state line as overland flow is carried in a northwesterly direction. The upper portion of the wetland is in a relatively steep draw dominated by shrubs. The middle reach is less steep toeslope and is also dominated by shrubs. The bottom section (within the project boundaries) is dominated by reed canary grass and other grasses in a wide, non farmed bottomland that appears to be hayed.</p> <p>Wetland Plant Communities: Grasses (reed canary grass) and forbs (cow parsnip) in lower portion; shrubs in middle section (aspen, hawthorn, redosier dogwood); shrubs and some trees (hawthorn, elderberry, rose) and forbs (cow parsnip) in upper section</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent (lower bottomland), Scrub-Shrub (middle toeslope and upper north facing slope) <i>Subclass</i> – Nonpersistent (lower), broad-leaved deciduous (middle and upper) <i>Water Regime</i> – Non-tidal, seasonally flooded (lower), saturated (middle and upper)</p>	32, 33, 34
W13	<p>Wetland 13 includes a somewhat steep, west sloping drainage way dominated by shrubs (some trees in the upper portion of the drainage). The area was previously mapped as Tributary W—an incised drainage pattern. Upon field investigation with Rowell (2005b), it was suspected that much of the drainage may access small, adjacent floodplain-like riparian areas that may support wetland characteristics. A subsequent field investigation found evidence of vegetation, soils, and hydrology to support wetland presence. The wetland is confined to the bottom of the draw as the side slopes are relatively steep on the north and predominately higher in elevation on the south side. The draw is bordered to the north and south by CRP fields.</p> <p>Wetland Plant Communities: Shrubs (hawthorn, redosier dogwood), forbs (cow parsnip), grasses (reed canary grass); some trees (cottonwood) in upper reaches</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Scrub-Shrub <i>Subclass</i> – Broad-leaved deciduous <i>Water Regime</i> – Non-tidal, seasonally flooded</p>	114, 115

Table 2. Jurisdictional Wetland Information⁺ (*continued*)

Wetland	Wetland Information	Accompanying Test Sites
W14	<p>Wetland 14 is a reed canary grass dominated drainage way found at one of the headwater portions of a fork of Tributary X. The tributary was mapped initially as NJW 1, a field drainage ditch delineated as PC (Prior Converted, USDA FSA 1979).⁴ It was presumed on the onset of this investigation that PC wetlands were not jurisdictional. Upon the Rowell (2005a) field visit, the NJW label was overturned and the drainage was determined to be jurisdictional. Wetland 14 is a grassy component at the head of a fork located toward the lower 1/3 of the tributary, west of US Highway 95. The drainage way flows in a westerly direction to Tributary X toward Snow Road.</p> <p>Wetland Plant Communities: Grasses (reed canary grass)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	No accompanying test sites
W15	<p>Wetland 15 is a reed canary grass dominated drainage way found east of US Highway 95 and north of the Cameron Road intersection. The drainage way is a northwest sloping, low gradient drainage in an annual cropland field. The wetland was initially mapped as Tributary Y. Upon the Rowell (2005b) field visit, the drainage is considered a wetland rather than a tributary. The wetland drains to the remainder of Tributary Y and is considered jurisdictional.</p> <p>The NWI map (USDI FWS 1981) lists the drainage way as PEM1A (palustrine/emergent/persistent/temporary flooded) from its confluence with the South Fork Palouse River upstream toward its interception with US Highway 95 and continuing upstream on the east side of the highway for approximately 1,000 feet.</p> <p>Wetland Plant Communities: Grasses (reed canary grass)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	No accompanying test sites
W16	<p>Wetland 16 was inadvertently left out of the numbering sequence. No site is associated with the label Wetland 16.</p>	Not applicable
W17	<p>Wetland 17 involves a drainage way (Tributary L) and adjacent wetlands. The large valley on the northeast of lower Jacksha Road is used for annual cropland and the drainage ditch appears to have been maintained over the years to convey water away from the cropped flats. The adjacent wetlands appear to receive wetland hydrology from overland flow and near surface seeps. The soil survey indicates soil type in this landform has a seasonal high water table at a depth of 6 to 18 inches late in winter and in spring, with the soil subject to frequent, brief periods of flooding in winter and early in spring.</p> <p>The NWI map (USDI FWS 1981) lists the drainage way north of Broenekke Road to its confluence Thorn Creek as PEM1A or palustrine/emergent/persistent/temporary flooded.</p>	46, 47, 48

⁴ According to correspondence from Olson (2005), the cited regulations (33 CFR 328.3(a), state that waters of the US do not include prior converted cropland (PC), it should be noted that PC determinations are made primarily for Food Security Act purposes and that EPA retains the final authority regarding Clean Water Act jurisdiction. Olson (2005) continues, stating that prior converted cropland with wetland characteristics that have been abandoned are regulated by the Clean Water Act. Prior converted cropland with wetland characteristics that are proposed for a non-agricultural use are also regulated by the Clean Water Act.

Table 2. Jurisdictional Wetland Information⁺ (*continued*)

Wetland	Wetland Information	Accompanying Test Sites
W17 <i>continued</i>	<p>Wetland Plant Communities: Grasses and grass-like plants (reed canary grass, cattails), forbs (field horsetail)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent and persistent <i>Water Regime</i> – Non-tidal, saturated</p>	
W18	<p>Wetland 18 includes a forked drainage pattern in annual cropland. The drainage pattern conveys overland flow in a southeasterly direction toward Thorn Creek. The wetlands are non-farmed areas that appear to maintain saturated soil conditions into the early portion of the growing season from overland flow, slow soil permeability and moderately well drained to somewhat poorly drained soil indications. Water from the wetlands is conveyed in a southeasterly direction through Tributary K.</p> <p>The NWI map (USDI FWS 1981) lists the lower portion of the drainage way to its confluence Thorn Creek as PEM1A or palustrine/emergent/persistent/temporary flooded.</p> <p>Wetland Plant Communities: Forbs (field horsetail, mayweed)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	42, 43
W19	<p>Wetland 19 represents the wetlands along drainage ways in the headwaters of Thorn Creek. The grassy wetland borders Tributary M and receives wetland hydrology from overland flow across this relatively flat topography. Stream side seeps appear to be present along Thorn Creek (south of Thorn Creek Road) and keep the stream side soils saturated into the late summer months. The wetland is surrounded by annually cropped fields.</p> <p>A jurisdictional stream identified by the Entranco report (2000), Station 1115+00, reportedly flows to the west under the highway, parallel to Martinson Road; the channel is vegetated with reed canary grass and is approximately 20 feet in width.</p> <p>The NWI map (USDI FWS 1981) lists the stream as PEMCx (palustrine/emergent/seasonally flooded/excavated).</p> <p>Wetland Plant Communities: Grasses and grass-like plants (reed canary grass, annual rabbit-foot grass, cattails)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	40, 41, 49, 50, 51, 75, 76
W20	<p>Wetland 20 consists of wetlands along a large drainage way (Tributary N). The wetlands drain in a westerly direction toward South Fork Palouse River through annually cropped fields. The annually cropped upper watershed includes acreage on the east side of US Highway 95 which flows through a box culvert under the highway and continues to travel through the relatively flat valley.</p>	55, 56, 57, 58, 59

Table 2. Jurisdictional Wetland Information⁺ (*continued*)

Wetland	Wetland Information	Accompanying Test Sites
W20 <i>continued</i>	<p>The portion near the highway was determined to be a jurisdictional stream (Station 1196+00) by the Entranco (2000) report. The report states the stream flows perpendicular to and under US Highway 95 from the east, running behind several residences and vegetated by reed canary grass. The NWI map (USDI FWS 1981) lists approximately 1 mile of the lower drainage way (from its confluence with South Fork Palouse River) as PEM1A or palustrine/ emergent/persistent/temporary flooded.</p> <p>Wetland Plant Communities: Grasses (reed canary grass, spring grain)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	
W21	<p>Wetland 21 includes a west facing drainage pattern surrounded by annually cropped farmland. The wetland drains to the South Fork Palouse River. The lower portion of the wetland (gradual gradient) is dominated by grasses while the upper portion of the wetland (steeper gradient) includes some hawthorn, stinging nettles, white bryony and burdock.</p> <p>Wetland Plant Communities: Grasses (reed canary grass), forbs (mayweed) in lower portion; shrubs (hawthorn) and forbs (stinging nettles, white bryony, burdock) in upper portion.</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent (lower portion), scrub/shrub/emergent (upper portion) <i>Subclass</i> – Nonpersistent (lower portion), broad-leaved deciduous and persistent (upper portion) <i>Water Regime</i> – Non-tidal, saturated</p>	60, 61
W22	<p>Wetland 22 is in a west/northwest facing bowl that flows toward a forked drainage pattern. The wetland conveys overland flow toward a forked drainage, including west/southwest sloping drainage, while the remainder of the overland flow travels north toward the South Fork Palouse River through a drainage ditch (Tributary O). The test site is surrounded by farmed ground. The lower most portions of this wetland and Tributary O is classified as FW (farmed wetland).</p> <p>Wetland Plant Communities: Grasses (jungle-rice grass, wild oats)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	62, 63
W23 Relabeled a portion of W23 as NJW 8	<p>Wetland 23 consists of two grassy waterways that slope in an easterly direction toward Highway 95 (found on the west side of the highway). The grassy waterways are below annual cropland. The waterways convey runoff from moderately steep east facing bowls in a southerly direction to Tributary P and Wetland 19/Tributary M, which conveys the water in a westerly direction toward Thorn Creek.</p> <p>The Entranco report (2000) refers to this identified Wetland 23 as an unidentified drainage to the west that feeds Station 1135+40, a reported jurisdictional wetland; the report stated that the wetland displays characteristics of emergent marsh with water a the surface and vegetation consisting of cattails and willows. The Braspenickx (2001) correspondence identified the wetland as isolated and therefore non-jurisdictional.</p>	69, 70

Table 2. Jurisdictional Wetland Information⁺ (*continued*)

Wetland	Wetland Information	Accompanying Test Sites
<p>W23 <i>continued</i></p> <p>Relabeled a portion of W23 as NJW 8</p>	<p>The Rowell (2005b) field investigation determined the most southern grassy drainage way associated with Wetland 23 to be non-jurisdictional. This small grassy drainage way appears to flood an adjacent grass field to its eastern most intercept. No specific surface water connectivity is apparent—no defined bed and bank or high water mark are apparent in the grass field that receives the flow from the drainage way, nor is the grassy field a wetland. A portion of the wetland is reclassified as NJW 8.</p> <p>Wetland Plant Communities: Grasses (meadow foxtail, brome grass)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	<p>66, 67, 68</p>
<p>W24</p>	<p>Wetland 24 includes two north-sloping drainage ways from grassy pasture land use. The drainage way (most western drainage pattern) drains a relatively steep bowl of what was pasture land at the time of this investigation. The most eastern drainage pattern includes a small pond and represents a drainage way of more gradual gradient. Both drainage patterns converge near the west side of the highway into a relatively wide grassy flat. The wetland continues to drain in a northerly direction through Tributary Q along the west side of Highway 95 toward Wetland 9.</p> <p>The Entranco report (2000) identifies jurisdiction stream Station 1149+00 to Station 1176+00 as a stream that flows in a northerly direction parallel and to the west of the highway. The reported channel originates at an abandoned stock pond (reported as Station 1149+00 jurisdictional wetland); the channel varies from 5 to 20 feet in width and is vegetated with reed canary grass.</p> <p>The NWI map (USDI FWS 1981) lists a man-made pond in the upper (most eastern fork) portion of the drainage way as POWF or palustrine/open water/semipermanent flooded; and lists the drainage way as PEM1A (palustrine/emergent/persistent/temporary flooded).</p> <p>Wetland Plant Communities: Grasses (reed canary grass, jungle-rice grass, grazed pasture grasses)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	<p>39, 71, 72 73</p>
<p>W25</p>	<p>Wetland 25 is a grassy drainage way surrounded by annual cropland. The draw drains to the east from the toe of the slope toward a residential access road (Clyde Road) west of US Highway 95. The surface flow is conveyed in a northerly direction through Tributary R along the west side of Highway 95 toward Wetland 26.</p> <p>The area between Clyde Road and US Highway 95 was determined to be a jurisdictional wetland by Entranco (2000). This area, Station 2210+00 was reported to be a wet meadow. This wetland is reported to be the origin of Station 2211+00 to 2225+00, a jurisdictional stream recorded by Entranco (2000). This jurisdictional stream travels along the west side of the highway until it reaches Wetland 26 and Tributary S.</p> <p>Wetland Plant Communities: Grasses (meadow foxtail, mowed/hayed grasses)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	<p>79, 80</p>

Table 2. Jurisdictional Wetland Information⁺ (*continued*)

Wetland	Wetland Information	Accompanying Test Sites
W28 <i>continued</i>	<p>Wetland Plant Communities: Grasses</p> <p>Wetland Classification (Cowardin et al. 1979)</p> <p><i>System</i> – Palustrine</p> <p><i>Class</i> – Emergent</p> <p><i>Subclass</i> – Nonpersistent</p> <p><i>Water Regime</i> – Non-tidal, saturated</p>	
W29	<p>Wetland 29 includes a large, multi-forked drainage way that carries overland flow from the uplands in a westerly direction along Eid Road. The wetland consists mostly of wide grassy ditches that flow into defined narrow channels (tributaries). A relatively large man-made pond exists near the upper portion of the tributary of the most southern fork, identified as AW (Artificial Wetland, USDA FSA 1979). The wetland and tributary to the north of the mobile home park is listed as W with the upper tributary listed as FW (USDA FSA 1979). Surface water is conveyed from the wetland through Tributary U toward US Highway 95, traveling under the highway through a culvert toward Tributary Q, to Wetland 9 and 10, and on down Tributary I toward the South Fork Palouse River.</p> <p>The upper portion of Wetland 29 along the north side of Eid Road near the project boundary was identified by Entranco (2000) as a jurisdictional wetland (Station 1155+25, Entranco-Wetland G); stating that the wetland crosses the alignment immediately north of Eid Road with the majority of the wetland to the east of the alignment; the wetland is reportedly 30 meters wide and extends beyond the right of way approximately 25 meters; wetland vegetation consists of reed canary grass.</p> <p>The most northern fork of Wetland 29 and its upstream tributary (Tributary U) also includes an upper watershed jurisdictional wetland identified by Entranco (2000) as Station 1160+50 (Entranco-Wetland F); stating the wetland crosses the alignment in an east-west orientation along a ravine; the wetland is located adjacent to a stream; the wetland is reportedly approximately 20 meters wide and 2000 meters long; wetland vegetation consists of reed canary grass and black hawthorn.</p> <p>The NWI map (USDI FWS 1981) lists the wetland (described above as Station 1155+25 and Entranco-Wetland G) as PEMA (palustrine/emergent/temporary flooded). The artificial wetlands (sewer lagoons near the Eid Road and US Highway 95 intersection) are listed as POWFh (palustrine/open water/semi-permanent flooded/diked/impounded) and PAB4Fh (palustrine/aquatic bed/floating-leaved/semipermanent/diked/impoundment). These lagoons are also listed as AW (USDA FSA 1979). The drainage way along Eid Road is listed as PEM1A or palustrine/emergent/persistent/temporary flooded. The drainage way forks and the northern drainage way is listed as PFO1A (palustrine/forested/broad-leaved deciduous/temporary flooded) and then PFOA (palustrine/forested/temporary flooded. The southern forked tributary has an artificial man-made pond near its headwaters listed as PUBHh (palustrine/unconsolidated bottom/permanent/diked/impounded).</p> <p>Wetland Plant Communities: Grasses (reed canary grass)</p> <p>Wetland Classification (Cowardin et al. 1979)</p> <p><i>System</i> – Palustrine</p> <p><i>Class</i> – Emergent</p> <p><i>Subclass</i> – Nonpersistent</p> <p><i>Water Regime</i> – Non-tidal, seasonally flooded</p>	95, 96, 97

Table 2. Jurisdictional Wetland Information⁺ (*continued*)

Wetland	Wetland Information	Accompanying Test Sites
W30	<p>Wetland 30 consists of a main grassy drainage way in annual cropland fields with two minor drainage way contributions possessing wetland characteristics. The wetland hydrology appears to be a result of watershed runoff, minor hillside seeps and a flat gradient with soils of slow permeability. Runoff is conveyed in a westerly direction toward Highway 95 by Tributary V, then on to the South Fork Palouse River through a series of culverts, tributaries and wetlands.</p> <p>The upper portion of the grassy drainage way is listed as W (Wetland) on the USDA FSA (1979) aerial photos.</p> <p>A jurisdictional stream (Station 1164+60) was identified by Entranco (2000); this stream flows into Wetland 30; reportedly the stream flows perpendicular to the alignment from the east; the channel measures 2 meters in width; the banks are dominated by black hawthorn bushes.</p> <p>The NWI map (USDI FWS 1981) lists the drainage way (from its intercept at US Highway 95 upstream) as PEM1A or palustrine/emergent/persistent/ temporary flooded until the listing switches in the upper drainage way to PSS1A (palustrine/scrub-shrub/broad-leaved deciduous/temporary flooded).</p> <p>Wetland Plant Communities: Grasses (reed canary grass) and forbs (St. Johnswart)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	98, 99
W31	<p>Wetland 31 includes a long grassy waterway in the middle of annual cropland. The waterway conveys overland flow in a westerly direction toward Highway 95. The grassy drainage way is relatively flat and extends into the draw beyond wetland characteristics. The runoff is conveyed toward the highway, travels under the highway through a culvert, and continues through Wetland 10 and Tributary I toward the South Fork Palouse River.</p> <p>A jurisdictional stream was reported by Entranco (2000), identified as Station 1176+00; including a stream that flows perpendicular to and under US Highway 95 from the east and is intercepted by a larger channel that flows parallel to and to the west of the highway.</p> <p>Wetland Plant Communities: Grasses and grass-like plants (reed canary grass, daggerleaf rush)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	100, 101
W32	<p>Wetland 32 consists of a wetland originating in the foothills of the west facing slope of Paradise Ridge. The wetland is a combined brushy draw and grassy wide waterway that conveys overland flow and hillside seeps in a westerly direction through a channelized tributary that travels through a farmstead, and travels on along Zeitler Road toward the highway through Tributary W.</p> <p>The upper portion of Wetland 32 (near the project’s eastern boundary) was identified as a jurisdictional wetland by Entranco (2000), defining the wetland (Station 1166+60, Entranco-Wetland E) as a wetland that follows a ravine that crosses the alignment in an</p>	102, 103

Table 2. Jurisdictional Wetland Information⁺ (*continued*)

Wetland	Wetland Information	Accompanying Test Sites
W32 <i>continued</i>	<p>east-west orientation; the wetland is approximately 30 meters wide and extends beyond the proposed right-of-way; wetland vegetation consists of reed canary grass; upslope of the right-of-way the wetland becomes forested. This area was also defined by the USDA FSA (1979) aerial photos as a farmed wetland (FW) and wetland (W).</p> <p>A man-made pond is found in the upper most portion of Tributary W and is identified as an AW (Artificial Wetland) by USDA FSA (1979). This upper most portion of the most northern fork of the tributary and wetland system is also listed as W (USDA FSA 1979).</p> <p>The NWI map (USDI FWS 1981) lists the drainage way (from its intercept with Tributary W) as PSSA or palustrine/scrub-shrub/temporary flooded. A ponded area in a northern fork is listed as PUBHh (palustrine/unconsolidated bottom/permanent flooded).</p> <p>Wetland Plant Communities: Grasses (reed canary grass) and shrubs (hawthorn and aspen)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent (upper portion), scrub/shrub/emergent (lower portion) <i>Subclass</i> – Nonpersistent (upper portion), broad-leaved deciduous and persistent (lower portion) <i>Water Regime</i> – Non-tidal, seasonally flooded</p>	
W33	<p>Wetland 33 includes a grassy area above Cameron Road that appears to receive wetland hydrology by a near surface seep and overland flow. The grassy draw is farmed on both the north and south sides. The surface water is conveyed through a culvert under Cameron Road in a westerly direction toward a wide, grassy drainage way. The wetland is drained in a westerly direction through Tributary X toward the highway and on to NJW-1 through a culvert under Highway 95.</p> <p>Wetland Plant Communities: Grasses and grass-like plants (reed canary grass and cattails)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated</p>	104, 105
W34	<p>Wetland 34 is located east of Highway 95 and consists of a wide, flat, grassy area below two man-made ponds; a larger pond and smaller pond in series at the toeslope of a large drainage way. The drainage way is to the south of Zeitler Road and receives overland flow from a series of roadside ditches and upland wetlands (Tributary W and Wetland 32). Water is transported in a westerly direction under Highway 95 by a road culvert to Wetland 10. The area was reported as a jurisdictional stream (Station 1178+60) by the Entranco report (2000); reporting that the stream flows perpendicular to and under US Highway 95 from the east and is intercepted by several ornamental ponds with landscaping and other features before crossing the road (to the west).</p> <p>Wetland Plant Communities: Grasses (reed canary grass)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, seasonally flooded</p>	106, 107

Table 2. Jurisdictional Wetland Information⁺ (*continued*)

Wetland	Wetland Information	Accompanying Test Sites
W35	<p>Wetland 35 includes a grassy area above a man-made pond in a drainage way that comes off Paradise Ridge. The watershed above the wetland is approximately 95 acres and somewhat steep. The wetland hydrology appears to come from a hillside seep and overland flow. The grassy area drains to a pond which overflows to a roadside wetland and under Cameron Road via a road culvert toward Tributary X in a westerly direction.</p> <p>This area is defined by the USDA FSA (1979) aerial photos as a wetland (W). The NWI map (USDI FWS 1981) lists the wetland as PEMA (palustrine/emergent/temporary flooded), and identifies the pond as PUBHh (palustrine/unconsolidated bottom/permanent flooded).</p> <p>The wetland is fed by an area reported as a jurisdictional wetland (Station 1182+80 to 1183+50, Entranco-Wetland C) by the Entranco report (2000); reporting the wetland as two fingers entering the proposed right-of-way from the east, join and exit the right-of-way to the west as one wetland; the wetland fingers are reportedly 20 meters wide; the larger wetland is 60 meters wide; wetland vegetation consists of reed canary grass. Entranco-Wetland B (Stations 1185+20 and 1186+50) drains into the northern fork of Tributary X, and on to Wetland 35. Entranco describes these wetlands as wetlands that cross the alignment in an east-west orientation with vegetation consisting of reed canary grass and fescue.</p> <p>Wetland Plant Communities: Grasses (reed canary grass)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent <i>Water Regime</i> – Non-tidal, saturated/seasonally flooded</p>	108, 109
<p>W36</p> <p>Replaced with NJW 10</p>	<p>Wetland 36 consists of a grassy area in a drainage pattern which drains in a southwesterly direction toward Wetland 35. The watershed above the wetland is approximately 90 acres and somewhat steep; hydrology appears to come from a hillside seep; the area above the grassy, non-farmed wetland is planted to a spring crop and does not have a defined drainage pattern. The area between the wetland and Wetland 35 was also farmed at the time of this investigation. Soils surrounding Wetland 36 appear to be well drained enough to allow for spring and fall farming operations to continue. While this wetland is separated by land use and vegetation from Wetland 35, it is not considered isolated.</p> <p>Upon the Rowell site visit (2005b), the area was determined to support wetland characteristics, but no surface water connection through a tributary or associated wetland could be determined. The area is therefore labeled as non-jurisdictional.</p> <p>Wetland Plant Communities: Grasses (reed canary grass) and forbs (cow parsnips)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Nonpersistent/persistent <i>Water Regime</i> – Non-tidal, saturated</p>	110, 111
<p>W37</p> <p>Replaced with NJW 11</p>	<p>Wetland 37 includes a small depressional wetland dominated by cattails and reed canary grass. This non-farmed area appears to pond water into the growing season, apparently feed by a near surface seep. The area above the wetland is planted to a spring crop and does not have a defined drainage pattern. The area between the wetland and Wetland 35 was also farmed at the time of this investigation. Soils surrounding</p>	111

Table 2. Jurisdictional Wetland Information⁺ (*continued*)

<p>W37 NJW 11 <i>continued</i></p>	<p>Wetland 37 appear to be well drained enough to allow for spring and fall farming operations to continue. While this wetland is separated by land use and vegetation from Wetland 35, it is not considered isolated; the wetland appears to be connected to Wetland 35 by overland flow. The vegetation found at the wetland site was obligate; a test site in addition to 111 was not used to verify a wetland presence.</p> <p>Upon the Rowell site visit (2005b), the area was determined to support wetland characteristics, but no surface water connection through a tributary or associated wetland could be determined. The area is therefore labeled as non-jurisdictional.</p> <p>Wetland Plant Communities: Grasses and grass-like plants (reed canary grass and cattails)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Persistent <i>Water Regime</i> – Non-tidal, seasonally flooded</p>	
<p>W38</p>	<p>Wetland 38 includes a small depressional wetland dominated by cattails and reed canary grass. This man-made, non-farmed area ponds water into the growing season, apparently feed by a near surface seep and overland flows from approximately 47 acres of annually cropped farmland. The wetland has an inlet riser that connects to an underground tile outlet (discharging near Tributary Z) which drains the pond before the majority of the runoff travels down the draw as surface water. The area above and below the wetland is annually cropped and does not have a defined drainage pattern below the wetland until the beginning of Tributary Z. The area between the wetland and Tributary Z appear to be well drained enough to allow for spring and fall farming operations to continue. While this wetland is separated by land use and vegetation from Tributary Z, it is not considered isolated because of the tile line drainage. The vegetation found at the wetland site was obligate, additional test sites were not used.</p> <p>Wetland Plant Communities: Grasses and grass-like plants (reed canary grass and cattails)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Persistent <i>Water Regime</i> – Non-tidal, seasonally flooded</p>	<p>No accompanying test sites</p>
<p>W39</p>	<p>Wetland 39 includes the western edge of an annually cropped field to the east of Highway 95. Water appears to pond at this edge near the highway. A drainage way (Tributary Y) flows along the toe slope of the highway and west of this wetland until it crosses under the highway through a culvert in a westerly direction and flows toward Wetland 26. Soils appear to be poorly drained. A combination of upland and roadside runoff and possibly a high water table cause wetland hydrology to be supported at this wetland. The Entranco (2000) report identified a long, narrow wetland on the east side of the highway with vegetation consisting of reed canary grass, labeling it Station 2219+60 (jurisdictional wetland). The determination was overturned (Braspennickx 2001) and declared to be non-jurisdictional because there was no readily definable interstate commerce connection.</p> <p>Wetland Plant Communities: Grasses (reed canary grass) and forbs (mayweed)</p> <p>Wetland Classification (Cowardin et al. 1979) <i>System</i> – Palustrine <i>Class</i> – Emergent <i>Subclass</i> – Persistent <i>Water Regime</i> – Non-tidal, saturated</p>	<p>112, 113</p>

⁺ Final authority regarding wetland jurisdiction rests with the US Army Corps of Engineers.

Table 3. Jurisdictional Waters of the United States[#]

Tributary	Jurisdictional Determination Narratives
Tributary A	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary A drains toward Jacksha Road and through a series of culverts and open roadside ditches; the tributary drains to Thorn Creek.* - Tributary A carries surface storm water from Wetland 1 to Wetland 17, on to Wetland 18 and to Thorn Creek.
Tributary B	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary B drains south along the east side of Jacksha Road and through a series of field access culverts and open roadside ditches; the tributary drains to Thorn Creek.* - Tributary B carries surface storm water from Wetland 2 toward Wetland 17, on to Wetland 18 and to Thorn Creek.
Tributary C	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary C drains south along the west side of Jacksha Road and through a series of field access culverts and open roadside ditches; the tributary drains to Thorn Creek.* - Tributary C carries surface storm water from Wetland 2 toward Wetland 17, on to Wetland 18 and to Thorn Creek.
Tributary D	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary D drains north along the east side of Jacksha Road until it crosses under the road through a culvert toward Wetland 5 and Wetland 6. From there, surface water is conveyed through a series of open tributaries, wetlands and road culverts toward the South Fork of the Palouse River.**
Tributary E	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary E drains Wetland 6 (located on the east side of Jacksha Road) in a westerly direction through a road culvert, carrying runoff along the south side of Jacksha Road until it crosses under a secondary road through a culvert and flows toward Tributary F and the remainder of Wetland 6. Flow is then conveyed through a series of open tributaries, wetlands and road culverts in a northerly direction toward the South Fork of the Palouse River.**
Tributary F	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary F drains north from Wetlands 5 and 6 along the west side of Jacksha Road through a 3 foot culvert under a private road until reaches Wetland 7. Surface water is conveyed through a series of open tributaries, wetlands and road culverts in a northerly direction toward the South Fork of the Palouse River.**
Tributary G	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary G drains north from Wetlands 4, 5 and 6 and Tributaries D, E, and F along the west side of Jacksha Road. Tributary G conveys surface water toward Wetland 9 and associated Tributary H which conveys surface water through a series of open tributaries, wetlands and road culverts in a northerly direction toward the South Fork of the Palouse River.**

Table 3. Jurisdictional Waters of the United States[#] (continued)

Tributary	Jurisdictional Determination Narratives
Tributary H	<ul style="list-style-type: none"> - Waters defined as waters of the United States.[^] - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary H drains through Wetland 8 in a northwesterly direction toward Wetland 9, Tributaries G and I which conveys surface water through a series of open tributaries, wetlands and road culverts in a northwesterly direction toward the South Fork of the Palouse River.**
Tributary I	<ul style="list-style-type: none"> - Waters defined as waters of the United States.[^] - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary I drains northwest from Wetlands 10, 9, 8, 7, 6, 5, and 4 Tributaries G, F, E, and D. - Tributary I conveys surface water toward Snow Road through a series of open tributaries and road culverts in a northwesterly direction toward the South Fork of the Palouse River.** - The NWI map (USDI FWS 1981) lists the drainage way as PEM1A (palustrine/emergent/persistent/temporary flooded) from its confluence with the South Fork Palouse River to its intercept with US Highway 95.
Tributary J	<ul style="list-style-type: none"> - Waters defined as waters of the United States.[^] - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. Several agricultural tile outlets exist along the lower ¾ of the drainage (described in Wetland 11). - Tributary J drains north from Wetland 11 on the west side of Highway 95 toward Snow Road through annually cropped lands until it reaches its confluence with Tributary I and Non-jurisdictional Wetland 1; carrying overland flow and subsurface flow toward the South Fork of the Palouse River.** - The lower approximately 1,700 feet of this tributary is determined to be PC, and therefore not included in the overall length of the Jurisdictional Waters of the US.
Tributary K	<ul style="list-style-type: none"> - Waters defined as waters of the United States.[^] - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary K drains south through annual cropland fields and along the west side of Jacksha Road toward Thorn Creek Road. Through a series of culverts and open roadside ditches, the tributary drains to Thorn Creek.* - Tributary K carries surface storm water from Wetland 1, 2, 17, and 18 toward Thorn Creek. - The NWI map (USDI FWS 1981) lists the lower portion of the drainage way to its confluence Thorn Creek as PEM1A or palustrine/emergent/persistent/temporary flooded.
Tributary L	<ul style="list-style-type: none"> - Waters defined as waters of the United States.[^] - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary L drains south through annual cropland fields and along the east side of Jacksha Road toward Jacksha Road. Through a series of drainage ditches, culverts and open roadside ditches, the tributary drains to Tributary K and on to Thorn Creek.* - Tributary L carries surface storm water from Wetland 1, 2 and 17 toward Thorn Creek. - The NWI map (USDI FWS 1981) lists the lower portion of the drainage way to its confluence Thorn Creek as PEM1A or palustrine/emergent/persistent/temporary flooded.
Tributary M	<ul style="list-style-type: none"> - Waters defined as waters of the United States.[^] - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary M drains south and southwest through annual cropland fields and along the west side of Highway 95 and the south side of Thorn Creek Road. Through a series of drainage ditches, culverts and open roadside ditches, the tributary drains the upper portion of the Thorn Creek watershed.* - Tributary M carries surface storm water from Wetland 19; wetlands adjacent to Thorn Creek. - A jurisdictional stream identified by the Entranco report (2000), Station 1115+00, reportedly flows to the west under the highway, parallel to Martinson Road; the channel is vegetated with reed canary grass and is approximately 20 feet in width.

Table 3. Jurisdictional Waters of the United States[#] (continued)

Tributary	Jurisdictional Determination Narratives
Tributary M <i>continued</i>	<ul style="list-style-type: none"> - Portions of this tributary were identified as a jurisdictional stream (Station 1120+00 to Station 1130+60) in the Entranco report (2000); reporting the stream to flow in a southerly direction parallel and to the west of the highway, originating to the east and flowing under the highway, varying in feet from 5 to 20 feet in width and vegetated with reed canary grass. - The upper portions of Tributary M are described in Station 1123+60, a jurisdictional stream identified in the Entranco report (2000); the stream reportedly flows perpendicular to the highway from the west and is intercepted by a larger channel that flows parallel to the highway; the channel is fairly shallow with reed canary grass throughout and approximately 10 feet in width. - The NWI map (USDI FWS 1981) lists the stream as PEMCx (palustrine/emergent/ seasonally flooded/excavated).
Tributary N	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary M drains west through annual cropland fields and along the west side of Highway 95 and north of Snow Road. - Through a series of drainage ditches and culverts, Tributary N carries surface water from Wetland 20, which are adjacent wetlands, to South Fork Palouse River.** - The portion of the drainage way near the highway was determined to be a jurisdictional stream (Station 1196+00) by the Entranco (2000) report. The report states the stream flows perpendicular to and under US Highway 95 from the east, running behind several residences and vegetated by reed canary grass. - The NWI map lists approximately 1 mile of the lower NWI drainage way (from its confluence with South Fork Palouse River) as PEM1A or Palustrine/emergent/ persistent/temporary flooded.
Tributary O	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary O carries surface water from Wetland 22 to South Fork Palouse River.**
Tributary P	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary P drains Wetland 23 south along Highway 95 with annual cropland fields on the western edge of this open tributary. The runoff is conveyed through a series of culverts and open roadside ditches toward Thorn Creek* (Wetland 19 and Tributary M). - Portions of this tributary were identified as a jurisdictional stream (Station 1120+00 to Station 1130+60) in the Entranco report (2000); reporting the stream to flow in a southerly direction parallel and to the west of the highway, originating to the east and flowing under the highway, varying in feet from 5 to 20 feet in width and vegetated with reed canary grass.
Tributary Q	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary Q drains Wetland 24 north along Highway 95 with annual cropland fields on the western edge of this open tributary. The runoff is conveyed through a series of wetlands, open roadside ditches and culverts and toward South Fork Palouse River** (Wetlands 9 and 10, and Tributary I). - The Entranco report (2000) identifies jurisdiction stream Station 1149+00 to Station 1176+00 as a stream that flows in a northerly direction parallel and to the west of the highway. The reported channel originates at an abandoned stock pond (reported as Station 1149+00 jurisdictional wetland); the channel varies from 5 to 20 feet in width and is vegetated with reed canary grass. - The NWI map (USDI FWS 1981) lists the drainage way as PEM1A (palustrine/emergent/persistent/ temporary flooded).

Table 3. Jurisdictional Waters of the United States[#] (*continued*)

Tributary	Jurisdictional Determination Narratives
Tributary R	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary R drains Wetland 25 north along a residential access roadway, then north along Highway 95 with annual cropland fields on the western edge. The runoff is conveyed through a series of wetlands, open roadside ditches and culverts and toward South Fork Palouse River** (Wetland 26 and Tributary S).
Tributary S	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary S drains Wetland 26 north along Highway 95 with annual cropland fields on the western side. The runoff is conveyed through an open roadside ditch toward South Fork Palouse River.** - The Entranco (2000) report identified a portion of this tributary (along the highway) as Station 2219+60 (jurisdictional stream) which was reported to be a stream that flows perpendicular to US Highway 95 from the west and is intercepted by a larger channel that flows parallel to US Highway 95. The determination was overturn (Braspennickx 2001) and declared to be non-jurisdictional. - Tributary S also includes a portion of the Entranco (2000) determined jurisdictional stream identified as Station 2211+00 to 2225+00; stream which flows in a northerly direction parallel and to the west of the highway. - The NWI map (USDI FWS 1981) lists the drainage way as PEM1A (palustrine/emergent/persistent/temporary flooded) from its confluence with the South Fork Palouse River upstream toward its interception with US Highway 95 and continuing upstream on the east side of the highway for approximately 1,000 feet.
Tributary T	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary T drains Wetland 27 in a northerly direction. The wetland and tributary is bordered by annual cropland fields. The runoff is conveyed to the South Fork Palouse River.**
Tributary U	<ul style="list-style-type: none"> - Waters defined as waters of the United States.^ - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary U drains Wetland 29 in a westerly direction toward US Highway 95, finding its way under the highway through a box culvert and on to the South Fork Palouse River** through a series of tributaries (Tributaries Q and I) and wetlands (Wetland 9 and 10). - Tributary U also feeds Wetland 29, draining a large pond and upper watershed through residential areas on the south side of Eid Road. This upper waterway was defined by Entranco (2000) as a jurisdictional wetland (Station 1154+00, Entranco-Wetland H) that crosses the alignment at a diagonal from the southeast immediately south of Eid Road with the majority of the wetland to the east of the alignment. The wetland follows a shallow ravine between the toe of a slope and a roadway berm/housing area; it is an emergent wetland dominated by reed canary grass. The NWI map lists this described wetland as PEMA (palustrine/emergent/temporary flooded). - A segment of Tributary U that travels along the north side of Eid Road near its intercept with US Highway 95 was identified as Station 1159+90, a jurisdictional stream, by Entranco (2000). The report cited the stream as flowing perpendicular to and under the highway from the east and is intercepted by a larger channel that flows parallel to and to the west of the highway. The channel runs on the north side of Eid Road, is heavily vegetated with reed canary grass and is approximately 10 feet in width. - The drainage way along Eid Road is listed on the NWI maps as PEM1A or palustrine/emergent/persistent/ temporary flooded. The drainage way forks and the northern drainage way is listed as PFO1A (palustrine/forested/broad-leaved deciduous/temporary flooded).

Table 3. Jurisdictional Waters of the United States[#] (*continued*)

Tributary	Jurisdictional Determination Narratives
Tributary V	<ul style="list-style-type: none"> - Waters defined as waters of the United States.[^] - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary V drains Wetland 30 in a westerly direction toward US Highway 95, finding its way under the highway through a culvert and on to the South Fork Palouse River** through a series of tributaries (Tributaries Q and I) and wetlands (Wetland 9 and 10). - The lower portion of the tributary (near Highway 95) is listed as W on the USDA FSA aerial photos (1979). - Station 1168+20 (Entranco 2000) was reported as a jurisdictional stream that flows perpendicular to and under US Highway 95 from the east and is intercepted by a larger channel that flows parallel to and to the west of the highway; the channel had reportedly been plowed by has remnants of reed canary grass and is approximately 10 feet in width. - The NWI map (USDI FWS 1981) lists approximately the drainage way (from its intercept at US Highway 95 upstream) as PEM1A or palustrine/emergent/persistent/ temporary flooded.
Tributary W	<ul style="list-style-type: none"> - Waters defined as waters of the United States.[^] - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary W drains Wetlands 13 and 32 in a westerly direction toward US Highway 95 through a farmstead and along Zeitler Road, continuing on through Wetland 34, and finds its way under the highway through a culvert and on to the South Fork Palouse River** through a series of open tributaries (Tributary I) and wetlands (Wetland 10). - Reported as a jurisdictional stream (Station 1178+60) by the Entranco report (2000), the stream flows perpendicular to and under US Highway 95 from the east and is intercepted by several ornamental ponds with landscaping and other features before crossing the road (to the west). - The upper portions of the tributary (toward the project’s eastern boundary) were reported by Entranco (2000) as two jurisdictional wetlands and a jurisdictional stream. Reported wetland, Station 1172+00 (Entranco-Wetland DD), feeds the upstream portion of this forked Tributary W. The Entranco report states the wetland crosses the alignment in an east-west orientation; appears to be a remnant ditch that extends beyond the proposed right-of-way; vegetation consists of reed canary grass and fescue. Reported jurisdictional wetland (Station 1172+75, Entranco-Wetland D) also feeds the tributary fork. Entranco (2000) describes the wetland as one that crosses the alignment in an east-west orientation; approximately 40 meters wide and extends beyond the proposed right-of-way; vegetation consists of reed canary grass. - North of Entranco wetlands Station 1172+00 and 1172+75 is an identified jurisdictional stream, Station 1175+75; reported as flowing diagonally across the alignment from the northeast; measuring 2 meters in width. - The NWI map (USDI FWS 1981) lists the drainage way as PEM1A (palustrine/emergent/ persistent/temporary flooded) from its intercept with US Highway 95 upstream until it reaches PFO1A (palustrine/forested/broad-leaved deciduous/temporary flooded).
Tributary X	<ul style="list-style-type: none"> - Waters defined as waters of the United States.[^] - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary X carries overland flow from Wetland 33, 35, 36, and 37 in a westerly direction toward US Highway 95 through annually cropped land, finding its way under the highway through a culvert and on to the South Fork Palouse River** through a series of open tributaries (NJW-1). - The tributary is fed by an area reported as a jurisdictional wetland (Station 1182+80 to 1183+50, Entranco-Wetland C) by the Entranco report (2000); reporting the wetland as two fingers entering the proposed right-of-way from the east, join and exit the right-of-way to the west as one wetland; the wetland fingers are reportedly 20 meters wide; the larger wetland is 60 meters wide; wetland vegetation consists of reed canary grass. Entranco-Wetland B (Stations 1185+20 and 1186+50) drains into the northern fork of the tributary. Entranco describes these wetlands as wetlands that cross the alignment in an east-west orientation with vegetation consisting of reed canary grass and fescue.

Table 3. Jurisdictional Waters of the United States[#] (continued)

Tributary	Jurisdictional Determination Narratives
Tributary Y	<ul style="list-style-type: none"> - Waters defined as waters of the United States.[^] - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary Y carries overland flow from annually cropped fields in a northerly direction toward a set of businesses located east of Highway 95 and north of the Cameron Road intersection. The tributary continues north through a business/residential area, crosses a private unpaved roadway, runs along Wetland 39, exits the east side of the highway through a culvert, and intercepts with Tributary R which drains to the South Fork Palouse River** through a series of wetlands and tributaries. - The majority of Tributary Y was reclassified as Wetland 15 upon the Rowell (2005b) field investigation. The upper headwater component of this tributary is now classified as a jurisdictional wetland. - The NWI map (USDI FWS 1981) lists the drainage way as PEM1A (palustrine/ emergent/ persistent/temporary flooded) from its confluence with the South Fork Palouse River upstream toward its interception with US Highway 95 and continuing upstream on the east side of the highway for approximately 1,000 feet.
Tributary Z	<ul style="list-style-type: none"> - Waters defined as waters of the United States.[^] - Defined bed and bank present, ordinary high water mark difficult to distinguish on site other than a change in terrestrial vegetation. - Tributary Z drains overland flow in from annually cropped land in a northern direction toward a business along the east side of Highway 95. The outlet of the tributary appears to drain toward the area between the business and the highway, but the open channel is not visible. Much like Tributary Y, the tributary likely drains under the highway toward its intercept with Tributary S and on to the South Fork Palouse River.**
Tributary AA	<ul style="list-style-type: none"> - Waters defined as waters of the United States.[^] - Defined bed and bank present, ordinary high water mark distinguishable by scour line and some debris lines. This portion of the South Fork Palouse River appears to have been mechanically channelized; it is incised with steep banks. - Tributary AA is the South Fork Palouse River** which flows along the most northern end of the project boundary, flowing in a westerly direction. The South Fork Palouse River is shown on the USGS topographic map to be intermittent in this area. - The NWI map (USDI FWS 1981) lists the South Fork Palouse River as PEMC (palustrine/emergent/ seasonally flooded) from its intercept with US Highway 95 upstream to the east through the project boundary. - The USDA FSA (1979) aerial photos label this section of the South Fork Palouse River as CF (Converted Wetland).

[#] Final authority regarding jurisdiction rests with the US Army Corps of Engineers.

[^] Waters defined under 33 CFR part 328.3(a) as “waters of the United States.”

* Thorn Creek flows to Union Flat Creek, a tributary of the Palouse River. The Palouse River is a major tributary to the Snake River which flows toward its confluence with the Columbia River, and on to the Pacific Ocean.

** The South Fork Palouse River is a tributary of the Palouse River. The Palouse River is a major tributary to the Snake River which flows toward its confluence with the Columbia River, and on to the Pacific Ocean.

Table 4. Non-jurisdictional Wetlands and Waters of the United States[#]

Non-Jurisdictional Wetland	Wetland Information	Accompanying Test Sites
<p>NJW 1</p> <p>Relabeled as Wetland 14 and Tributary X</p>	<p><i>Non-Jurisdictional Wetland 1</i> consists of a west flowing drainage way north of Snow Road, and west of Highway 95. This drainage way drains a large watershed from the east side of the highway toward the South Fork Palouse River through a series of drainage ditches, tributaries, and culverts. It is determined to be PC (Prior Converted, USDA FSA 1979) and therefore not originally included in the category of Jurisdictional Waters of the US.</p> <p>The Entranco report (2000) cited a jurisdictional stream (Station 1189+00) that flows perpendicular to and under US Highway 95 from the east; the channel reportedly runs through a plowed field and is vegetated by reed canary grass and brome.</p> <p>The tributary was mapped initially as NJW 1, a field drainage delineated as PC (Prior Converted, USDA FSA 1979). It was presumed on the onset of this investigation that PC wetlands were not jurisdictional. As a result of the Rowell (2005a) field visit this determination was overturned and the drainage way is relabeled as Wetland 14 and Tributary X.</p>	<p>52, 53, 54</p>
<p>NJW 2</p> <p>Relabeled as Tributary J</p>	<p><i>Non-Jurisdictional Wetland 2</i> includes the lower portion of the drainage way described in Tributary K, which drains Wetland 11. This portion of the drainage way is determined to be PC (USDA FSA 1979), and therefore not originally included in the overall length of Jurisdictional Waters of the US.</p> <p>The tributary was mapped initially as NJW 2, a field drainage delineated as PC (Prior Converted, USDA FSA 1979). It was presumed on the onset of this investigation that PC wetlands were not jurisdictional. As a result of the Rowell (2005a) field visit this determination was overturned and the drainage way is relabeled as Tributary J.</p>	<p>No accompanying test sites</p>
<p>NJW 3</p>	<p><i>Non-Jurisdictional Wetland 3</i> is a small, isolated wetland within annual cropland. No surface hydrologic connectivity is apparent between this wetland and Wetland 17 which flows to Thorn Creek.</p>	<p>44, 45</p>
<p>NJW 4</p> <p>Relabeled as Wetland 28</p>	<p><i>Non-Jurisdictional Wetland 4</i> includes the upper portion of Wetland 28. This portion of the drainage pattern and wetland is determined to be PC (USDA FSA 1979), and therefore not originally included in the overall length of the jurisdiction wetland.</p> <p>The NWI map (USDI FWS 1981) lists the drainage way (from its intercept at US Highway 95 upstream) as PEMC or palustrine/emergent/seasonal flooded.</p> <p>The tributary was mapped initially as NJW 4, a wetland delineated as PC (Prior Converted, USDA FSA 1979). It was presumed on the onset of this investigation that PC wetlands were not jurisdictional. As a result of the Rowell (2005a) field visit this determination was overturned and the drainage way is relabeled as Wetland 28.</p>	<p>90, 91</p>

Table 4. Non-jurisdictional Wetlands and Waters of the United States[#] (*continued*)

Non-Jurisdictional Wetland	Wetland Information	Accompanying Test Sites
NJW 5	<p>Non-Jurisdictional Wetland 5 includes three private manmade ponds on the west side of US Highway 95, south of Clyde Road. The ponds do not show discharge connectivity with surface waters.</p> <p>The Entranco (2000) report identified the one of these ponds as non-jurisdictional wetlands, Station 1200+00, later clarified as Station 2100+00 by the Braspenickx (2001) correspondence, and agreeing with the non-jurisdictional determination. The ponds are shown on sheet 94 of 102 the Entranco (2000) report, Appendix A1-Alternative 6.</p>	No accompanying test sites
NJW 6	<p>Non-Jurisdictional Wetland 6 includes the wastewater treatment lagoons at the intersection of Eid Road and US Highway 95. The manmade lagoons are evaporation lagoons and do not have a surface water connection with their discharge. The lagoons are mapped as AW (Artificial Wetlands) by the USDA FSA (1979) aerial photos.</p> <p>Identified as Station 1159+00, jurisdictional wetland, by the Entranco report (2000), these ponds are reported to be open ponds in a row located to the east of US Highway 95 and immediately north of Eid Road; all ponds are fenced and posted with no trespassing signs. The Braspenickx (2001) correspondence did not concur with the jurisdictional determination, citing that the ponds are active sewage treatment ponds and therefore not jurisdictional waters of the US.</p>	No accompanying test sites
NJW 7	<p>Non-Jurisdictional Wetland 7 is an isolated wetland along Jacksha Road. Rowell (2005a) determined the originally labeled jurisdictional Wetland 3 to be overturned—calling the wetland non-jurisdictional. No surface water connectivity was apparent.</p>	14, 15
NJW 8	<p>Non-Jurisdictional Wetland 8 is an isolated wetland to the west of US Highway 95. Rowell (2005b) determined the originally labeled jurisdictional Wetland 23 to be overturned—calling the wetland non-jurisdictional. No surface water connectivity was apparent.</p>	66, 67, 68
NJW 9	<p>Non-Jurisdictional Wetland 9 consists of a man-made pond and upper drainage way east of Zeitler Road. The pond and drainage was originally presumed to be identified and classified during the Entranco investigation (2000). Upon the Rowell site visit (2005b), the area was determined to support wetland characteristics, but no surface water connection through a tributary or associated wetland could be determined. The area is therefore labeled as non-jurisdictional.</p>	No accompanying test sites
NJW 10	<p>Non-Jurisdictional Wetland 10 was originally classified as a jurisdictional wetland, Wetland 36. Upon the Rowell site visit (2005b), the area was determined to support wetland characteristics, but no surface water connection through a tributary or associated wetland could be determined. The area is therefore labeled as non-jurisdictional.</p>	110, 111
NJW 11	<p>Non-Jurisdictional Wetland 11 was originally classified as a jurisdictional wetland, Wetland 37. Upon the Rowell site visit (2005b), the area was determined to support wetland characteristics, but no surface water connection through a tributary or associated wetland could be determined. The area is therefore labeled as non-jurisdictional.</p>	111

[#] Final authority regarding jurisdiction rests with the US Army Corps of Engineers.

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APPENDIX A

Wetland, Test Sites and Tributaries Location Map

Figure A-1. Wetland, Test Sites and Tributaries Location Map

Maps inserted here

APPENDIX B

Data Sheets

Table B-1. Data Sheet Summary for Thorn Creek Road to Moscow Wetland Determinations

Sample Site	Meets Wetland Criteria For:			Is Plot in a Wetland?	
	Vegetation	Hydrology	Soils	Yes	No
1	N	Y	Y	T	
2	N	N	N		T
3	N	N	N		T
4	Y	N	Y	T	
5	N	N	N		T
6	N	Y	Y	T	
7	N	Y	N	T	
8	Y	Y	Y	T	
9	N	Y	Y		T
10	Y	Y	Y	T	
11	Y	N	Y		T
12	Y	Y	Y	T	
13	Y	N	Y		T
14	Y	Y	Y		T
15	Y	N	N		T
16	Y	Y	N		T
17	Y	Y	Y	T	
18	Y	N	N		T
19	Y	Y	Y	T	
20	Y	Y	Y	T	
21	Y	N	N		T
22	Y	Y	Y	T	
23	Y	N	N		T
24	Y	Y	Y	T	
25	Y	N	Y		T
26	Y	Y	N		T
27	Y	Y	Y	T	

Table B-1. Data Sheet Summary for Thorn Creek Road to Moscow Wetland Determinations (*cont.*)

Sample Site	Meets Wetland Criteria For:			Is Plot in a Wetland?	
	Vegetation	Hydrology	Soils	Yes	No
28	Y	Y	N		T
29	Y	Y	Y	T	
30	Y	N	N		T
31	N	Y	N		T
32	Y	Y	Y	T	
33	N	N	Y		T
34	Y	Y	Y	T	
35	Y	Y	Y	T	
36	Y	N	N		T
37	Y	Y	Y	T	
38	Y	N	N		T
39	Y	Y	Y	T	
40	N	Y	Y	T	
41	N	N	N		T
42	Y	Y	Y	T	
43	N	N	N		T
44	N	Y	Y	T	
45	N	N	N		T
46	Y	Y	Y	T	
47	Y	N	N		T
48	N	Y	Y	T	
49	Y	Y	Y	T	
50	N	N	N		T
51	N	Y	N		T
52	N	N	Y		T
53	Y	Y	Y	T	
54	N	N	N		T
55	N	N	Y		T
56	Y	Y	Y	T	

Table B-1. Data Sheet Summary for Thorn Creek Road to Moscow Wetland Determinations (*cont.*)

Sample Site	Meets Wetland Criteria For:			Is Plot in a Wetland?	
	Vegetation	Hydrology	Soils	Yes	No
57	N	N	N		T
58	N	N	Y		T
59	N	N	Y		T
60	Y	Y	Y	T	
61	N	N	N		T
62	N	Y	Y	T	
63	N	N	Y		T
64	Y	Y	Y	T	
65	N	N	N		T
66	N	N	N		T
67	Y	Y	Y	T	
68	Y	N	N		T
69	Y	Y	Y	T	
70	Y	N	N		T
71	Y	N	N		T
72	Y	Y	Y	T	
73	N	N	N		T
74	N	Y	N		T
75	Y	Y	Y	T	
76	N	N	N		T
77	Y	Y	Y		T
78	N	N	Y		T
79	N	N	N		T
80	Y	Y	Y	T	
81	N	Y	Y	T	T
82	N	N	N		T
83	Y	Y	Y	T	
84	N	N	Y		T
85	Y	N	Y		T

Table B-1. Data Sheet Summary for Thorn Creek Road to Moscow Wetland Determinations (*cont.*)

Sample Site	Meets Wetland Criteria For:			Is Plot in a Wetland?	
	Vegetation	Hydrology	Soils	Yes	No
86	N	N	N		T
87	Y	Y	Y	T	
88	Y	Y	Y	T	
89	N	N	Y		T
90	Y	Y	Y	T	
91	N	N	Y		T
92	N	N	N		T
93	Y	N	N		T
94	Y	N	N		T
95	Y	N	N		T
96	Y	Y	Y	T	
97	Y	N	N		T
98	N	Y	Y	T	
99	Y	N	Y		T
100	N	Y	Y	T	
101	Y	N	Y		T
102	Y	Y	Y	T	
103	Y	N	Y		T
104	N	Y	Y	T	
105	Y	N	Y		T
106	Y	Y	Y	T	
107	N	N	N		T
108	Y	Y	Y	T	
109	N	N	Y		T
110	Y	Y	Y	T	
111	N	N	Y		T
112	Y	Y	Y	T	
113	N	N	Y		T
114	Y	Y	Y	T	
115	N	N	Y		T

APPENDIX C

Backup Documentation

Figure C-1. Looking north down Tributary T toward the South Fork Palouse River. Field cultivation causes dust in the background (October 2004).



Figure C-2. Looking east up Tributary X toward Wetland 35 (April 2005).



Figure C-3. Subsurface tile lines from agricultural practices discharge into tributaries and wetlands. The metal fence post with a plastic jug on top often delineates the tile line's outlet.



Figure C-4. Soil chroma throughout most of the project area is very dark (soils in the fall 2004 shown in comparison to the Munsell 10YR color chart).

