SITE-WIDE WETLAND DELINEATION

VICTORIA COUNTY SITE

VICTORIA, TEXAS

Prepared for:

Exelon Generation Company, LLC
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1.0 INTRODUCTION

Tetra Tech, Inc. (Tetra Tech) was contracted by Exelon Generation Company, LLC (Exelon) to perform field delineation of wetlands and waterbodies observed at Victoria County Site (Site) located in Victoria, Texas (Appendix A; Figure 1). The purpose of this investigation was to determine the presence and extent of areas within the 11,500-acre survey area that meet the criteria for federal wetland and/or waterbody designation according to the U.S. Army Corps of Engineers (USACE) guidelines, and are potentially jurisdictional and regulated under Section 404 of the Clean Water Act (CWA).

Section 2 of this report provides an overview of the survey methods; Section 3 provides survey results; Section 4 contains a summary; and Section 5 contains a list of references. Appendix A provides figures including a site location map, soils map, NWI wetlands map, and aquatic resources map. Appendix B provides copies of field data forms and Appendix C provides a photographic record of the wetland and upland areas.

2.0 METHODS

2.1 SELECTION OF DELINEATION METHOD

Based on current USACE policy for identifying jurisdictional wetlands, the delineation was performed using the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (USACE 2008). Based on the level of detail required, the Routine On-Site Determination Method, as described in the *USACE Wetlands Delineation Manual* (Environmental Laboratory 1987), was selected as the most appropriate method to meet the objectives of the study. This method involved collection and review of background information, followed by an on-site survey and delineation.

2.2 BACKGROUND RESEARCH

Prior to conducting fieldwork, Tetra Tech conducted a thorough review of existing site information including:

- Digital Ortho Imagery to identify drainage and other hydrologic features from aerial photographs;
- Soil survey maps and hydric soil lists, to determine presence and extent of hydric and upland soils (United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2009);
- U.S. Geological Survey 7.5 Minute Series Topographic Quadrangle maps (Bloomington 1995, Bloomington SW 1995, Raisin 1987, McFaddin 1987);
- U.S. Fish and Wildlife Service National Wetland Inventory (NWI) maps; and
- 2-foot Topographic Contour Survey produced by P2ES in cooperation with Bechtel Power Corporation in January of 2008 (P2ES, 2008)
- Wetland Delineation Report for the Proposed Victoria County Station, Units 1 and 2 Site, Victoria County, Texas. Germantown, MD. 187 pp. (Tetra Tech, 2008)

2.3 WEATHER CONDITIONS PRECEDING FIELD EFFORT

Weather conditions leading up to this field effort were abnormally dry in comparison to previous years. Total precipitation was evaluated for the Victoria area for a period of 12 months prior to the start of the field effort. Table 1 presents data for total monthly precipitation from January 2008 through May 2009 (NOAA, 2009). Monthly totals were then compared to monthly averages for data obtained by the USDA from the years 1971 through 2000 (NRCS, 2002). Data suggests that the Victoria, TX area received well below average rainfall fall during all months, with the exception of August, of the year leading up the delineation effort. Lack of precipitation and resulting drought conditions produced atypical site conditions with regards to vegetative communities and hydrology. For this reason an emphasis was put on identification of hydric soils indicators for establishment of wetland boundaries and determinations.

Table 1. Precipitation Totals and Averages for Victoria, Texas

Month	2008[2]	2009[2]	Average (Years 1971 – 2000)[1]
	Precipitation (Inches)		
January	3.52	0.13	2.44
February	1.16	0.19	2.04
March	3.36	1.80*	2.25
April	2.35	2.03*	2.97
May	0.33	1.21	5.12
June	0.11	-	4.96
July	2.21	-	2.90
August	4.20	-	3.05
September	1.69	-	5.00
October	1.36	-	4.26
November	1.00	-	2.64
December	0.42	-	2.47

[1] Data retrieved from ftp://ftp.wcc.nrcs.usda.gov/support/climate/wetlands/tx/48469.txt
[2] Data retrieved from http://www.weather.gov/climate/index.php?wfo=crp
*Surveys were performed during these months

2.4 On-Site Field Determination

2.3.1 Wetland Delineation

Following a review of background information, Tetra Tech wetland scientists performed systematic field surveys of the Site from March 26 through April 26, 2009. The survey was initiated with a walkover inspection of the entire Site to identify topographic, drainage, and vegetation features that would indicate potential wetland and/or waterbody occurrence. Sampling locations within the distinct plant communities were then investigated using the Routine On-Site Determination Method (USACE 2008, Environmental Laboratory 1987). This method involves a detailed examination of the soils, vegetation, and hydrologic indicators of a sampling area. At each sampling location, field data forms were completed to document vegetation, soil, hydrology, and general site characteristics. Each wetland and waterbody was further evaluated to characterize the hydrological connection to adjacent upland, wetland, and waterbody region occurring in proximity to the survey area investigated. Specific methods for characterizing and evaluating the soils, vegetation, and hydrologic indicators are described below.

At each sampling location, Wetland Determination Data Forms derived from the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (USACE 2008) were completed to document vegetation, soils, hydrology, and general site characteristics. Specific methods for characterizing and evaluating the soils, vegetation, and hydrologic indicators within the plant communities are described below.

Vegetation: Dominant plant species in each major vegetation stratum (tree, shrub, herbaceous, and woody vine) were identified within a 20-meter radius of each sample plot. The wetland indicator status of each species was assigned according to the National List of Plant Species that Occur in Wetlands: Region 6 (Reed 1988).

Hydrophytic vegetation was determined to be present where more than 50 percent of the dominant species in all vegetation stratums were classified as facultative, facultative wetland, or obligate (FAC/FACW/OBL). Other tests used to evaluate the dominance of hydrophytic species included the Dominance Test and the Prevalence Index (USACE 2008).

Soils: A soil auger or shovel was used at each sample plot to extract a core sample to a depth of 18 inches, or until hard-packed substrate resulted in refusal. The soils were characterized by determining the color, texture, and structure of each soil horizon. Colors of soil matrix and mottles were identified using Munsell Soil Color Charts (Munsell Color 1988). Major hydric soils indicators used to determine presence of hydric soils included coastal prairie redox, sandy redox, dark surface, iron-manganese masses, depleted below dark surface, and depleted matrix.

Hydrology: Each sample plot was examined for evidence of wetland hydrology. Indicators of wetland hydrology include: inundation and/or saturation within the upper 12 inches of the soil, oxidized rhizospheres on living roots, hydrogen sulfide odor, visible watermarks on vegetation, drift lines, drainage patterns within a wetland, and water-stained leaves. Presence of standing water or depth to soil saturation was also recorded at each sampling location.

Wetland cover types were classified according to the USFWS classification system for wetlands and deepwater habitats of the United States (Cowardin et al. 1979). Each wetland was photographed and additional notes and sketches characterizing the wetland were recorded on data forms. Appendix B provides copies of the field data sheets for each wetland, and Appendix C provides representative photographic documentation.

2.3.2 Waterbody Identification

Deepwater aquatic habitats such as lakes, ponds, rivers, and streams, are areas that are permanently inundated at mean annual water depths greater than 6.6 feet or permanently inundated areas less than 6.6 feet in depth that do not support rooted-emergent or woody plant species. Areas less than 6.6 feet mean annual depth that support only submerged aquatic plants are classified as vegetated shallows, not wetlands (Environmental Laboratory 1987).

Prior to field surveys, known waterbodies at the Site were identified on USGS topographic quadrangle maps. Waterbodies occurring on Site were investigated concurrently with the wetland delineation surveys. Stream data collected included stream name if applicable, associated wetlands, flow conditions (perennial, intermittent, or ephemeral), direction of flow, water width, bank-to-bank width, bank height and slope, water depth, bottom and bank substrates, observed water quality, channel meander, and vegetation characteristics.

2.5 GPS MAPPING

Wetland and waterbody boundaries were surveyed using a Trimble, Inc. (Sunnyvale, CA) Geo XH Global Positioning System ("GPS"). Wetland boundary flags were located in accordance with Trimble, Inc. sub-meter accuracy standards. GPS data were differentially corrected using Pathfinder Office 4.10 software (Trimble Inc., Sunnyvale, CA) and commercial base station control points. While the majority of the wetland and stream boundaries were field surveyed using a GPS unit, a 2-foot topographic contour survey as well as aerial photographic interpretation was used post-field to refine the GPS survey were applicable. A geo-referenced wetland delineation boundary and stream reaches suitable for overlay onto Project maps and aerial photographs was created using ArcView (Environmental Systems Research Institute, Inc.; Redlands, CA) GIS mapping software.

3.0 SURVEY RESULTS

This section provides a site description, results of the review of background information, field wetland delineation/determination, descriptions of identified wetlands and adjacent upland areas, field waterbody identification, and an evaluation of hydrologic connectivity of wetland areas.

3.1 SITE DESCRIPTION

The Victoria County Site is a large parcel of land encompassing approximately 11,500 acres. The site is situated on the east side of Highway 77, approximately one mile north of the Town of McFaddin and 13.3 miles south of the town of Victoria. The Site is currently used as active ranch land; bound to the east by Linn Lake and Black Bayou, to the west by Route 77, to the north by ranch land under different ownership, and to the south by the Missouri Pacific Railroad.

The site consists of range land that has been used since at least 1952 for cattle grazing, with limited use by oil and gas production companies. Fences separating grazing areas are located throughout the site. Miles of gravel and grassed roadways provide access to grazing areas, ranch buildings and other structures; and oil and gas production facilities. Cattle watering ponds, Linn Lake, and Kuy Creek are other prominent landscape features that occur across the Site (Appendix A; Figure 1). Topography is generally flat with few rolling hills in the north and east portions of the site.

3.2 REVIEW OF BACKGROUND INFORMATION

3.2.1 Soils

Review of soil survey data indicate that seventeen soil mapping units occur within the Site boundaries (USDA 1985). Of these soils, eight are identified as hydric soils. The soil units include: Aransas clay, hydric; Dacosta sandy clay loam, 0 to 1 percent slope; Dacosta-Contee complex, 0 to 1 percent slope; Edna fine sandy loam, 0 to 1 percent slope, hydric; Faddin fine sandy loam, 0 to 1 percent slope, hydric; Faddin fine sandy loam, 1 to 3 percent slope; Faddin fine sandy loam, 3 to 5 percent slope; Fordtran loamy fine sand, 0 to 3 percent slope, hydric; Laewest clay, 0 to 1 percent slope; Laewest clay, 1 to 3 percent slope; Laewest clay, 3 to 8 percent slope; Rupley fine sandy loam, 0 to 1 percent slope; Rydolph silty clay, occasionally flooded, hydric; Sarnosa loam, 1 to 3 percent slope; Telferner fine sandy lam, 0 to 1 percent slope, hydric; Trinity clay, occasionally flooded, hydric; and Trinity clay, frequently flooded, hydric (Appendix A; Figure 2). The soil units that exist within the delineated wetland areas are discussed below.

<u>Dacosta sandy clay loam, 0 to 1 percent slope</u>
The Dacosta sandy clay loam is found throughout the site in relatively small pocket areas. Dacosta sandy clay loam underlies Wetland Wa17. The Dacosta component is on flats on coastal plains. The parent material consists of clayey fluviomarine deposits of Late Pleistocene age. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is high. Shrink-swell potential is high. This soil is not flooded. It is not

ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This soil does not meet hydric criteria (USDA 2008).

Dacosta-Contee complex, 0 to 1 percent slope

The Dacosta-Contee complex is found throughout the site in large areas. Dacosta-Contee complex underlies Wetland Wa3. The Dacosta component is on flats on coastal plains. The parent material consists of clayey fluviomarine deposits of Late Pleistocene age. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is high. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This soil does not meet hydric criteria (USDA 2008).

The Contee component is on gilgai puffs on flats on coastal plains. The parent material consists of clayey fluviomarine deposits of Late Pleistocene age. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is high. Shrink-swell potential is high. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April, September, October, November, and December. Organic matter content in the surface horizon is about 2 percent. This soil does not meet hydric criteria (USDA 2008).

Edna fine sandy loam, 0 to 1 percent slope, hydric

The Edna fine sandy loam is widespread and found throughout the Site. Edna fine sandy loam underlies wetlands Wa6, Wa16, Wb1, Wb5, and Wb16. The Edna component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits of Late Pleistocene age. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This soil meets hydric criteria (USDA 2008).

Faddin fine sandy loam, 0 to 1 percent slope, hydric

The Faddin fine sandy loam is the most common hydric soil is relatively widespread throughout the Site and underlies wetlands Wa7, Wa8, Wa9, Wa16, Wb7, Wb12, Wb15, and Wp1. The Faddin component is on meander scrolls on coastal plains. The parent material consists of loamy fluviomarine deposits of Late Pleistocene age. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This soil meets hydric criteria (USDA 2008).

Laewest clay, 0 to 1 percent slope

The Laewest clay, 0 to 1 percent slope is relatively widespread throughout the Site and underlies portions of Wetland Wb1. The Laewest component is on gilgai on flats on coastal plains. The parent material consists of clayey fluviomarine deposits of late Pleistocene age. Depth to a root

restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is high. Shrink-swell potential is very high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This soil does not meet hydric criteria (USDA 2008).

Laewest clay, 1 to 3 percent slope
The Laewest clay, 1 to 3 percent slope is relatively uncommon and is found in the northeast and southeast portions of the Site. The Laewest component is on gilgai on flats on coastal plains. The parent material consists of clayey fluviomarine deposits of Late Pleistocene age. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is high. Shrink-swell potential is very high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This soil does not meet hydric criteria (USDA 2008).

3.2.2 Mapped Wetlands

The USFWS NWI Map (Appendix A; Figure 3) indicates numerous federally designated wetlands occur within the Site boundary. The following types of USFWS wetland classifications are reported under the NWI as occurring within the Site boundary: Lacustrine (L1UBHh), Palustrine Emergent (PEM1A, PEM1Ad, PEM1Ax, PEM1C, PEM1Cx, PEM1F, PEM1Fx); Palustrine Forested (PFO1A PFO1C); Palustrine Scrub-Shrub (PSS1C); Palustrine Unconsolidated Bottom (PUBFx); and Palustrine Unconsolidated Shore (PUSCx).

3.2.3 Mapped Waterbodies

The USGS 7.5 minute quadrangle map (Appendix A; Figure 1) identifies the following waterbodies: Linn Lake on the eastern side of the Site; four small waterbodies scattered throughout the Site; Dry Kuy Creek flowing northwest to southeast through the center of the Site; Kuy creek in the southwest corner of the Site; and several unnamed linear channels (as identified by a solid blue line) that run northwest to southeast across the Site.

3.3 FIELD WETLAND DELINEATION

The Site contains sixty-two (62) areas that meet the criteria for designation as wetland, totaling 1843.42 acres (Appendix A; Figure 4). Wetland Wb13/Wb14 is 245.42 acres and represents the largest wetland outside of the Wp1 wetland complex associated with Linn Lake. Other sizable wetlands include Wa6 (38.51 acres), Wa7 (10.64 acres), Wa8 (18.95 acres), Wa9 (10.92 acres), Wa16 (41.88 acres), Wa17 (10.68 acres), Wa20 (36.71 acres), Wa44 (11.63 acres), Wb1 (207.16 acres), Wb5 (25.67 acres), Wb7 (12.97 acres), Wb12 (50.01 acres), Wb15 (222.21 acres), Wb16 (88.92 acres), and Wp1 (769.75 acres of combined lacustrine and palustrine forested wetlands surrounding Linn Lake). The remaining delineated wetlands each occupy less than 10 acres. A detailed description of each wetland and the dominant community types within each is provided in Sections 3.3.1 – 3.3.61. Wetland alphanumeric codes (i.e. Wa1, Wb1, Wp1) represent the wetland feature (W) followed by the team responsible for delineation (a, b, or p), and the number

corresponding to that particular feature.

3.3.1 Wetland Wa1

Wetland Wa1 is a 3.72 acre palustrine emergent (PEM1A) NWI wetland that appears to be isolated with no surface water connections. The wetland is located in the north central portion of the Site in the vicinity of wetlands Wa6, Wa13, and Wa16 (Appendix A; Figure 4; Sheet 4). Dominant vegetation within the wetland includes: rattlebush (*Sesbania drummondii*), rescue grass (*Bromus unioloides*), and Macartney rose (*Rosa bracteata*). The composition of hydrophytic plant species in this wetland exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland is vegetative community is dominated by sweet acacia (*Acacia smallii*), Macartney rose, and little bluestem (*Schizachyrium scoparium)*. The adjacent upland was not dominated by hydrophytes.

Wetland Wa1 soil is characterized by a very dark grayish brown (10 YR 3/2) sandy loam from 0 to 18 inches and a very dark brown (10YR 2/2) sandy loam from 18 to 20 inches. Hydric soils were present as indicated by a coastal prairie redox, sandy redox, and depleted soil matrix. The observed soil characteristics are typical of a Faddin fine sandy loam. The adjacent upland soil is characterized by a 0 to 20-inch-deep mottled layer of very dark grayish brown (10YR 3/2) sandy loam and light brownish gray (10YR 6/2) silty sand. This soil is consistent with a depleted matrix and meets the USACE hydric soil criteria. The observed upland soil is typical of Faddin fine sandy loam. Although primary hydrology indicators were not met, secondary indicators within Wetland Wa1 include saturation visible on aerial imagery and geomorphic position. No primary or secondary indicators of wetland hydrology were observed within adjacent upland areas.

3.3.2 Wetland Wa2

Wetland Wa2 is a 0.48 acre palustrine unconsolidated bottom (PUBFx) NWI wetland that appears to be isolated with no surface water input or output. Wetland Wa2 is a human-made cattle pond that is groundwater fed by a windmill well pump. The cattle pond is located in the central portion of the Site in close proximity to Wetland Wa3 and Dry Kuy Creek (Appendix A; Figure 4; Sheet 8). Dominant vegetation was not established and/or was difficult to identify due to cattle grazing. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology.The surrounding upland community immediately adjacent to the wetland is also heavily disturbed by cattle and therefore dominant plant species could not be identified.

Wetland Wa2 soil is characterized by a 0 to 24-inch-deep very dark gray (10YR 3/1) sandy loam. This soil is consistent with a depleted matrix and meets the USACE hydric soil criteria. The adjacent upland soil is characterized by a very dark gray (10YR 3/1) silty loam from a depth of 0 to 18 inches, with organic material present in the upper 1 inch. This soil is consistent with a depleted matrix and meets the USACE hydric soil criteria. The primary hydrology indicators within Wetland Wa2 were surface water, saturation, water marks, inundation visible on aerial imagery, and aquatic fauna. Secondary hydrology indicators included sparsely vegetated

concave surface and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.3 Wetland Wa3

Wetland Wa3 is a 0.47 acre palustrine unconsolidated bottom (PUBFx) NWI wetland. Wetland Wa3 is a human-made cattle pond with water levels that are controlled and maintained with a well pump. The pond is connected to Dry Kuy Creek by means of a small channel that flows out the northeast corner of the pond. This wetland is located in the central portion of the Site and is in close proximity to Wetland Wa2 and Dry Kuy Creek (Appendix A; Figure 4; Sheet 8). Dominant vegetation was not established and/or was difficult to identify due to cattle grazing. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology.The surrounding upland community immediately adjacent to the wetland is also heavily disturbed by cattle and therefore dominant plant species could not be identified. The adjacent upland vegetation is dominated by sweet acacia, crow poison (*Nothoscordum bivalve*), and creeping woodsorrel (*Oxalis corniculata*). The adjacent uplands are not dominated by hydrophytes.

Wetland Wa3 soil is characterized by a light gray (10YR 7/1) clayey sand from 0 to 2 inches with dark gray (10YR 4/1) clayey sand mottling. From 2 to 10 inches there is a gray (10YR 5/1) sandy loam with light gray (10YR 7/2) and black (10YR 2/1) mottles. From 10 to 16 inches a light gray (10YR 7/1) sandy loam with very dark gray (10YR 3/1) sandy loam mottles was present. The wetland soil is consistent with a depleted matrix and meets the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 16-inch-deep very dark gray (10YR 3/1) loamy sand A horizon with no visible mottles. This soil is consistent with a depleted matrix and meets the USACE hydric soil criteria. The primary hydrology indicators within Wetland Wa3 were surface water, inundation visible on aerial imagery, and aquatic fauna. Secondary indicators include sparsely vegetated concave surface, drainage patterns, and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.4 Wetland Wa4

Wetland Wa4 is a 2.58 acre palustrine emergent (PEM1A) NWI wetland area that is adjacent to and drained by Stream Sa14. Wetland Wa4 is located in the west central portion of the Site in the vicinity of wetlands Wa26, Wa27, and Wa29 (Appendix A; Figure 4; Sheet 7).

3.3.5 Wetland Wa5

Wetland Wa5 is a 0.14 acre palustrine emergent (PEM1C) NWI wetland area that appears to be isolated with no surface water input or output. Wetland Wa5 is approximately 300 feet east of Wetland Wa27 and 775 feet north of stream Sa14 (Appendix A; Figure 4; Sheet 7). The plant community of Wa5 is largely dominated by rattlebush, additional dominant plants were unidentifiable due to cattle grazing. The composition of hydrophytic plant species in Wetland Wa5 exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The

adjacent upland community was also dominated by rattlebush at the time of the delineation. The adjacent uplands are dominated by hydrophytes.

Wetland Wa5 soil is characterized by a 0 to 16-inch-deep very dark grayish brown (10YR 3/2) and light grayish brown (10YR 6/2) sandy loam. This soil is consistent with a depleted matrix and meets the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 16-inch-deep very dark grayish-brown (10YR 3/2) sandy silt. This soil is consistent with a depleted matrix and meets the USACE hydric soil criteria. The primary hydrology indicators were not observed within the wetland. Secondary indicators observed within the wetland include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.6 Wetland Wa6

Wetland Wa6 is a 38.51 acre palustrine emergent (PEM1F/PEM1C) NWI wetland area that appears to be isolated with no surface water input or output. Wetland Wa6 is located in the north central portion of the Site in close proximity to wetlands Wa8, Wa7, Wa13, and Wa1 (Appendix A; Figure 4; Sheet 4). Vegetation consists of rattlebush, woodsorrel, Bermuda grass (*Cynodon dactylon*), and Macartney rose. The composition of hydrophytic plant species in Wetland Wa6 has a prevalence index of less than 3.0 and thereby meets the USACE criteria for wetland vegetation. The adjacent upland plots are dominated by rattlebush, Bermuda grass, southern crabgrass (*Digitaria ciliaris*), and Cuman ragweed (*Ambrosia psilostachya*). The adjacent uplands are not dominated by hydrophytes.

Wetland Wa6 soil is characterized by a very dark grayish brown (10YR 3/2) loam from 0 to 10 inches with a very dark grayish brown (10YR 3/2) loamy sand from 10 to 15 inches. Redox features within the 10 to 15 inch soil layer include a yellowish red (5YR 5/8) reduced matrix within the pore linings and strong brown (7.5YR 5/8) reduced matrix located in the pore linings. This soil is consistent with a depleted dark surface and meets the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 18-inch-deep very dark grayish brown (10YR 3/2) loamy sand with no visible mottles. This soil is consistent with a depleted matrix and meets the USACE hydric soil criteria. The primary wetland hydrology indicator is oxidized rhizospheres on living roots. Secondary indicators include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.7 Wetland Wa7

Wetland Wa7 is a 10.64 acre palustrine emergent (PEM1A) NWI wetland area that appears to be isolated with no surface water input or output. Wetland Wa7 is located in the north central portion of the Site and is in close proximity to wetlands Wa8 and Wa6 (Appendix A; Figure 4; Sheet 4). Dominant vegetation consists of mesquite (*Prosopis* juliflora), rattlebush, woodsorrel, Bermuda grass, and little bluestem. The composition of hydrophytic plant species in Wetland Wa7 has a prevalence index of 3 or less and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation is dominated by mesquite and is therefore not dominated by hydrophytes.

Wetland Wa7 soil is characterized by a dark brown (10YR 3/3) sandy loam from 0 to 4 inches with yellowish brown (10YR 5/8) redox concentrations in the pore lining and matrix. From 4 to 18 inches the soil is characterized by very dark grayish brown (10YR 3/2) and pale brown (10YR 6/3) loamy sand with brownish yellow (10YR 6/8 and 10YR 6/6) redox concentrations in the pore lining and matrix. This soil is consistent with a depleted matrix, coast prairie redox, and sandy redox and meets the USACE hydric soil criteria. The wetland soils are typical of the hydric Faddin fine sandy loam mapped for this wetland area. The adjacent upland soil is characterized by a 0 to 18-inch-deep dark brown (7.5YR 3/2) loamy sand with no visible mottles. This soil is consistent with a depleted matrix and meets the USACE hydric soil criteria. The primary wetland hydrology indicator is oxidized rhizospheres on living roots. Secondary indicators include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.8 Wetland Wa8

Wetland Wa8 is an 18.95 acre palustrine emergent (PEM1A) NWI wetland area that appears to be isolated with no surface water input or output. This wetland is located in the north central portion of the Site in close proximity to wetlands Wa7 and Wa6 (Appendix A; Figure 4; Sheet 4). The wetland is dissected at the northwest corner by a farm road that runs northeast to southwest. Dominate plant species within Wetland Wa8 include smut grass (*Sporobolus indicus*), Osceola's plume (*Zigadenus densus*), sweet acacia, and rescue grass. The composition of hydrophytic plant species in Wetland Wa8 exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation is dominated by honey mesquite (*Prosopis glandulosa*), southern crabgrass, rattlebush, and Macartney rose and is therefore not dominated by hydrophytes.

Wetland Wa8 soil is characterized by a dark grayish brown (10YR 4/2) loamy sand from 0 to 14 inches with dark yellowish brown (10YR 4/6) redox concentrations in the pore lining and matrix. From 14 to 16 inches is the very dark gray (10YR 3/1) clay loam with strong brown (7.5YR 5/8) redox concentrations in the matrix. Dark yellowish-brown (10YR 4/6) redox features are present in approximately 10 to 20 percent of the soil matrix from 8 to 24 inches. This soil is consistent with a depleted matrix, coast prairie redox, and sandy redox and meets the USACE hydric soil criteria. The wetland soils are typical of the hydric Faddin fine sandy loam mapped for this wetland area. The adjacent upland soil is characterized by a 0 to 16-inch-deep dark brown (10YR 3/3) loamy sand with dark yellowish brown (10YR 3/6) redox concentrations in the matrix. This soil is consistent with a depleted matrix and coast prairie redox and meets the USACE hydric soil criteria. The primary wetland hydrology indicator is oxidized rhizospheres on living roots. A secondary indicator of geomorphic position is also present. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.9 Wetland Wa9

Wetland Wa9 is 10.92 acre palustrine emergent (PEM1A) NWI wetland. This wetland is located in the east central portion on the Site and is in close proximity to stream Sb12, and wetlands Wa10 and Wa11 (Appendix A; Figure 4; Sheet 4). Wetland Wa9 is hydrologically connected to stream Sb12. Stream Sb12 flows into stream Sb11, which connects with stream Sb10 before flowing off the east side of the site and terminating in or around Linn Lake. Dominate vegetation consists of rattlebush and switchgrass (*Panicum virgatum*). The composition of hydrophytic plant species in Wetland Wa9 exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation is dominated by Macartney rose and southern dewberry (*Rubus trivialis*). The adjacent uplands are not dominated by hydrophytes.

Wetland Wa9 soil is characterized by a 0 to 6 inch layer of very dark brown (10YR 2/2) sandy clay with strong brown (7.5YR 5/8) redox concentration in the matrix and pore linings. From 6 to 18 inches is gray (10YR 6/1) and very dark gray (10YR 3/1) sandy clay with yellowish brown (10YR5/8) redox concentrations in the matrix and pore linings. This soil is consistent with a depleted matrix, coast prairie redox, and sandy redox and meets the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 6-inch-deep very dark gray (7.5YR 3/1) sandy loam with yellowish brown (10YR 5/6) redox concentrations in the pore linings and matrix. From 6 to 18 inches, the soil consists of very dark gray (7.5YR 3/1) sandy loam with no visible redox features. This soil is consistent with a depleted matrix and meets the USACE hydric soil criteria. The primary wetland hydrology indicator is oxidized rhizospheres on living roots. Secondary indicators were not present. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.10 Wetland Wa10

Wetland Wa10 is a 1.88 acre palustrine emergent (PEM1A) NWI wetland that appears to be isolated with no surface water input or output. This wetland is located on the east central portion of the Site in close proximity to Wetland Wa11 (Appendix A; Figure 4; Sheet 4). The dominant vegetation consists of sweet acacia and switchgrass. The composition of hydrophytic plant species in Wetland Wa10 exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation is dominated by little bluestem, switchgrass, and woodsorrel. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa10 soil is characterized by a dark brown (7.5YR 3/1) clay and a dark gray (7.5YR 4/1) sandy clay from 0 to 7 inches. The 0 to 7 inch layer has yellowish red (5YR 4/6) redox concentrations in the pore lining. From 7 to 18 inches is a black (7.5YR 2.5/1) sandy clay with strong brown redox concentrations in the pore lining. This soil is consistent with a depleted matrix, coast prairie redox, and sandy redox and meets the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 9 inch layer of brown (7.5YR 4/2) sandy loam over a 9 to 20 inch layer of dark grayish brown (10YR 4/2) sandy loam. The upland soil is consistent with a depleted matrix and meets the USACE hydric soil criteria. The primary wetland hydrology indicator is oxidized rhizospheres on living roots. The secondary indicator of

geomorphic position was also identified. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.11 Wetland Wa11

Wetland Wa11 is a 4.69 acre palustrine emergent (PEM1A) NWI wetland that appears to be isolated with no surface water input or output. The wetland is located in the east central portion of the Site and is in close proximity to wetlands Wa10 and Wa9 (Appendix A; Figure 4; Sheet 4). Vegetation consists of mesquite, hooded windmill grass (*Chloris cucullata*), and woodsorrel. Dominant vegetation was not established and/or was difficult to identify due to cattle grazing. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology.The adjacent upland vegetation is dominated by mesquite, sweet acacia, and hooded windmill grass. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa11 soil is characterized by a 0 to 7.5 inch layer of very dark grayish brown (10YR 3/2) sandy clay with strong brown (7.5YR 5/8) redox concentrations in the pore lining. From 7.5 to 18 inches is a very dark gray (7.5YR 3/1) sandy clay with strong brown (7.5 YR 5/6) redox concentrations in the pore lining. This soil is consistent with a depleted matrix, coast prairie redox, and sandy redox and meets the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 7 inch layer of very dark gray (10YR 3/1) sand over a 7 to 18 inch layer of very dark gray (10YR 3/1) sandy clay. The upland soil is consistent with a depleted matrix and meets the USACE hydric soil criteria. The primary wetland hydrology indicator is oxidized rhizospheres on living roots. Secondary indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.12 Wetland Wa12

Wetland Wa12 is a 6.04 acre palustrine emergent (PEM1A) NWI wetland. The wetland is located in the east central portion of the Site and is in close proximity to and drained by stream Sb9 (Appendix A; Figure 4; Sheet 8). The dominant vegetation consists of hooded windmill grass (*Chloris cucullata*). Dominant vegetation was not established and/or was difficult to identify due to cattle grazing. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology.The adjacent upland vegetation is dominated by honey mesquite and woolly croton (*Croton capitatus*). The adjacent uplands are not dominated by hydrophytes.

Wetland Wa12 soil is characterized by 0 to 6 inch layer of very dark brown (7.5YR 2.5/2) sandy clay with dark yellowish brown (10YR 3/6) redox concentrations in the matrix and pore lining. From 6 to 18 inches is a very dark grayish brown (10YR 3/2) sandy clay with strong brown (7.5 YR 5/6) redox concentrations in the matrix and pore lining. This soil is consistent with a depleted matrix, coast prairie redox, and sandy redox and meets the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 9 inch layer of very dark gray (10YR 4/3) sand with dark yellowish brown (10YR 3/6) redox concentrations in the matrix and pore lining. From 7 to 18 inches, the soil is a very dark grayish brown (10YR 3/2) to brown (10YR5/3) clay with yellowish red (5YR 5/8) redox concentrations in the matrix and pore lining. The upland soil is consistent with a depleted matrix and coast prairie redox and meets the USACE hydric soil

criteria. The primary wetland hydrology indicator is oxidized rhizospheres on living roots. Secondary indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.13 Wetland Wa13

Wetland Wa13 is a 0.21 acre unconsolidated bottom (PUBFx) isolated wetland. This wetland was historically a palustrine emergent (PEM1A) isolated NWI wetland and has since been converted for use as a cattle watering pond. The water source for this pond is a groundwater fed pump-driven system that is operated by generator and air compressor. The cattle pond is located in the north central portion of the Site in close proximity to wetlands Wa6, Wa1, and Wa16 (Appendix A; Figure 4; Sheet 4). Identifiable vegetation consists of carpet grass (*Axonopus compressus*) and Bermuda grass. Dominant vegetation was not established and/or was difficult to identify due to cattle grazing. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. The adjacent upland vegetation is unidentifiable due to heavy cattle grazing and the presence of bare ground. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa13 soil is characterized by 0 to 7 inch layer of very dark gray (5YR 3/1) and light gray (10YR 7/2) sandy clay with reddish yellow (5YR 6/8 and 5YR 6/6) redox concentrations in the matrix and pore lining. From 7 to 18 inches is a light gray (10YR 7/1) and very dark gray (5YR 3/1) clayey sand with reddish yellow (5YR 6/8) to yellowish red (5YR 5/8) redox concentrations in the matrix and pore lining. This soil is consistent with a depleted matrix, coast prairie redox, and sandy redox and meets the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 18 inch layer of very dark gray (5YR 3/1) sandy loam with yellowish red (5YR 5/8) redox concentrations in the matrix. The upland soil is consistent with a depleted matrix, coast prairie redox, and sandy redox and meets the USACE hydric soil criteria. The primary wetland hydrology indicators were surface water, inundation visible on aerial imagery, aquatic fauna, and oxidized rhizospheres on living roots. Secondary indicators were sparsely vegetated concave surface and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.14 Wetland Wa14

Wetland Wa14 is a 0.05 acre palustrine unconsolidated bottom (PUBFx) isolated wetland that was created for use as a cattle watering pond and has since converted to a palustrine emergent wetland (PEM). The water source for this pond is a groundwater fed pump-driven system that appears to have not been in operation for some time. This relic cattle pond is located near the northeast corner of the Site adjacent to the 90 degree turn in the farm road (Appendix A; Figure 4; Sheet 1). Identifiable vegetation consists of Bermuda grass, hooded windmill grass, rescue grass, and knotroot foxtail (*Setaria geniculata*). Dominant vegetation was not established and/or was difficult to identify due to cattle grazing. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. The adjacent upland vegetation consists of Bermuda grass and woodsorrel with a large portion of the vegetation grazed heavily by cattle. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa14 soil is characterized by 0 to 16 inch layer of black (10YR 2/1) loamy clay with strong brown (7.5YR 5/8) redox concentrations in the pore lining. This soil is consistent with a depleted matrix and coast prairie redox and meets the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 2 inch layer of organic material underlain by light yellowish brown (2.5Y 6/3) and very dark gray (10YR 3/1) silty clay loam. The upland soil does not meet the USACE hydric soil criteria. The primary wetland hydrology indicator was oxidized rhizospheres on living roots. Secondary indicators were surface soil cracks and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.15 Wetland Wa15

Wetland Wa15 is a 0.21 acre palustrine unconsolidated bottom (PUBFx) wetland that was created for use as a cattle watering pond. The water source for this pond is a groundwater fed pump-driven system that is operated by generator and air compressor. The pond is located near the northeast corner of the Site and is in close proximity to stream Sb18 (Appendix A; Figure 4; Sheet 1). During flood events and times of high flow the pond is likely to overflow its banks to the northeast and form a connection with stream Sb18. Identifiable vegetation consists of Bermuda grass. Dominant vegetation was not established and/or was difficult to identify due to cattle grazing. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. The adjacent upland vegetation consists of Bermuda grass, burclover (*Medicago polymorpha*), largeflower evening primrose (*Oenothera grandiflora*) and Texas bluebonnet (*Lupinus texensis*). The adjacent uplands are not dominated by hydrophytes.

Wetland Wa15 soil is characterized by 0 to 18 inch layer of very dark gray (10YR 3/1) loamy sand and pale brown (10YR 6/3) silty sand. This soil is consistent with a depleted dark surface and meets the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 18 inch layer of black (10YR 2/1) clay loam. The upland soil is consistent with a depleted matrix and meets the USACE hydric soil criteria. The primary wetland hydrology indicators were surface water and inundation visible on aerial imagery. A secondary indicator of geomorphic position was observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.16 Wetland Wa16

Wetland Wa16 is a 41.88 acre palustrine emergent (PEM1C) NWI wetland. The wetland is located in the north central portion of the Site in the vicinity of Wetland Wa6 and Stream Sb15 (Appendix A; Figure 4; Sheets 3 and 4). The northern most portion of the wetland is connected with streams Sb13 and Sb14, as well as a human-made cattle pond. The cattle pond is fed by a windmill well pump and was holding water at the time of the survey. Several reptile and amphibian species including cotton mouth snakes (*Agkistrodon piscivorous*), a diamond-backed watersnake (*Nerodia rhombifer rhombifer*), blotched watersnake (*Nerodia erythrogaster transversa*), broad-banded watersnake (*Nerodia fasciata confluens*), and green treefrog (*Hyla cinerea*) were located in and around the ponded portion of the wetland. Although some plant species were identified, dominant vegetation was not well established and/or was difficult to identify due to cattle grazing. Therefore, the wetland determination was primarily based on

indicators of hydric soils and wetland hydrology. Dominant vegetation identified within the wetland includes Texas frogfruit (*Phyla incise*), woolly desert marigold (*Baileya pleniradiata*), and hooded windmill grass. The adjacent upland vegetation consists of American balsamscale (*Elionurus tripsacoides*), hooded windmill grass, and Macartney rose. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa16 soil is characterized by an organic layer from 0 to 1 inches underlain by very dark grayish brown (10YR 3/2) to very dark gray (10YR 3/1) clay loam with dark yellowish brown (10YR 3/6) redox concentrations in the pore lining. This soil is consistent with a depleted matrix and coast prairie redox and meets the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 1inch organic layer underlain by a 1 to 14 inch dark brown (10YR 3/3) silty sand. A 14 to 16 inch layer of dark grayish brown (10YR 4/2) clay loam with red (2.5YR 4/8) redox concentrations in the pore lining is situated beneath the silty sand. This soil exhibits no visible mottles or streaking of organic matter, and therefore fails to meet the USACE hydric soils criteria for sandy soils. The primary wetland hydrology indicator for Wa16 is oxidized rhizospheres on living roots. Drainage patterns and geomorphic position were observed to be secondary indicators. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.17 Wetland Wa17

Wetland Wa17 is a 10.68 acre palustrine emergent (PEM1A) NWI wetland that appears to be isolated with no surface water input or output. The wetland is located near the southwest corner of Site in the vicinity of Kuy Creek and stream SA11 (Appendix A; Figure 4; Sheet 10). The dominant vegetation consists of sweet acacia, honeylocust (*Gleditsia triancantos*), Mexican devil-weed (*Aster spinosus*), and Macartney rose. The composition of hydrophytic plant species in Wetland Wa17 meets the criteria of the prevalence index and is considered to be dominated by hydrophytes. The adjacent upland vegetation is dominated by sweet acacia, Mexican devil-weed, and little bluestem. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa17 soil is characterized by 0 to 13 inch layer of very dark gray (10YR 3/1) and dark brown (10YR 6/3) clay loam with dark yellowish brown (10YR 4/6) redox concentrations in the matrix and pore lining. This soil is consistent with a coast prairie redox and meets the USACE hydric soil criteria. The adjacent upland soil is characterized by dark gray (10YR 4/1) and very dark grayish brown (10YR 3/2) loamy sand with yellowish brown (10YR 5/8) redox concentrations in the matrix from 6 to 13 inches. From 7 to 18 inches, the soil is a very dark grayish brown (10YR 3/2) to brown (10YR5/3) clay with yellowish red (5YR 5/8) redox concentrations in the matrix and pore lining. The upland soil is consistent with a depleted matrix and meets the USACE hydric soil criteria. The primary wetland hydrology indicator is oxidized rhizospheres on living roots. Secondary indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.18 Wetland Wa18

Wetland Wa18 is a 6.39 acre palustrine emergent (PEM1C) NWI wetland with an associated palustrine unconsolidated shore (PUSCx) wetland that was historically used as a cattle watering

pond. The PUSCx portion of the wetland is surrounded by two earthen berms that were constructed with the soil removed from the shallow depression. The wetland is connected hydrologically to stream Sa11; and is located in the west central portion of the Site in the vicinity of wetlands Wa20, Wa25; and streams Sa5, Sa12, and (Appendix A; Figure 4; Sheet 10). Dominant vegetation within the wetland is exclusively rattlebush. The composition of hydrophytic plant species in this wetland exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation is dominated by rattlebush, switchgrass, and southern dewberry. The adjacent uplands are dominated by hydrophytes.

Wetland Wa18 soil is characterized by a brown (10YR 4/3) silty sand with yellowish brown (10YR 5/8) from 0 to 5 inches, underlain by dark gray (10YR 4/1) and light gray (10YR 7/1) silty sand with yellowish brown (10YR 5/8) redox concentrations in the matrix and pore linings. This soil is consistent with a coast prairie redox, sandy redox, and depleted dark surface and meets the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 5 inch brown (10YR 4/3) silty sand. From 5 to 14 inches the soil is brown (10YR 4/3) and dark grayish brown (10YR 4/2) silty sand with strong brown (7.5YR 5/8) redox concentrations in the pore lining and matrix. The primary wetland hydrology indicator for Wa18 is oxidized rhizospheres on living roots. Secondary hydrology indicators include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.19 Wetland Wa19

Wetland Wa19 is a 0.14 acre palustrine unconsolidated bottom (PUBFx) wetland. Wetland Wa19 appears to be isolated with no surface water input or output. This wetland appears to be a human-made cattle water pond with an associated wetland fringe. The wetland is located in the west central portion of the Site; and is in the vicinity of stream Sa13, and Wetland Wa50 (Appendix A; Figure 4; Sheet 10). Vegetation within the wetland fringe portion of the cattle pond is dominated by rattlebush and Bermuda grass. Dominant vegetation was not established and/or was difficult to identify due to cattle grazing and the presence of 90 percent bare ground. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology.The adjacent upland vegetation consists of sweet acacia and Bermuda grass with approximately 30 percent bare ground within the plot area. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa19 soil is characterized by a 0 to 14 inch layer of very dark gray (10YR 3/1) clay with strong brown (7.5YR 4/6) redox concentrations within the pore lining. These soils are consistent with that of a depleted matrix and are therefore meet the USACE hydric soil criteria. The adjacent upland soils are characterized by a 0 to 5 inch layer of dark brown (7.5YR 3/2) loamy sand about a 5 to 14 inch layer of dark grayish brown to brown (10YR 4/2.5) loamy sand. The upland soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wa19 are inundation visible on aerial imagery and oxidized rhizospheres on living roots. Secondary indicators of hydrology include sparsely vegetated concave surface, drainage patterns, and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.20 Wetland Wa20

Wetland Wa20 is a 36.71 acre palustrine emergent (PEM1A) wetland. The wetland is located in the western portion of the Site in the vicinity of stream Sa13 and Wetland Wa54 (Appendix A; Figure 4; Sheet 10). The wetland is dissected down the center by stream Sa13. Vegetation within the wetland plot is dominated by switchgrass, sweet acacia, crow poison, and southern dewberry with 30 percent bare ground. The composition of hydrophytic plant species in this wetland exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation is dominated by Macartney rose and switchgrass. The adjacent upland vegetation has a prevalence index of less than 3.0 and thereby meets the USACE criteria for hydrophytic vegetation.

Wetland Wa20 soil is characterized by a 0 to 14 inch layer of dark grayish brown (10YR 4/2) silty sand with yellowish brown (10YR 5/8) redox concentrations within the pore lining. These soils are consistent with that of a depleted matrix and are therefore meet the USACE hydric soil criteria. The adjacent upland soils are characterized by a 0 to 12 inch layer of brown (10YR 4/3) loamy sand with dark yellowish brown (10YR 3/6) redox concentrations in the matrix. The upland soils do not meet the USACE hydric soil criteria. Primary wetland hydrology indicators were not observed. Secondary indicators of hydrology include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.21 Wetland Wa21

Wetland Wa21 is a 0.23 acre palustrine unconsolidated bottom (PUBFx), palustrine emergent (PEM1A) wetland. Wetland Wa21 appears to be isolated with no surface water input or output. The PUBFx portion of this wetland appears to be a human-made cattle watering pond. The PEM1A aspect of this wetland is most likely to be a result of cattle pond operations. This wetland is located in the northwestern portion of the Site in the vicinity of wetlands Wa22, Wa23, Wb2, and Wb3; and Dry Kuy Creek (Appendix A; Figure 4; Sheet 3). Identifiable vegetation in the wetland consists of Bermuda grass. Dominant vegetation was not established and/or was difficult to identify due to cattle grazing and the presence of 60 percent bare ground. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. The adjacent upland vegetation consists of Bermuda grass and switchgrass with approximately 20 percent bare ground within the plot area. The composition of hydrophytic plant species in the upland plot exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation.

Wetland Wa21 soil is characterized by very dark gray (10YR 3/1) and light brownish gray (10YR 6/2) sandy loam with yellowish brown (10YR 5/8) redox concentrations in the matrix from 0 to 6 inches. From 6 to 14 inches the soil is characterized by very dark gray (10YR 3/1) and dark gray (10YR 4/1) sandy loam with yellowish brown (10YR 5/8) redox concentrations in the matrix and pore lining. These soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soils are characterized by a 0 to 14 inch layer of very dark gray (10YR 3/1) and white (10YR 8/1) loamy sand with yellowish brown

(10YR 5/8) redox concentrations in the matrix. The upland soils are consistent with that of a depleted matrix, coast prairie redox, and sandy redox and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wetland Wa21 are inundation visible on aerial imagery, and oxidized rhizospheres on living roots. Secondary wetland hydrology indicators include sparsely vegetated concave surface, drainage patterns, and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.22 Wetland Wa22

Wetland Wa22 is a 0.27 acre palustrine unconsolidated shore (PUSCx) wetland. This wetland is a historic cattle pond that is associated with stream Sb1 in the northwestern corner of the Site (Appendix A; Figure 4; Sheet 3). Identifiable vegetation within the wetland includes Bermuda grass, little barley (*Hordeum pusillum*), and common pepperweed (*Lepidium densiflorum*). Dominant vegetation was not established and/or was difficult to identify due to cattle grazing and the presence of 70 percent bare ground. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology.The adjacent upland vegetation consists of honey mesquite, rattlebush, and frogfruit with approximately 20 percent bare ground within the plot area. The composition of hydrophytic plant species in the upland plot exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation.

Wetland Wa22 soil is characterized by very dark grayish brown (10YR 3/2) and light gray (10YR 7/1) sandy loam from 0 to 16 inches. From 6 to 14 inches there was a presence of brownish yellow (10YR 6/6) redox concentrations within the soil matrix. These soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soils are characterized by a 0 to 3 inch layer of gray (10YR 6/1) and very pale brown (10YR 8/2) sandy loam underlain by a 3 to 13 inch layer of very dark grayish brown (10YR 3/2) and gray (10YR 6/1) sandy loam with yellow (10YR 7/6) redox concentrations in the matrix. The upland soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wetland Wa21 are inundation visible on aerial imagery, and aquatic fauna. Secondary wetland hydrology indicators include sparsely vegetated concave surface and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.23 Wetland Wa23

Wetland Wa23 is a 1.01 acre palustrine emergent (PEM1A) NWI wetland. Wetland Wa23 appears to be isolated with no surface water input or output. This wetland is located in the northwest corner of the Site in the vicinity of Wetland Wa22 and stream Sb1 (Appendix A; Figure 4; Sheet 3). Vegetation is dominated by rattlebush and switchgrass. The composition of hydrophytic plant species in this wetland passes the prevalence index, and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of rattlebush, big bluestem, and southern dewberry. The composition of hydrophytic plant species in the upland plot exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation.

Wetland Wa23 soil is characterized by 0 to 12 inch layer of dark grayish brown (10YR 4/2) sandy loam with dark yellowish brown (10YR 4/6) redox concentrations in the pore linings. The adjacent upland soil is characterized by a very dark grayish brown (10YR 3/2) sandy loam from 0 to 14 inches. These soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicator for Wa23 is oxidized rhizospheres on living roots. A secondary indicator of drainage patterns was also observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.24 Wetland Wa24

Wetland Wa24 is a 0.09 acre palustrine emergent (PEM1A) wetland. The wetland was created by an overflowing cistern associated with a windmill well pump, and appears to be isolated with no surface water input or output. This wetland is located in the north central portion of the Site (Appendix A; Figure 4; Sheet 3). Vegetation is dominated needle spikerush (*Eleocharis acicularis*), reed canarygrass (*Phalaris arundinacea*), globe flatsedge (*Cyperus echinatus*), and yellow nutsedge (*Cyperus esculentus*). The composition of hydrophytic plant species in this wetland exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation is dominated by Bermuda grass, reed canarygrass, and southern dewberry. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa24 soil is characterized by a 1 inch organic layer underlain by light gray (10YR 7/1) and very dark grayish brown (10YR 3/2) sandy loam from 1 to 7 inches. From 7 to 14 inches, there is a very dark gray (10YR 3/1) and grayish brown (10YR 5/2) sandy loam with yellowish brown (10YR 5/6) redox concentrations in the matrix and pore linings. These soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 13 inch dark brown (10YR 3/3) silty sand with dark yellowish brown (10YR 4/6) redox concentrations with the soil matrix. This soil does not contain redox concentrations occurring as soft masses and/or pore linings; therefore, these soils fail to meet the USACE hydric soils criteria for sandy soils. Primary wetland hydrology indicators for Wa24 were not observed within the wetland plot. Secondary indicators of hydrology include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.25 Wetland Wa25

Wetland Wa25 is a 0.11 acre palustrine unconsolidated bottom (PUBFx) wetland. This wetland is a human-made cattle pond that appears to be isolated with no surface water input or output. The wetland is located in the north central portion of Site in the vicinity of Wetland Wa24 (Appendix A; Figure 4; Sheet 3). Vegetation within the wetland includes Bermuda grass and smut grass. Dominant vegetation was not established and/or was difficult to identify due to cattle grazing. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. The adjacent upland vegetation consists of Bermuda grass, creeping woodsorrel, and Texas evening primrose (*Oenothera texensis*) with approximately 25 percent bare ground within the plot area. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa25 soil is characterized by a 0 to 5 inch layer grayish brown (10YR 5/2) silty sand with dark yellowish brown (10YR 3/6) redox concentrations in the soil matrix and pore linings. From 5 to 14 inches is a very dark gray (10YR 3/1) silty sand with red (2.5YR 4/6) redox concentrations in the soil matrix and pore linings. These soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 17 inch very dark grayish brown (10YR 3/2) silty sand. The upland soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wa25 are surface water, saturation, inundation visible on aerial imagery, and oxidized rhizospheres on living roots. Secondary hydrologic indicators include sparsely vegetated concave surface, drainage patterns, and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.26 Wetland Wa26

Wetland W26 is a 0.38 acre palustrine emergent (PEM1A) wetland located in the northwestern portion of the site in the vicinity of wetlands Wa27, Wa5, and Wa29 (Appendix A; Figure 4; Sheet 7). This wetland is no longer a functional wetland and could be considered a roadside ditch dominated by Bermuda grass. Soils information was not gathered for this vegetated drainage ditch.

3.3.27 Wetland Wa27

Wetland Wa27 is a 3.14 acre palustrine emergent (PEM1A) NWI wetland. This wetland is in conjunction with and most likely drains via a roadside ditch. Wetland Wa27 is located in the northwestern portion of the Site in the vicinity of Wetland Wa5 (Appendix A; Figure 4; Sheet 7). Vegetation is dominated by rattlebush, little bluestem, and southern dewberry. Although some plant species were identified, dominant vegetation was not well established and/or was difficult to identify due to cattle grazing. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. The adjacent upland vegetation consists of little bluestem and southern dewberry with approximately 10 percent bare ground within the plot area. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa27 soil is characterized by 1 inch organic layer underlain by a 1 to 4 inch layer of light brownish gray (10YR 6/2) and very dark grayish brown (10YR 3/2) silty sand with dark yellowish brown (10YR 4/6) redox concentrations in the soil matrix and pore linings. From 4 to 13 inches is a dark brown (10YR 3/3) silty sand with dark yellowish brown (10YR 3/6) redox concentrations in the soil matrix and pore linings. These soils are consistent with that of a coast prairie redox, sandy redox, and depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 4 inch grayish brown (2.5Y 5/2) silty sand with dark yellowish brown (10YR 4/6) redox concentrations in the soil matrix. From 4 to 12 inches the soil is characterized by a very dark grayish brown (10YR 3/2) silty sand with yellowish brown (10YR 5/6) redox concentrations in the matrix. The upland soils are consistent with that of a coast prairie redox, sandy redox, and depleted matrix and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicator for Wa27 is oxidized

rhizospheres on living roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.28 Wetland Wa29

Wetland Wa29 is a 0.36 acre palustrine emergent (PEM1Cx) NWI wetland. Wetland Wa29 is a non active, human-made cattle pond that appears to be isolated with no surface water input or output. It is located in the northwestern portion of the Site in the vicinity of Wetland Wa26 (Appendix A; Figure 4; Sheet 7). Vegetation consists solely of rattlebush. The composition of hydrophytic plant species in this wetland exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of rattlebush and southern dewberry with approximately 30 percent bare ground within the plot area. The composition of hydrophytic plant species in the adjacent upland exceeds 50 percent and thereby meets the USACE criteria for hydrophytic vegetation.

Wetland Wa29 soil is characterized by a 0 to 13 inch layer of dark brown (10YR 3/3) and very dark grayish brown (10YR 3/2) sandy loam with yellowish red (5YR 5/8) redox concentrations in the soil matrix and pore linings. These soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 13 inch dark brown (10YR 3/3) silty sand. This soil does not present a chroma of 2 or less; therefore these soils fail to meet the USACE hydric soils criteria. The primary wetland hydrology indicator for Wa29 is oxidized rhizospheres on living roots. Secondary hydrologic indicators include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.29 Wetland Wa30

Wetland Wa30 is a 0.16 acre palustrine unconsolidated bottom (PUBFx) wetland. Wetland Wa30 is a human-made cattle pond that receives water from a pump-driven groundwater source. It appears to be isolated with no surface water input or output. The wetland is located in the north central portion of the Site in the vicinity of Wetland Wa41 (Appendix A; Figure 4; Sheet 7). Identifiable vegetation consisted solely of Bermuda grass. Dominant vegetation was not established and/or was difficult to identify due to cattle grazing. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa30 soil is characterized by a 0 to 13 inch very dark grayish brown (10YR 3/2) loam. These soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 13 inch very dark grayish brown (10YR 3/2) loam. The upland soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wa30 are surface water and saturation. Secondary hydrologic indicators include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.30 Wetland Wa32

Wetland Wa32 is a 0.05 acre palustrine unconsolidated bottom (PUBFx) wetland. This wetland is a human-made cattle pond that appears to be isolated with no surface water input or output. The pond has not operated as a cattle pond for some time and it appears the well pump is no longer functioning. This wetland is located in the southwestern portion of the Site in the vicinity of streams Sb1 and Sb3 (Appendix A; Figure 4; Sheet 12). Dominant vegetation was not established and/or was difficult to identify due to cattle grazing and the presence of 80 percent bare ground. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. The adjacent upland vegetation consists solely of Bermuda grass and is heavily grazed within the plot area. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa32 soil is characterized by a 0 to 14 inch layer of dark gray (10YR 4/1) and light gray (10YR 7/1) sandy clay with dark yellowish brown (10YR 4/6) and yellowish brown (10YR 5/6 and 10YR 5/8) redox concentrations in the matrix and pore linings. These soils are consistent with that of a coastal prairie redox and depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 13 inch very dark grayish brown (10YR 3/2) silty sand with dark yellowish brown (10YR 4/6) redox concentrations in the matrix and pore linings. The upland soils are consistent with that of a coast prairie redox, sandy redox, and depleted matrix and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicator for Wa32 is oxidized rhizospheres on living roots. Secondary hydrologic indicators include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.31 Wetland Wa33

Wetland Wa33 is a 0.17 acre palustrine unconsolidated bottom (PUBFx) NWI wetland. This wetland is a human-made cattle pond that appears to be isolated with no surface water input or output. During periods of flooding or high water it is likely that this pond overflows its banks and becomes connected with Dry Kuy Creek. This wetland is located in the south central portion of the Site in the vicinity of Dry Kuy Creek and Wetland Wa34 (Appendix A; Figure 4; Sheet 11). Dominant vegetation was not established and/or was difficult to identify due to cattle grazing and the presence of 100 percent bare ground. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology.The adjacent upland vegetation consists solely of Bermuda grass and is heavily grazed with 80 percent bare ground within the plot area. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa33 soil is characterized by a 0 to 6 inch layer of very dark grayish brown (10YR 3/2) clay. Soils below 6 inches could not be obtained due to standing water within the pit. These soils are consistent with that of a depleted matrix; and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 11 inch- very dark gray (10YR 3/1) and light gray (10YR 7/1) clay loam with yellowish brown (10YR 5/8) redox concentrations in the matrix. The upland soils are consistent with that of a depleted matrix and therefore meet the

USACE hydric soil criteria. The primary wetland hydrology indicators for Wa33 are surface water, saturation, inundation visible on aerial imagery, and oxidized rhizospheres on living roots. Secondary hydrologic indicators include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.32 Wetland Wa34

Wetland Wa34 is a 0.12 acre palustrine unconsolidated bottom (PUBFx) NWI wetland. This wetland is a human-made cattle pond that appears to be isolated with no surface water input or output. During periods of flooding or high water it is likely that this pond overflows its banks and becomes connected with Dry Kuy Creek. This wetland is located in the south central portion of the Site in the vicinity of Dry Kuy Creek and Wetland Wa33 (Appendix A; Figure 4; Sheet 11). Dominant vegetation was not established and/or was difficult to identify due to cattle grazing and the presence of 100 percent bare ground. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. The adjacent upland vegetation consists solely of Bermuda grass and is heavily grazed with 60 percent bare ground within the plot area. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa34 soil is characterized by a 0 to 13 inch layer of very dark grayish brown (10YR 3/2) clay loam with yellowish brown (10YR 5/8) redox concentrations in the matrix and pore linings. These soils are consistent with that of a coast prairie redox and depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 13-inch- gray (10YR 5/1) and very dark gray (10YR 3/1) clay loam with brownish yellow (10YR 6/6) redox concentrations in the matrix. The upland soils are consistent with that of a coast prairie redox and depleted matrix; and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wa34 are inundation visible on aerial imagery, and oxidized rhizospheres on living roots. Secondary hydrologic indicators include surface soil cracks, drainage patterns, and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.33 Wetland Wa35

Wetland Wa35 is a 0.55 acre palustrine emergent (PEM1Ax) NWI wetland. This wetland is a human-made cattle watering area that appears to be isolated with no surface water input or output. Wetland Wa25 is located in the southwestern portion of the Site in the vicinity of wetlands Wa37, Wa38, Wa39, and Wa57 (Appendix A; Figure 4; Sheet 11). Dominant vegetation consists of Mexican devil-weed and Macartney rose with 40 percent bare ground within the plot. The composition of hydrophytic plant species in this wetland exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of sweet acacia, little bluestem, saw greenbrier (*Smilax bona-nox*), and riverbank grape (*Vitis riparia*) with approximately 30 percent bare ground within the plot area. The composition of hydrophytic plant species in the adjacent upland passes the prevalence index test and thereby meets the USACE criteria for hydrophytic vegetation.

Wetland Wa35 soil is characterized by an organic layer from 0 to 2 inches underlain by a 2 to 13 inch layer of dark grayish brown (10YR 4/2) and very dark gray (10YR 3/1) sandy loam with pale brown (10YR 6/3) redox concentrations in the soil matrix and pore linings. These soils are consistent with that of a coast prairie redox and depleted matrix; and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 13 inch dark grayish brown (10YR 4/2) silty sand with dark yellowish brown (10YR 4/6) redox concentrations in the matrix. These soils are consistent with that of a coast prairie redox and sandy redox and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wa35 are inundation visible on aerial imagery and oxidized rhizospheres on living roots. Secondary hydrologic indicators include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.34 Wetland Wa37

Wetland Wa37 is a 0.03 acre palustrine unconsolidated shore (PUSCx) NWI wetland. Wetland Wa37 is an old human-made cattle pond that appears to be isolated with no surface water input or output. It is likely that this pond has not been used for many years as a cattle pond. Wetland Wa37 is located in the southwestern portion of the Site in the vicinity of wetlands Wa35, Wa38, Wa39, and Wa57 (Appendix A; Figure 4; Sheet 11). Dominant vegetation consists of Bermuda grass and switchgrass with 30 percent bare ground within the plot. The composition of hydrophytic plant species in this wetland passes the prevalence index and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of honey mesquite, switchgrass, and southern dewberry with approximately 40 percent bare ground within the plot area. The composition of hydrophytic plant species in the adjacent upland exceeds 50 percent and thereby meets the USACE criteria for hydrophytic vegetation.

Wetland Wa37 soil is characterized by a 0 to 14 inch layer of grayish brown (10YR 5/2) and very dark grayish brown (10YR 3/2) sandy loam with brownish yellow (10YR 6/8) redox concentrations in the soil matrix and pore linings. These soils are consistent with that of a coast prairie redox and depleted matrix; and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 13 inch dark grayish brown (10YR 4/2) silty sand. These soils do not meet the USACE hydric soil criteria and are therefore not considered hydric soils. The primary wetland hydrology indicators for Wa37 are inundation visible on aerial imagery and oxidized rhizospheres on living roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.35 Wetland Wa38

Wetland Wa38 is a 0.44 acre palustrine unconsolidated shore (PUSCx) NWI wetland. Wetland Wa38 is an old human-made cattle pond that appears to be isolated with no surface water input or output. It is likely that this pond has not been used for many years as a cattle pond. Wetland Wa38 is located in the southwestern portion of the Site in the vicinity of wetlands Wa35, Wa37, Wa39, and Wa57 (Appendix A; Figure 4; Sheet 11). Dominant vegetation consists of rescue

grass (*bromus indicus*), switchgrass, and curly dock (*Rumex crispus*) with 20 percent bare ground within the plot. The composition of hydrophytic plant species in this wetland passes the prevalence index and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of rescue grass, curly dock, Bermuda grass, and Virginia pepperweed (*Lepidium virginicum*) with approximately 20 percent bare ground within the plot area. The composition of hydrophytic plant species in the adjacent upland passes the prevalence index and thereby meets the USACE criteria for hydrophytic vegetation.

Wetland Wa38 soil is characterized by a 0 to 13 inch layer of dark grayish brown (10YR 3/2) silty sand with yellowish brown (10YR 5/8) redox concentrations in the soil matrix and pore linings. These soils are consistent with that of a coast prairie redox, sandy redox, and depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 13 inch dark grayish brown (10YR 4/2) silty sand. These soils do not meet the USACE hydric soil criteria and are therefore not considered hydric soils. The primary wetland hydrology indicators for Wa38 are inundation visible on aerial imagery and oxidized rhizospheres on living roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.36 Wetland Wa39

Wetland Wa39 is a 0.17 acre palustrine emergent (PEM1Fx) NWI wetland. Wetland Wa39 appears to be isolated with no surface water input or output. Wetland Wa39 is located in the southwestern portion of the Site in the vicinity of Wetland Wa38 (Appendix A; Figure 4; Sheet 11). Identifiable vegetation consists of golden tickseed (*Coreopsis tinctoria*) and hairy crabgrass (*Digitaria sanguinalis*). Dominant vegetation was not established and/or was difficult to identify due to cattle grazing and the presence of 60 percent bare ground. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology.The adjacent upland vegetation consists of rescue grass, curly dock, Bermuda grass, and Virginia pepperweed with approximately 20 percent bare ground within the plot area.

Wetland Wa39 soil is characterized by a 0 to 9 inch layer of very dark grayish brown (10YR 3/2) sandy loam with yellowish brown (10YR 5/8) redox concentrations in the matrix and pore linings. From 9 to 12 inches the soil is characterized by a very dark grayish brown (10YR 3/2) and light gray (10YR 7/1) sandy loam with yellowish brown (10YR 5/8) redox concentrations in the matrix and pore linings. These soils are consistent with that of a coast prairie redox and depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 13 inch dark grayish brown (10YR 4/2) silty sand. These soils do not meet the USACE hydric soil criteria and are therefore not considered hydric soils. The primary wetland hydrology indicator for Wa39 is oxidized rhizospheres on living roots. Secondary hydrologic indicators include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.37 Wetland Wa41

Wetland Wa41 is a 0.65 acre palustrine unconsolidated shore (PUSCx) NWI wetland. This wetland is a human-made cattle pond that appears to be isolated with no surface water input or output. This wetland is located in the central portion of the Site in the vicinity of Wetland Wa30 (Appendix A; Figure 4; Sheet 7). Dominant vegetation consists of switchgrass, Bermuda grass, and rattlebush with approximately 30 percent bare ground. The composition of hydrophytic plant species in this wetland passes the prevalence index and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists solely of little bluestem, switchgrass, Bermuda grass, and rattlebush with 30 percent bare ground within the plot. The adjacent uplands are also dominated by hydrophytes.

Wetland Wa41 soil is characterized by a 0 to 3 organic layer underlain by a 3 to 11 inch layer of very dark gray (10YR 3/1) and grayish brown (10YR 5/2) sandy loam with strong brown (7.5YR 5/8) redox concentrations in the pore linings and matrix. These soils are consistent with that of a depleted matrix and coast prairie redox; and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 7 inch very dark grayish brown (10YR 3/2) and light gray (10YR 7/1) sandy loam. From 7 to 12 inches is a very dark gray (10YR 3/1) sandy loam. Organic material was found to be mixed thought the soil profile. The upland soils are consistent with that of a depleted matrix; and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wa33 are surface water, saturation, inundation visible on aerial imagery, and oxidized rhizospheres on living roots. Secondary hydrologic indicators include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.38 Wetland Wa44

Wetland Wa44 is an 11.63 acre palustrine emergent (PEM1A) NWI wetland that is adjacent to Stream Sa13. Wetland Wa44 is located in the west central portion of the Site in the vicinity of wetlands Wa45 and Wa46 (Appendix A; Figure 4; Sheets 7 and 10). Dominant vegetation consists of switchgrass, little bluestem, and southern dewberry. The composition of hydrophytic plant species in this wetland exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of switchgrass, creeping wood sorrel, little bluestem, and southern dewberry with approximately 20 percent grazed plot area. The composition of hydrophytic plant species in the upland passes the prevalence index and thereby meets the USACE criteria for wetland vegetation.

Wetland Wa44 soil is characterized by a 0 to 14 inch layer of dark grayish brown (10YR 4/2) sandy loam with yellowish brown (10YR 5/8) redox concentrations in the matrix and pore linings. These soils are consistent with that of a coast prairie redox and depleted matrix; and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 14 inch brown (10YR 4/3) silty sand. These soils do not meet the USACE hydric soil criteria and are therefore not considered hydric soils. The primary wetland hydrology indicators for Wa44 are surface water, saturation, and oxidized rhizospheres on living roots. Secondary hydrologic indicators include saturation visible on aerial imagery. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.39 Wetland Wa45

Wetland Wa45 is a 0.13 acre palustrine emergent (PEM1Cx) NWI wetland that is adjacent to Wetland Wa44. Wetland Wa45 is located in the west central portion of the Site in the vicinity of wetlands Wa44 and Wa46 (Appendix A; Figure 4; Sheet 7). Dominant vegetation consists of rattlebush and woolly desert marigold (*Baileya pleniradiata*). The composition of hydrophytic plant species in this wetland exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of rattlebush, little bluestem, woolly desert marigold, and southern dewberry. The composition of hydrophytic plant species in the upland passes the prevalence index and thereby meets the USACE criteria for wetland vegetation.

Wetland Wa45 soil is characterized by a 0 to 3 inch layer of brown (10YR 4/3) sandy loam with dark yellowish brown (10YR 4/6) redox concentrations in the matrix. From 3 to 12 inches the soil is characterized by a brown (10YR 4/3), light gray (10YR 7/1), and very dark gray (10YR 3/1) sandy loam with dark yellowish brown (10YR 4/6) redox concentrations in the matrix and pore linings. These soils are consistent with that of a coast prairie redox and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 8 inch layer of very dark grayish brown (10YR 3/2) sandy loam. From 8 to 14 inches the soil is characterized by a very dark grayish brown (10YR 3/2) and brown (10YR 4/3) sandy loam. These soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. These soils do not meet the USACE hydric soil criteria and are therefore not considered hydric soils. The primary wetland hydrology indicator for Wa45 is oxidized rhizospheres on living roots. Secondary hydrologic indicators include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.40 Wetland Wa46

Wetland Wa44 is a 0.06 acre palustrine unconsolidated bottom (PUBFx) wetland. Wetland Wa46 is located in the west central portion of the Site in the vicinity of wetlands Wa44 and Wa45 (Appendix A; Figure 4; Sheet 7). Identifiable vegetation consists of Bermuda grass. Dominant vegetation was not established and/or was difficult to identify due to cattle grazing and the presence of 50 percent open water and 40 percent bare ground. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. The adjacent upland vegetation consists of rescue sweet acacia, little bluestem, and Bermuda grass, with approximately 20 percent bare ground within the plot area. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa46 soil is characterized by a 0 to 14 inch layer of very dark gray (10YR 3/1) sandy loam. These soils are consistent with that of a depleted matrix; and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 14 inch layer of very dark gray (10YR 3/1) and very dark grayish brown (10YR 3/2) sandy loam. These soils are consistent with that of a depleted matrix; and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wa46 are surface water, saturation, and oxidized rhizospheres

on living roots. Secondary hydrologic indicators include drainage patterns and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.41 Wetland Wa50

Wetland Wa50 is a 0.10 acre palustrine unconsolidated bottom (PUBFx) wetland. This wetland is a human-made cattle pond that appears to be isolated with no surface water input or output. Wetland Wa50 is located in the west central portion of the Site in the vicinity of Wetland Wa44 and Stream Sa13 (Appendix A; Figure 4; Sheet 10). Dominant vegetation was not determined due to the presence of 50 percent open water and 50 percent bare ground due to cattle use. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology.The adjacent upland vegetation was not determined due to 70 percent bare ground and 30 percent heavily grazed grasses within the plot area.

Wetland Wa50 soil is characterized by a 0 to 4 inch layer of dark grayish brown (10YR 4/2) and very dark grayish brown (10YR 3/2) sandy loam with yellowish brown (10YR 5/8) redox concentrations in the matrix and pore linings. These soils are consistent with that of a coast prairie redox and depleted matrix; and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 10 inch very dark grayish brown (10YR 3/2) and dark grayish brown (10YR 4/2) sandy loam. The 10 to 12 inch layer is a very dark grayish brown (10YR 3/2) sandy loam with yellowish brown (10YR 5/8) redox concentrations in the matrix. These soils are consistent with that of a depleted matrix; and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wa50 are surface water, saturation, and oxidized rhizospheres on living roots. Secondary hydrologic indicators include drainage patterns, saturation visible on aerial imagery, and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.42 Wetland Wa52

Wetland Wa44 is a 0.20 acre palustrine unconsolidated bottom (PUBFx) wetland. This wetland is a human-made cattle pond that appears to be isolated with no surface water input or output. Wetland Wa52 is located in the west central portion of the Site in the vicinity of wetlands Wa20 and Wa50 (Appendix A; Figure 4; Sheet 10). Dominant vegetation was not determined due to the presence of 100 percent open water within the plot area. The adjacent upland vegetation was dominated by Bermuda grass and 30 percent bare ground. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa52 soil was not investigated to the geographic position of the pond. The pond is a basin with eroded banks. The adjacent upland soil is characterized by a 0 to 13-inch- dark grayish brown (10YR 4/2) and very dark grayish brown (10YR 3/2) sandy loam with dark yellowish brown (10YR 4/6) redox concentrations in the matrix. These soils do not meet the USACE hydric soil criteria and are therefore not considered hydric soils. The primary wetland hydrology indicators for Wa52 are surface water and saturation. Secondary hydrologic indicators include drainage patterns, saturation visible on aerial imagery, and geomorphic

position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.43 Wetland Wa54

Wetland Wa54 is a 0.37 acre palustrine emergent (PEM1A) NWI wetland that is adjacent to Stream Sa11. Wetland Wa54 is an old human made cattle pond located in the west central portion of the Site in the vicinity of Wetland Wa20 and streams Sa11 and Sa13 (Appendix A; Figure 4; Sheet 10). Dominant vegetation consists of rattlebush, Bermuda grass, and amamastla (*Rumex chrysocarpus*). The composition of hydrophytic plant species in this wetland exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of Bermuda grass and switchgrass with approximately 60 percent bare ground in the plot area. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa54 soil is characterized by a 0 to 12 inch layer of light brownish gray (10YR 6/2) and dark grayish brown (10YR 4/2) sandy loam with strong brown (7.5YR 5/8) redox concentrations in the matrix and pore linings. These soils are consistent with that of a coast prairie redox and depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 13 inch brown (10YR 4/3) and very dark grayish brown (10YR 3/2) sandy loam with yellowish brown (10YR 5/8) redox concentrations in the matrix. These soils do not meet the USACE hydric soil criteria and are therefore not considered hydric soils. The primary wetland hydrology indicator for Wa54 is oxidized rhizospheres on living roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.44 Wetland Wa55

Wetland Wa55 is a 0.06 acre palustrine emergent (PEM1C) wetland. This wetland is a human-made cattle pond that appears to be isolated with no surface water input or output. Wetland Wa55 is located in the west central portion of the Site in the vicinity of Wetland Wb15 (Appendix A; Figure 4; Sheet 11). Dominant vegetation consists of rattlebush, little bluestem, and Bermuda grass. Although some plant species were identified, dominant vegetation was not well established and/or was difficult to identify due to cattle grazing. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. The adjacent upland vegetation consists of sweet acacia and little bluestem with approximately 20 percent bare ground within the plot area. The adjacent uplands are not dominated by hydrophytes.

Wetland Wa55 soil is characterized by a 0 to 4 inch layer of dark grayish brown (10YR 4/2) and light gray (10YR 7/1) sandy loam with dark yellowish brown (10YR 4/6) and dark grayish brown (10YR 4/2) redox concentrations in the matrix and pore linings. These soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 12 inch very dark grayish brown (10YR 3/2) and light gray (10YR 7/1) sandy loam with dark yellowish brown (10YR 4/6) redox concentrations in the matrix and pore linings. These soils do not meet the USACE hydric soil criteria and are therefore not considered hydric soils. The primary wetland hydrology indicator for Wa55 is

oxidized rhizospheres on living roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.45 Wetland Wa56

Wetland Wa56 is a 0.35 acre palustrine emergent (PEM1Ax) NWI wetland that is adjacent to Wetland Wb15. Wetland Wa56 is an old human made cattle pond located in the west central portion of the Site in the vicinity of Wetland Wa15 and Stream Sa1 (Appendix A; Figure 4; Sheet 11). Dominant vegetation consists of switchgrass and Bermuda grass. The composition of hydrophytic plant species in this wetland passes the prevalence index and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of Texas verbena, Bermuda grass, and southern dewberry with approximately 45 percent bare ground within the plot area. The adjacent uplands are not dominated by hydrophytes

Wetland Wa56 soil is characterized by a 0 to 13 inch layer of dark gray (10YR 4/1) and very dark grayish brown (10YR 3/2) sandy clay with yellowish brown (10YR 5/8) redox concentrations in the matrix and pore linings. These soils are consistent with that of a coast prairie redox and depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 14 inch very dark gray (10YR 3/1) clay. These soils are consistent with that of a depleted matrix; and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicator for Wa56 is oxidized rhizospheres on living roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.46 Wetland Wa57

Wetland Wa57 is a 0.42 acre palustrine emergent (PEM1Ax) NWI wetland. Wetland Wa57 is an old human made cattle pond that appears to be isolated with no surface water input or output. This wetland is located in the south central portion of the Site in the vicinity of wetlands Wa35, Wa37 and Wa39 (Appendix A; Figure 4; Sheet 11). Dominant vegetation consists of sweet acacia, honey mesquite, switchgrass, and southern dewberry. The composition of hydrophytic plant species in this wetland passes the prevalence index and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of switchgrass and southern dewberry with approximately 20 percent bare ground within the plot area. The composition of the adjacent upland plant species passes the prevalence index and thereby meets the USACE criteria for hydrophytic vegetation.

Wetland Wa57 soil is characterized by a 0 to 13 inch layer of dark grayish brown (10YR 4/2) and very dark grayish brown (10YR 3/2) sandy loam with dark yellowish brown (10YR 4/6) redox concentrations in the matrix and pore linings. These soils are consistent with that of a coast prairie redox and depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 15 inch very dark grayish brown (10YR 3/2) sandy loam with yellowish brown (10YR 5/8) redox concentrations in the matrix. These soils are consistent with that of a coast prairie redox and depleted matrix; and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicator for Wa57 is oxidized rhizospheres

on living roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.47 Wetlands Wa58 and Wa59

Wetlands Wa58 and Wa59 are a 0.19 and 0.08 acre palustrine unconsolidated shore (PUSCx) wetlands, respectively. These wetlands are human made cattle ponds that appear to be isolated with no surface water input or output. Wetlands Wa58 and Wa59 are located in the central portion of the Site (Appendix A; Figure 4; Sheet 9 and Sheet 11). Vegetation and soils information were not gathered at these sites due to the eroded nature of the banks and the high degree of cattle use resulting in little to no vegetative cover within the wetland and upland plot areas.

3.3.48 Wetland Wb1

Wetland Wb1 is a 207.16 acre wetland that encompasses all or portions of six palustrine emergent (4 PEM1A, 1 PEM1F, and 1 PEM1C) NWI wetlands and one palustrine unconsolidated bottom (PUBHh) NWI wetland. Wetland Wb1 is located at the northwestern Site boundary and extends south and east across the north access road. Wetland B1 is dissected to east by stream Sb13 which drains south from the PUBHh wetland located on the north Site boundary (Appendix A; Figure 4; Sheets 1 and 3). The wetland crosses several vegetative communities including grass dominated lands and scrub-shrub dominated lands. Dominant vegetation consists of bushy bluestem (*Andropogon glomeratus*), little bluestem, Canada goldenrod (*Solidago canadensis*), and southern dewberry. Dominant vegetation was not established and/or was difficult to identify due to cattle grazing and draught conditions. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. The adjacent upland vegetation consists of big bluestem (*Andropogon gerardii*) and southern dewberry with approximately 20 percent bare ground within the plot area. The composition of hydrophytic plant species in the adjacent upland passes the prevalence index and thereby meets the USACE criteria for hydrophytic vegetation.

Wetland Wb1 soil is characterized by a 0 to 7 inch layer of very dark grayish brown (10YR 3/2) loamy sand with dark brown (7.5YR 3/4) coated sand grains in the pore linings. From 7 to 12 inches the soil is characterized by a brown (7.5YR 4/2) clay with strong brown (7.5YR 4/6) redox concentrations in the matrix. From 12 to 18 inches the soil is characterized by a dark grayish brown (10YR 4/2) clay with dark yellowish brown (10YR 4/6) redox concentrations in the matrix. These soils are consistent with that of a coast prairie redox, sandy redox, and depleted matrix; and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 18 inch dark grayish brown (10YR 4/2) loamy sand. These soils do not meet the USACE hydric soil criteria and are therefore not considered hydric soils. The primary wetland hydrology indicator for Wb1 is oxidized rhizospheres on living roots. Secondary hydrologic indicators were not observed within the wetland plot. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.49 Wetland Wb2

Wetland Wb2 is a 0.44 acre palustrine unconsolidated shore (PUSCx) NWI wetland, which appears to be isolated with no surface water input or output. The ponded portion of the wetland has been excavated to serve as a cattle watering pond. Wetland Wb2 is located to the west of Wetland Wb1 in the area of the northwest corner of the Site (Appendix A; Figure 4; Sheet 3). Dominant vegetation consists of rattlebush, bushy bluestem, and rescue grass. The composition of hydrophytic plant species in this wetland exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of mesquite, rattlebush, annual ragweed, and southern dewberry. The adjacent uplands are not dominated by hydrophytes.

Wetland Wb2 soil is characterized by a 0 to 13 inch layer of dark gray (10YR 4/1) and light brownish gray (10YR 6/2) clay loam with yellowish red (5YR 4/6) redox concentrations in the pore linings. From 13 to 18 inches the soil is characterized by a grayish brown (2.5Y 5/2) clay with yellowish brown (10YR 5/8) redox concentrations in the matrix. These soils are consistent with that of a coast prairie redox; and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 13 inch very dark gray (10YR 3/1) loamy sand underlain by a very dark grayish brown (10YR 3/2) loamy sand. These soils are consistent with that of a depleted matrix; and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicator for Wb2 is oxidized rhizospheres on living roots. A secondary hydrology indicator of geomorphic position was observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.50 Wetland Wb3

Wetland Wb3 is a 0.72 acre palustrine emergent (PEM1C) NWI wetland, which appears to be isolated with no surface water input or output. Wetland Wb1 is located southwest of Wb2 (Appendix A; Figure 4; Sheet 3). Dominant vegetation consists of rattlebush, swamp smartweed (*Polygonum hydropiperoides*), curly dock, needle spikerush, and Texas tickseed (*Coreopsis linifolia*). The composition of hydrophytic plant species in this wetland exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of rattlebush, Bermuda grass, and rescue grass. The adjacent uplands are not dominated by hydrophytes.

Wetland Wb3 soil is characterized by a 0 to 8 inch layer of gray (10YR 5/1) sandy loam. From 8 to 18 inches the soil is characterized by a dark gray (10YR 4/1) clay loam and light brownish gray (10YR 6/2) sand. These soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 15inch very dark grayish brown (10YR 3/2) loamy sand. These soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wb3 are surface water and aquatic fauna. Secondary hydrologic indicators include drainage patterns, crayfish burrows, and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.51 Wetland Wb5

Wetland Wb5 is a 25.67 acre palustrine emergent (PEM1A) NWI wetland, which appears to be isolated with no surface water input or output. Wetland Wb5 is located adjacent to the Missouri Pacific Railroad on the southern boundary of the Site (Appendix A; Figure 4; Sheet 13). Dominant vegetation consists of bushy bluesteam, panic grass, switchgrass, and rattlebush. The composition of hydrophytic plant species in this wetland has a prevalence index of less than 3.0 and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of sweet acacia, bushy bluestem, little bluestem, and smut grass. The adjacent uplands are not dominated by hydrophytes.

Wetland Wb5 soil is characterized by a 0 to 2 inch layer of very dark grayish brown (10YR 3/2) sandy. From 2 to 8 inches the soil is characterized by a very dark gray (10YR 3/1) clay loam with dark yellowish brown (10YR 4/6) redox concentrations in the pore linings. From 8 to 18 inches the soil is characterized by a very dark gray (2.5Y 3/1) clay. These soils are consistent with that of a coast prairie redox and depleted matrix; and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 16 inch very dark grayish brown (10YR 3/2) loamy sand underlain by a 16 to 18 inch layer of very dark gray (10YR 3/1) clay with strong brown (7.5YR 4/6) redox concentrations in the pore linings. These soils are consistent with that of a depleted matrix; and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wb5 are aquatic fauna and oxidized rhizospheres on living roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.52 Wetland Wb7

Wetland Wb7 is a 12.97 acre palustrine emergent (PEM1A) NWI wetland, which appears to be isolated with no surface water input or output. Wetland Wb7 is located approximately 2000 feet northeast of Wb5 along the southern boundary of the Site (Appendix A; Figure 4; Sheet 13). A hydrologic connection between wetlands Wb5 and Wb7 was not identified. Dominant vegetation consists of sweet acacia, bushy bluesteam, smut grass, and southern dewberry. The composition of hydrophytic plant species in this wetland has a prevalence index of less than 3.0 and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of mesquite, bushy bluestem, little bluestem, and smut grass. The adjacent uplands are not dominated by hydrophytes.

Wetland Wb7 soil is characterized by a 0 to 1 inch organic layer underlain by a 1 to 16 inch of very dark gray (10YR 3/1) sandy clay and light brownish gray (10YR 6/2) loamy sand with dark yellowish brown (10YR 4/6) redox concentrations in the pore linings. These soils are consistent with that of a coast prairie redox and depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 16 inch very dark grayish brown (10YR 3/2) loamy sand underlain by a 16 to 18 inch layer of black (10YR 2/1) clay loam with yellowish brown (10YR 5/8) redox concentrations in the matrix. These soils are consistent with that of a depleted matrix; and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wb7 are aquatic fauna and oxidized rhizospheres on living

roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.53 Wetland Wb8

Wetland Wb8 is a 0.15 acre palustrine unconsolidated bottom (PUBFx) NWI wetland, which appears to be isolated with no surface water input or output. Wetland Wb8 is located northwest of Wetland Wb7 in the area of stream Sa1. The excavated pond is located on the north side of a field road and was determined to not have an associated vegetated wetland fringe (Appendix A; Figure 4; Sheet 12). Dominant vegetation was not established and/or was difficult to identify due to cattle grazing and the presence of 100 percent bare ground. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. Upland vegetation was not documented due to the lack of identifiable vegetation within the surrounding area of the excavated cattle pond.

Wetland and upland soil pits were not excavated due to the lack of a wetland fringe and the nature of the recently disturbed site. This is a recently excavated cattle pond with no hydrophytic vegetation and the absence of hydric soils. The primary wetland hydrology indicators for Wb8 include surface water and saturation at the time of the survey. Secondary hydrologic indicators include sparsely vegetated concave surface and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.54 Wetland Wb9

Wetland Wb9 is a 0.43 acre palustrine unconsolidated bottom (PUBFx) wetland created through artificial watering methods. The wetland contains an associated palustrine emergent (PEM1A) wetland aspect. Approximately 30 percent of the wetland is open water associated with PUBFx wetland, while the remaining 70 percent of the wetland supports herbaceous plant growth. The wetland appears to be isolated with no surface water input or output. Wetland Wb9 receives it water from a water holding tank that is filled by a windmill. This water storage tank is also associated with Wetland Wb10. Wetland Wb9 is located in conjunction with Wb10 and is between wetlands Wb5 and Wb7 near the southern boundary of the Site (Appendix A; Figure 4; Sheet 13). Dominant vegetation consists of Hercules club (*Zanthozylum clava-herculis*), few flowered spike rush (*Eleocharis pauciflora*), bush bluestem, and curly dock. The composition of hydrophytic plant species in this wetland exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of sweet acacia and mesquite. The adjacent uplands are not dominated by hydrophytes.

Wetland Wb9 soil is characterized by a 0 to 1 inch organic layer underlain by a 1 to 18 inch of black (10YR 2/1) sandy clay and very dark gray (2.5Y 3/1) sandy loam with dark brown (7.5YR 3/4) redox concentrations in the pore linings. These soils are consistent with that of a depleted matrix; and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 18 inch black (10YR 2/1) sandy loam. These soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wb9 are surface water, saturation, and oxidized rhizospheres

on living roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.55 Wetland Wb10

Wetland Wb10 is a 0.07 acre palustrine emergent (PEM) wetland, which appears to be isolated with no surface water input or output. The hydrology of Wb10 is groundwater supported by the overflow from a concrete water storage tank. The water storage tank holds water that has been pumped from a well via windmill. The water that is held in the storage tank is used to maintain water levels in the adjacent cattle pond associated with Wetland Wb9. Wetland Wb10 is located in the vicinity of Wb9 (Appendix A; Figure 4; Sheet 13). Dominant vegetation consists of Hercules club, Bermuda grass, few flowered spike rush, bush bluestem, curly dock, and softstem bulrush (*Scirpus validus*). The composition of hydrophytic plant species in this wetland does not meet the USACE criteria for wetland vegetation due to the presence of Bermuda grass as the dominant. With 65 percent Bermuda grass cover suggesting that continued disturbance from cattle grazing and watering has led to a presence of disturbance tolerant plants. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. The adjacent upland vegetation consists of sweet acacia and mesquite. The adjacent uplands are not dominated by hydrophytes.

Wetland Wb10 soil is characterized by a 0 to 2 inch organic layer underlain by a 2 to 18 inch of reddish gray (2.5YR 5/1) sandy clay. These soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 18-inch- black (10YR 2/1) sandy loam. These soils are consistent with that of a depleted matrix; and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicator for Wb10 is saturation. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.56 Wetland Wb11

Wetland Wb11 is a 2.69 acre palustrine emergent (PEM1C) NWI wetland, which appears to be isolated with no surface water input or output. Wetland Wb11 is located west of Wetland Wb5 in the vicinity of an above ground storage structure most likely used for oil storage (Appendix A; Figure 4; Sheet 13). The wetland is dissected in the center by a service road and secondary containment structure around the oil storage facility. Dominant vegetation, within the wetland, consists of bushy bluestem, switchgrass, Bermuda grass, woodrush flatsedge, and southern dewberry. The composition of hydrophytic plant species in this wetland has a prevalence index of less than 3.0 and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of mesquite, sweet acacia, bushy bluestem, Bermuda grass, little bluestem, and southern dewberry. The adjacent uplands are not dominated by hydrophytes.

Wetland Wb11 soil is characterized by a 0 to 1 inch organic layer underlain by a 1 to 6 inch light gray (10YR 7/2) loamy sand with brownish yellow (10YR 6/8) redox concentrations in the pore linings and black (7.5YR 2.5/1) sandy loam. The 6 to 18 soil layer is characterized by black (7.5YR 2.5/1) clay loam with strong brown (7.5YR 4/6) redox concentrations in the matrix and very dark grayish brown (10YR 3/2) sand. These soils are consistent with that of a coast prairie

redox, sandy redox, and depleted matrix; and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 12 inch dark grayish brown (10YR 4/2) loamy sand underlain by a 12 to 18 inch layer of black (10YR 2/1) clay loam with yellowish brown (10YR 5/8) redox concentrations in the matrix. These soils do not meet the USACE hydric soil criteria. The primary wetland hydrology indicator for Wb11 is oxidized rhizospheres on living roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.57 Wetland Wb12

Wetland Wb12 is a 50.01 acre palustrine emergent (PEM) wetland, which is connected to and drained by streams Sb6 and Sb8. Wetland Wb12 is located in the west central portion of the Site in the vicinity of Wetland Wa12 and streams Sb8 and Sb7 (Appendix A; Figure 4; Sheets 8 and 9). Dominant vegetation consists of Texas goldentop (*Euthamia gymonspermoides*), wholly croton, and rescue grass with approximately 40 percent bare ground caused by cattle grazing. Although some plant species were identified, dominant vegetation was not well established and/or was difficult to identify due to cattle grazing. Therefore, the wetland determination was primarily based on indicators of hydric soils and wetland hydrology. The adjacent upland vegetation consists of honey mesquite, sweet acacia, little bluestem, bushy bluestem, wholly croton, and southern dewberry. The adjacent uplands are not dominated by hydrophytes.

Wetland Wb12 soil is characterized by a 0 to 7 inch dark brown (10YR 3/3) loamy sand with strong brown (7.5YR 5/8) redox concentrations in the matrix. The 7 to 18 soil layer is characterized by black (10YR 2/1) clay loam with strong brown (7.5YR 5/8) redox concentrations in the matrix. These soils are consistent with that of a coast prairie redox and depleted matrix, and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 7 inch dark brown (10YR 3/3) sandy loam with dark yellowish brown (10YR 3/6) redox concentrations in the pore linings underlain by a 7 to 18 inch layer of very dark brown (10YR 2/2) clay loam with dark reddish brown (5YR 3/4) redox concentrations in the matrix. These soils are consistent with that of a coast prairie redox and depleted matrix, and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicators for Wb12 are aquatic fauna and oxidized rhizospheres on living roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.58 Wetland Wb13/Wb14

Wetland Wb13/Wb14 is a 245.42 acre palustrine emergent/palustrine unconsolidated bottom (PEM1A/PEM1F/PUBFx) wetland that is connected to and drained by streams Sb3 and Sb5. This is a large wetland that incorporates many vegetative communities including grasslands, scrub-shrub, and un-vegetated cattle pond. Wetland Wb13/Wb14 is located in the southeast corner of the Site (Appendix A; Figure 4; Sheets 9 and 12). Dominant vegetation consists of longtom (*Paspalum lividum*), bushy bluestem, and wholly croton. The composition of hydrophytic plant species in this wetland exceeds 50 percent and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists little bluestem, big bluestem, and southern dewberry. The adjacent uplands are not dominated by hydrophytes.

Wetland Wb13/Wb14 soil is characterized by a 0 to 18 inch very dark gray (7.5YR 3/1) silty clay with yellowish red (5YR 5/8) redox concentrations in the pore linings and matrix, and dark grayish brown (10YR 4/2) loamy sand with red (2.5YR 5/6) redox concentrations in the pore linings. These soils are consistent with that of a coast prairie redox, and depleted matrix; and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 10 inch black (7.5YR 2.5/1) loamy sand with trace amounts of dark yellowish red (5YR 4/6) redox concentrations in the pore linings. The 10 to 18 inch layer of black (10YR 2/1) loamy sand with reddish yellow (5YR 6/8) redox concentrations in the matrix. These soils are consistent with that of a coast prairie redox, sandy redox, and depleted matrix and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicator for Wb13/Wb14 is oxidized rhizospheres on living roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.59 Wetland Wb15

Wetland Wb15 is a 222.21 acre palustrine emergent (PEM1Ad/PEM1Fx) wetland that is connected to and drained by streams Sa1, Sa2, Sa3, Sa4, and Sa5. The wetland is located in the west central portion of the Site (Appendix A; Figure 4; Sheets 8 and 11). Dominant vegetation consists of sweet acacia, bushy bluestem, and bahiagrass. The composition of hydrophytic plant species in this wetland has a prevalence index of less than 3.0 and thereby meets the USACE criteria for wetland vegetation. The adjacent upland vegetation consists of Pan American balsamscale, bushy bluestem, bahiagrass, annual ragweed, and southern dewberry. The composition of hydrophytic plant species in the adjacent upland has a prevalence index of less than 3.0 and thereby meets the USACE criteria for wetland vegetation.

Wetland Wb15 soil is characterized by a 0 to 7 inch dark brown (10YR 3/3) loamy sand with dark yellowish brown (10YR 4/6) redox concentrations in the pore linings and matrix. The 7 to 18 inch soil layer consists of dark grayish brown (10YR 4/2) sandy clay with brownish yellow (10Yr 6/6) redox concentrations in the pore linings and matrix. These soils are consistent with that of a coast prairie redox and sandy redox and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 18 inch very dark grayish brown (10YR 3/2) loamy sand. These soils are consistent with that of a depleted matrix and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicator for Wb15 is oxidized rhizospheres on living roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.60 Wetland Wb16

Wetland Wb16 is an 88.92 acre palustrine emergent (PEM1A) wetland that is connected to and drained by stream Sa1. The wetland is located in the west central portion of the Site (Appendix A; Figure 4; Sheets 7, 10, and 11). Dominant vegetation consists of bushy bluestem, longtom, Texas goldentop, smut grass, annual ragweed, and southern dewberry. The composition of hydrophytic plant species in this wetland exceeds 50 percent and thereby meets the USACE

criteria for wetland vegetation. The adjacent upland vegetation consists of Pan American balsamscale, Texas goldentop, little bluestem, annual ragweed, southern dewberry, and Macartney Rose. The adjacent uplands are not dominated by hydrophytes.

Wetland Wb16 soil is characterized by a 0 to 11 inch gray (10YR 5/1) sandy clay loam with yellowish red (5YR 5/8) redox concentrations in the pore linings and matrix. The 11 to 18 inch soil layer consists of very dark grayish brown (10YR 3/2) clay with yellowish red (5YR 5/8) redox concentrations in the matrix. These soils are consistent with that of a coast prairie redox and depleted matrix and therefore meet the USACE hydric soil criteria. The adjacent upland soil is characterized by a 0 to 14-inch- very dark grayish brown (10YR 3/2) loamy sand. The 14 to 18 inch soil layer consists of black (7.5YR 2.5/1) clay with yellowish red (5YR 5/8) redox concentrations in the matrix. These soils are consistent with that of a depleted matrix; and therefore meet the USACE hydric soil criteria. The primary wetland hydrology indicator for Wb16 is oxidized rhizospheres on living roots. Secondary hydrologic indicators were not observed. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas.

3.3.61 Wetland Wp1

The delineation of wetland Wp1 was not included in the spring of 2009 wetland delineation effort. The following data is representative of the findings recorded during the January of 2008 delineation effort performed by Peyton Doub of Tetra Tech NUS. The delineation of Wetland Wp1 followed the routine onsite inspection methodology in Part IV, Section D, Subsection 2 of the *Corps of Engineers Wetlands Delineation Manual* (1987 Manual) (Environmental Laboratory 1987).

Wetland Wp1 is a zone of nearly level, forested wetlands extending from the toe of the sloping uplands in the eastern part of the site to the west shore of Linn Lake and Black Bayou Site (Appendix A; Figure 4; Sheets 2, 4, 5, 6, and 9). This wetland fringe area varies in width from less than 100 feet in the vicinity of Linn Lake to more than 1,000 feet in the vicinity Black Bayou. The forested wetlands on Site comprise the western edge of a large lowland zone bordering the Guadalupe River (Tetra Tech 2008).

Dominant vegetation in the wetlands west of Black Bayou and Linn Lake consists primarily of tree species such as black willow (*Salix nigra*) and green ash (*Fraxinus pennsylvanica*) with other bottomland hardwood tree species such as bald cypress (*Taxodium distichum*) and hackberry (*Celtis laevigata*). Woody understory is generally sparse except for occasional seedlings and saplings of canopy species. A few saw palmettos (*Serenoa serrulata*) (UPL) occur near the upper boundary of the wetlands. Herbaceous groundcover was sparse at the time of the wetland delineation (January) but is likely denser during the growing season (Tetra Tech 2008). The transition from bottomland hardwood trees to upland trees such as southern live oak (*Quercus virginiana)* is gradual and not complete at some points until as far as 200 feet uphill from the wetland boundary. Forest vegetation dominated by live oaks with an understory of saw palmetto extends farther uphill for variable distances until fading to grassland.

Surface soils in the wetlands west of Black Bayou and Linn Lake are high in clay with a matrix of 1G 3/N or dark gray (10YR 4/1) with many distinct dark yellowish brown to yellowish brown

(10YR 4/6 or 10YR 5/6) mottles. A matrix hue of 1G or 2G indicates gleyed soils (i.e., soils with a greenish or greenish-blue color resulting from prolonged saturation or inundation). The soils also displayed a sulfidic odor at some locations. Gleying and sulfidic odors result from the reduction of soil iron by bacteria under anaerobic conditions and constitute strong evidence of hydric soils. Gleying and sulfidic odors do not extend to the wetland boundary, where soils are generally dark gray (10YR 4/1) with mottles. Mottled soils with a low matrix chroma (final number of 2 or 1) also result from iron reduction by soil bacteria, but reflect briefer episodes of anaerobic conditions. They are therefore weaker indicators of hydric soils and more probable near the upper boundary of a wetland. Upland soils outside of the wetland boundary generally displayed less clay and less mottling at the surface (Tetra Tech, 2008).

The primary wetland hydrology indicators for Wp1 are surface water, saturation, hydrogen sulfide odor, and oxidized rhizospheres on living roots. Secondary hydrologic indicators include drainage patterns, saturation visible on aerial imagery, and geomorphic position. No primary or secondary hydrologic indicators of wetland hydrology were observed within adjacent upland areas (Tetra Tech 2008).

3.4 FIELD WATERBODY IDENTIFICATION

Data were collected for a total of thirty-three (33) stream reaches. The topography is nearly level, resulting in very slow movement of water within the sites streams. A 2-foot topographic contour survey was used to assist with the refinement of each field surveyed stream. Descriptions of these waterbodies are presented below.

3.4.1 Stream Sa1

Stream Sa1 was field estimated to have intermittent flow. It receives input from streams Sb1, Sa2, Sa3, Sa4, and Sa5 (Appendix A; Figure 4; Sheets 7, 10, 11, and 12). It is approximately 17,522 feet long with very low meander, beginning in the west central portion of the site flowing southeast. The stream exits the Site from the south boundary by flowing under the Missouri Pacific Railroad. The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 5 feet at the southern edge of the property to 0.5 feet at its headwaters. The substrate ranges from sand to clay with the dominant substrate being sandy loam. This is most likely a human-made stream.

3.4.2 Stream Sa2

Stream Sa2 was field estimated to have ephemeral flow. It aids in draining wetlands Wb15 and Wb16 and flows southeast before intersecting with stream Sa1 (Appendix A; Figure 4; Sheets 7, 8, and 11). It is approximately 13,781 feet long with very low meander, beginning within Wetland Wb16 in the west central portion of the site. The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 1 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. This is most likely a human-made stream.

3.4.3 Stream Sa3

Stream Sa3 was field estimated to have ephemeral flow. It is approximately 1,399 feet long with very low meander, beginning in the western portion of Wetland Wb15 and draining east before intersecting with stream Sa1 (Appendix A; Figure 4; Sheet 11). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 1 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. This is most likely a human-made stream.

3.4.4 Stream Sa4

Stream Sa4 was field estimated to have ephemeral flow. It is approximately 1,656 feet long with very low meander, beginning in the northeastern portion of Wetland Wb15 and draining southwest before intersecting with stream Sa1 (Appendix A; Figure 4; Sheet 11). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 1 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. This is most likely a human-made stream.

3.4.5 Stream Sa5

Stream Sa5 was field estimated to have ephemeral flow. It is approximately 2,083 feet long with very low meander, beginning in the western portion of Wetland Wb15 and draining east before intersecting with stream Sa1 (Appendix A; Figure 4; Sheets 10 and 11). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 1 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. This is most likely a human-made stream.

3.4.6 Stream Sa6 (Kuy Creek)

Stream Sa6 was field estimated to have perennial flow. It is approximately 5,408 feet long with moderate meander. This stream enters the Site and flows along the southwestern boundary before leaving the Site at the south boundary. The stream is intersected and receives flow from streams Sa7, Sa8, Sa9, Sa10, and Sa11 (Appendix A; Figure 4; Sheet 13). The channel was mostly dry at the time of the survey, with small pools of water remaining. The incised height of the stream ranges from 2 to 5 feet. The stream is located in a forested portion of the Site and was found to sustain an abundance of wildlife. Substrate ranges from clay to silt and sand with the dominant substrate being clayey loam.

3.4.7 Stream Sa7

Stream Sa7 was field estimated to have ephemeral flow. It is approximately 1,163 feet long with very low meander. This appears to be a historically channelized stream that flows from the farm road on the east side of stream Sa6 westward until it intersects with stream Sa6 (Appendix A;

Figure 4; Sheet 13). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 2 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel.

3.4.8 Stream Sa8

Stream Sa8 was field estimated to have ephemeral flow with at least a portion of the stream having characteristics of an intermittent drainage. It is approximately 775 feet long with low meander. This stream flows onto the Site from the southwestern boundary and continues flowing east until it intersects with stream Sa6 (Appendix A; Figure 4; Sheet 13). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 2 to 5 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel.

3.4.9 Stream Sa9

Stream Sa9 was field estimated to have ephemeral flow with at least a portion of the stream having characteristics of an intermittent drainage. It is approximately 238 feet long with very low meander. This stream flows onto the Site from the southwestern boundary and continues flowing north until it intersects with stream Sa10 (Appendix A; Figure 4; Sheet 13). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 2 to 5 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel.

3.4.10 Stream Sa10

Stream Sa10 was field estimated to have ephemeral flow with at least a portion of the stream having characteristics of an intermittent drainage. It is approximately 183 feet long with very low meander. This stream flows onto the Site from the southwestern boundary and continues flowing northeast until it intersects with stream Sa6 (Appendix A; Figure 4; Sheet 13). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 2 to 5 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel.

3.4.11 Stream Sa11

Stream Sa11 was field estimated to have intermittent flow with at least a portion of the stream having characteristics of an ephemeral drainage. It is approximately 5,636 feet long with very low meander. This stream drains Wetland Wa18 before flowing south and continuing off the southwest Site boundary (Appendix A; Figure 4; Sheets 10, 11, and 13). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 5 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. This is most likely a human-made stream.

3.4.12 Stream Sa12

Stream Sa12 was field estimated to have ephemeral flow. It is approximately 1,641 feet long with very low meander, beginning in the west central portion of the site in the vicinity of stream Sa11. This stream drains from a farm road south and connects with stream Sa11 before exiting the Site (Appendix A; Figure 4; Sheets 11 and 13). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 1 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. This is most likely a human-made stream.

3.4.13 Stream Sa13

Stream Sa13 was field estimated to have ephemeral flow. It is approximately 4,485 feet long with very low meander, beginning in the west central portion of the Site in the vicinity of stream Wetland Wa44. This stream flows south through Wetland Wa20, draining wetlands Wa20 and Wa54, before intersecting with Stream Sa11 (Appendix A; Figure 4; Sheets 7 and 10). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 2 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. This is most likely a human-made stream.

3.4.14 Stream Sa14

Stream Sa14 was field estimated to have ephemeral flow. It is approximately 6,484 feet long with very low meander, beginning in the northern portion of the Site. The stream drains Wetland Wa4 and flows south before exiting the southwest Site boundary (Appendix A; Figure 4; Sheets 7 and 10). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 2 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. This is most likely a human-made stream.

3.4.15 Stream Sa15

Stream Sa15 was field estimated to have ephemeral flow. It is approximately 1,627 feet long with very low meander. The stream enters and quickly exits the northwestern Site boundary (Appendix A; Figure 4; Sheet 7). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 1 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. This is most likely a human-made stream that is a result of Highway 77 located west of the Site.

3.4.16 Stream Sb1 (Dry Kuy Creek)

Stream Sb1 was field estimated to have intermittent flow with the northern section of the stream exhibiting ephemeral flow. It is approximately 33,506 feet long with very low meander, beginning in the northwest corner of the Site and flowing southeast across the length of the Site before draining off the southern most Site boundary (Appendix A; Figure 4; Sheets 3, 7, 8, 11, and 12). The stream intersects with stream Sa1 and exits the Site from the south boundary by flowing under the Missouri Pacific Railroad. The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 5 feet at the southern edge of the property to 0.5 feet at its headwaters. The substrate ranges from sand to clay with the dominant substrate being sandy loam. This is most likely a human-made stream. The stream is currently hydrologically connected with wetlands Wa3 and Wa22.

3.4.17 Stream Sb3

Stream Sb3 was field estimated to have ephemeral flow. It is approximately 3,729 feet long with very low meander, beginning in the southern portion of Wetland Wb13/14 and draining west before intersecting with stream Sb1 (Appendix A; Figure 4; Sheet 12). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 4 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. This is most likely a human-made stream.

3.4.18 Stream Sb4

Stream Sb4 was field estimated to have ephemeral flow. It is approximately 2,419 feet long with very low meander, beginning in the southeast portion of the Site flowing southeast before spreading out along the southern Site boundary (Appendix A; Figure 4; Sheet 9). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 4 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel.

3.4.19 Stream Sb5

Stream Sb5 was field estimated to have ephemeral flow. It is approximately 950 feet long with very low meander. This stream serves to capture overflow from the cattle pond associated with the eastern portion of Wetland Wb13/14 (Appendix A; Figure 4; Sheet 9). The flow continues north from the cattle pond until it intersects stream Sb4. The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 4 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. This is most likely a human-made stream.

3.4.20 Stream Sb6

Stream Sb6 was field estimated to have ephemeral flow. It is approximately 4,200 feet long with low meander, beginning in the eastern portion of Wetland Wb12 and draining east into Wetland Wp1 (Appendix A; Figure 4; Sheet 9). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 4 feet. The substrate ranges from loam to clay with the dominant substrate being sand. At the time of the survey terrestrial vegetation was present in the majority of the stream channel.

3.4.21 Stream Sb7

Stream Sb7 was field estimated to have ephemeral flow. It is approximately 225 feet long with low meander. This stream is located in the southeast portion of the Site on the north side of Wetland Wb13/14 (Appendix A; Figure 4; Sheet 9). The channel was entirely dry at the time of the survey. It appears as if this stream may receive flow from the northern portion of Wetland Wb13/14 during times of heavy rain and high water table. Stream Sb7 flows northeast and intersects with stream Sb6. The incised height of the stream ranges from 0.5 to 4 feet. The substrate ranges from loam to clay with the dominant substrate being sand. At the time of the survey terrestrial vegetation was present in the majority of the stream channel.

3.4.22 Stream Sb8

Stream Sb8 was field estimated to have ephemeral flow, however this stream receives water from a windmill operated well pump. It is approximately 3,205 feet long with low meander, poorly defined channel, beginning in the northern portion of Wetland Wb12 and draining east into Wetland Wp1 (Appendix A; Figure 4; Sheets 8 and 9). With the exception of a few small pools of water in the vicinity of the windmill, the channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 2 feet. The substrate ranges from loam to clay with the dominant substrate being sand. At the time of the survey terrestrial vegetation was present in the majority of the stream channel.

3.4.23 Stream Sb9

Stream Sb9 was field estimated to have intermittent flow with portions of the stream exhibiting ephemeral flow conditions. It is approximately 5,747 feet long with low meander and areas of poorly defined channel. This stream is located in the east central portion of the Site and flows northeast into wetland Wp1 (Appendix A; Figure 4; Sheets 4 and 8). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 5 feet. The substrate ranges from loam to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel.

3.4.24 Stream Sb10

Stream Sb10 was field estimated to have ephemeral flow. It is approximately 428 feet long with very low meander and a poorly defined channel. This stream is located in the east central portion of the Site and flows north into Stream Sb9 (Appendix A; Figure 4; Sheet 4). The channel was

entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 2.5 feet. The substrate ranges from loam to clay with the dominant substrate being sandy. At the time of the survey terrestrial vegetation was present in the majority of the stream channel.

3.4.25 Stream Sb11

Stream Sb11 was field estimated to have intermittent flow with portions of the stream exhibiting ephemeral flow conditions. It is approximately 1,254 feet long with very low meander and areas of poorly defined channel. This stream is located in the east central portion of the Site and flows southeast into Stream Sb9 (Appendix A; Figure 4; Sheet 4). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 2.5 feet. The substrate ranges from loam to clay with the dominant substrate being sandy. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. This is most likely a human-made stream.

3.4.26 Stream Sb12

Stream Sb12 was field estimated to have ephemeral flow. It is approximately 397 feet long with very low meander and areas of poorly defined channel. This stream is located in the east central portion of the Site. The stream drains from the southeast portion of Wetland Wa9 and flows east into Stream Sb11 (Appendix A; Figure 4; Sheet 4). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 4 feet. The substrate ranges from loam to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. This is most likely a human-made stream.

3.4.27 Stream Sb13

Stream Sb13 was field estimated to intermittent flow with portions of the stream exhibiting ephemeral flow conditions. It is approximately 18,299 feet long with low meander and areas of poorly defined channel. This stream flows onto the Site from a lake outside of the northern Site boundary. The stream flows southeast across the northeastern section of the Site (Appendix A; Figure 4; Sheets 1, 3, and 4). Several portions of the stream have a poorly developed channel while other portions have an incised height of 0.5 to 3 feet. The substrate ranges from sand to clay with the dominant substrate being sandy loam. This is most likely a human-made stream. Stream Sb13 flows through several wetlands including the eastern portion of Wetland Wb1; the northern portion of Wa16, including the cattle pond in extreme northern portion of this wetland; before spilling out into Wetland Wp1 on the northwestern border of Linn Lake. At the time of the survey the stream was entirely and terrestrial vegetation was present in the majority of the stream channel.

3.4.28 Stream Sb14

Stream Sb14 was field estimated to have ephemeral flow. It is approximately 1,020 feet long with very low meander and a poorly defined channel. This stream is located in the east central portion of the Site. During high water events the stream may drain from the northern portion of

Wetland Wa7 and proceed in a northerly flow into stream Sb13 (Appendix A; Figure 4; Sheet 4). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 1 feet. The substrate ranges from loam to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel.

3.4.29 Stream Sb15

Stream Sb15 was field estimated to have ephemeral flow. It is approximately 389 feet long with very low meander. This stream is located in a live oak dominated forest stand in the northern portion of the Site in the vicinity of Wetland Wb1. This stream flows from off the northern boundary into Wetland Wb1 and intersects stream Sb13 approximately 125 feet south of the northern boundary (Appendix A; Figure 4; Sheet 1). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 2.5 feet. The substrate ranges from loam to clay with the dominant substrate being sandy loam.

3.4.30 Stream Sb16

Stream Sb16 was field estimated to have ephemeral flow. It is approximately 2,142 feet long with moderate meander. This stream is located in the northeast corner of the Site (Appendix A; Figure 4; Sheet 1 and 2). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 2 feet. The substrate ranges from loam to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. The dominant vegetative communities surrounding this stream include herbaceous and scrub-shrub with very little forested riparian zones.

3.4.31 Stream Sb17a

Stream Sb17a was field estimated to have ephemeral flow. It is approximately 3,054 feet long with low meander. This stream is located in the northeast corner of the site and flows northeast off the eastern Site boundary (Appendix A; Figure 4; Sheet 2). The channel was entirely dry at the time of the survey; however similar to stream Sb8, the southern portion of this stream receives water from a well pump driven by windmill. In the vicinity of this windmill pools of water and slight flow did persist. The incised height of the stream ranges from 0.5 to 2 feet. The substrate ranges from loam to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. The dominant vegetative communities surrounding this stream include herbaceous and scrub-shrub, and forested.

3.4.32 Stream Sb17b

Stream Sb17b was field estimated to have ephemeral flow. It is approximately 343 feet long with very low meander. This stream is located in the northeast corner of the Site and drains northwest into stream Sb17a (Appendix A; Figure 4; Sheet 2). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 2 feet. The substrate ranges from loam to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial

vegetation was present in the majority of the stream channel. The dominant vegetative communities surrounding this stream include herbaceous and scrub-shrub.

3.4.33 Stream Sb18

Stream Sb18 was field estimated to have ephemeral flow. It is approximately 1,671 feet long with very low meander. This stream is located in the northeast corner of the Site and flows from the cattle pond, associated with Wetland Wa15, northeast into stream Sb17a (Appendix A; Figure 4; Sheets 1 and 2). The channel was entirely dry at the time of the survey. The incised height of the stream ranges from 0.5 to 2 feet. The substrate ranges from loam to clay with the dominant substrate being sandy loam. At the time of the survey terrestrial vegetation was present in the majority of the stream channel. The dominant vegetative communities surrounding this stream include herbaceous and scrub-shrub.

4.0 SUMMARY

Background research and field delineation was conducted on the Victoria County Site to determine the presence and extent of wetlands and waterbodies in accordance with the guidelines set forth in the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (USACE 2008). The Site is approximately 11,500 acres in size and the entire area was evaluated.

Field investigation identified and delineated sixty-two (62) wetland areas totaling 1843.42 acres that meet the criteria for wetland designation on Site. Of these sixty-two wetlands, forty-two (42) were determined to be isolated wetlands with no noticeable surface water connection. Isolated/Adjacent designations are field-based determinations that do not reflect the results of a detailed analysis of the Jurisdictional Status, which could be affected by evolving regulatory and/or legal interpretations. Two classes of wetland systems occur on site; palustrine and lacustrine. A primarily lacustrine wetland, with a palustrine forested component, associated with Linn Lake accounts for 769.75 (41.8 percent) of the total designated wetlands. Palustrine Unconsolidated Bottom and Palustrine Unconsolidated Shore wetland systems account for 4.01 acres (0.2 percent) of the total designated wetlands. The remaining 1,069.66 acres (58.0 percent) of designated wetlands are palustrine emergent wetland systems. A summary of wetland areas delineated is presented in Table 2 and their general location depicted in Section 4.1. Detailed wetland figures are provide in Appendix A; Figure 4.

Linear open water features identified included thirty-three (33) streams. Of the thirty-three streams, one was determined to be perennial; seven to be intermittent with at least a portion of the stream exhibiting ephemeral characteristics; three to be ephemeral with at least a portion of the stream exhibiting intermittent characteristics; with the remaining twenty-two streams considered to be ephemeral drainages. Although the majority, if not all of the waterways have been manipulated in some way, some reaches are beginning to exhibit characteristics of more natural streams. The stream designation was given to all linear waterways regardless of the presence or absence of natural characteristics (e.g., sinuosity, undisturbed banks, and adjacent wetlands). Streams showing well defined natural characteristics include streams Sb1 (Dry Kuy Creek), Sa6 (Kuy Creek), and Sb13 (Unnamed Stream). A summary of streams identified is presented in Table 3 and their general location depicted in Section 4.1. Detailed stream figures are provide in Appendix A; Figure 4.

Table 2. Wetland Summary for Victoria County Site Wetland Delineation

Wetland Label	Field Wetland Classification[1]	Area (acres)	Comment[2]
Wetland Wa1	PEM1A	3.72	Isolated
Wetland Wa2	PUBFx	0.48	Isolated (cattle pond)
Wetland Wa3	PUBFx	0.47	Adjacent (cattle pond)
Wetland Wa4	PEM1A	2.58	Adjacent
Wetland Wa5	PEM1C	0.14	Isolated
Wetland Wa6	PEM1F/PEM1C	38.51	Isolated
Wetland Wa7	PEM1A	10.64	Isolated.
Wetland Wa8	PEM1A	18.95	Isolated
Wetland Wa9	PEM1A	10.92	Adjacent
Wetland Wa10	PEM1A	1.88	Isolated
Wetland Wa11	PEM1A	4.69	Isolated
Wetland Wa12	PEM1A	6.04	Adjacent
Wetland Wa13	PEM1A	0.21	Isolated (cattle pond)
Wetland Wa14	PUBFx	0.05	Isolated (cattle pond)
Wetland Wa15	PUBFx	0.21	Isolated (cattle pond)
Wetland Wa16	PEM1C	41.88	Adjacent
Wetland Wa17	PEM1A	10.68	Isolated
Wetland Wa18	PEM1A/PUSCx	6.39	Adjacent
Wetland Wa19	PUBFx	0.14	Isolated
Wetland Wa20	PEM1A	36.71	Adjacent
Wetland Wa21	PUBFx/PEM1A	0.23	Isolated
Wetland Wa22	PUSCx	0.27	Adjacent (cattle pond)
Wetland Wa23	PEM1A	1.01	Isolated
Wetland Wa24	PEM1A	0.09	Isolated
Wetland Wa25	PUBFx	0.11	Isolated
Wetland Wa26	Non-NWI	0.38	Adjacent
Wetland Wa27	PEM1A	3.14	Adjacent
Wetland Wa29	PEM1Cx	0.36	Isolated
Wetland Wa30	PUBFx	0.16	Isolated
Wetland Wa32	PUBFx	0.05	Isolated
Wetland Wa33	PUBFx	0.17	Isolated (cattle pond)
Wetland Wa34	PUBFx	0.12	Isolated (cattle pond)
Wetland Wa35	PEM1Ax	0.55	Isolated
Wetland Wa37	PUSCx	0.03	Isolated
Wetland Wa38	PUSCx	0.44	Isolated
Wetland Wa39	PEM1Fx	0.17	Isolated
Wetland Wa41	PUSCx	0.65	Isolated
Wetland Wa44	PEM1A	11.63	Adjacent
Wetland Wa45	PEM1Cx	0.13	Adjacent
Wetland Wa46	Non-NWI	0.06	Isolated
Wetland Wa50	Non-NWI	0.1	Isolated
Wetland Wa52	Non-NWI	0.2	Isolated
Wetland Wa54	PEM1A	0.37	Adjacent
Wetland Wa55	PEM1C	0.06	Isolated (cattle pond)
Wetland Wa56	Non-NWI	0.35	Adjacent (cattle pond)

Wetland Label	Field Wetland Classification[1]	Area (acres)	Comment[2]
Wetland Wa57	PEM1Ax	0.42	Isolated (cattle pond)
Wetland Wa58	PUSCx	0.19	Isolated (cattle pond)
Wetland Wa59	PUSCx	0.08	Isolated (cattle pond)
Wetland Wb1	PEM1A/PEM1F/PEM1C	207.16	Adjacent
Wetland Wb2	PUSCx	0.44	Isolated
Wetland Wb3	PEM1C	0.72	Isolated
Wetland Wb5	PEM1A	25.67	Isolated
Wetland Wb7	PEM1A	12.97	Isolated
Wetland Wb8	PUBFx	0.15	Isolated (cattle pond)
Wetland Wb9	PUBFx/PEM1A	0.43	Isolated (cattle pond)
Wetland Wb10	PEM1A	0.07	Isolated
Wetland Wb11	PEM1C	2.69	Isolated
Wetland Wb12	PEM1A	50.01	Adjacent
Wetland Wb13/Wb14	PEM1A/PEM1F	245.42	Adjacent
Wetland Wb15	PEM1Ad/PEM1Fx	222.21	Adjacent
Wetland Wb16	PEM1A	88.92	Adjacent
Wetland Wp1	L1UBH/PSS1C/PUBF/PFO1C/PEM1C	769.75	Adjacent
	TOTAL	**1,843.42**	

[1] Field classification based on Cowardin et al. 1979.

[2] Isolated/Adjacent designations are field-based determinations that do not reflect the results of a detailed analysis of the Jurisdictional Status, which could be affected by evolving regulatory and legal interpretations.

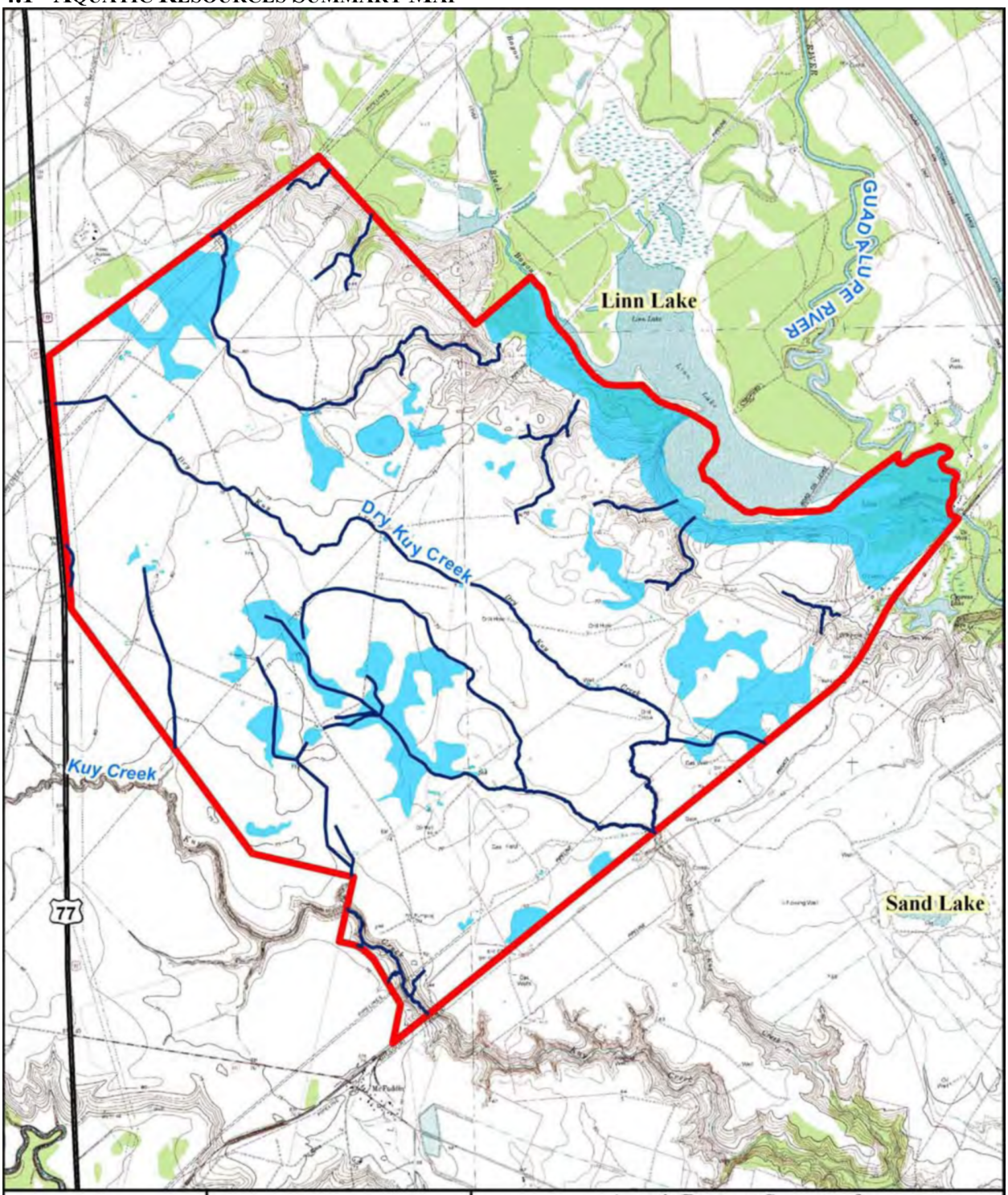
Table 3. Linear Water Feature Summary for Victoria County Site Wetland Delineation

Stream Label	Name	Flow Regime	Direction of Flow	Length (feet)	Comment
Stream Sa1	Unnamed	Intermittent/Ephemeral	Southeast	17,522	Drains Wetland Wb15 and Wb16, Flows into Stream Sb1.
Stream Sa2	Unnamed	Ephemeral	South	13,781	Drains Wetland Wb15 and Wb16, Flows into Stream Sa1.
Stream Sa3	Unnamed	Ephemeral	East	1,399	Drains Wetland Wb15, Flows into Stream Sa1.
Stream Sa4	Unnamed	Ephemeral	South	1,656	Drains Wetland Wb15, Flows into Stream Sa1.
Stream Sa5	Unnamed	Ephemeral	East	2,083	Drains Wetland Wb15, Flows into Stream Sa1.
Stream Sa6	Kuy Creek	Perennial	Southeast	5,408	Flows on and off southwest site boundary.
Stream Sa7	Unnamed	Ephemeral	Southwest	1,163	Flows into Stream Sa6.
Stream Sa8	Unnamed	Ephemeral/Intermittent	East	775	Flows into Stream Sa6.
Stream Sa9	Unnamed	Ephemeral/Intermittent	Northeast	238	Flows into Stream Sa10.
Stream Sa10	Unnamed	Ephemeral/Intermittent	East	183	Flows into Stream Sa6
Stream Sa11	Unnamed	Intermittent/Ephemeral	South	5,636	Drains Wetland Wa18, Flows off and back on west boundary into Stream Sa6.
Stream Sa12	Unnamed	Ephemeral	South	1,641	Flows into Stream Sa11.
Stream Sa13	Unnamed	Ephemeral	South	4,485	Drains Wetland Wa20, Flows into Stream Sa11.

Stream Label	Name	Flow Regime	Direction of Flow	Length (feet)	Comment
Stream Sa14	Unnamed	Ephemeral	South	6,484	Drains Wetland Wa4, Flows off west site boundary into Kuy Creek.
Stream Sa15	Unnamed	Ephemeral	South	1,627	Flows on and off west site boundary.
Stream Sb1	Dry Kuy Creek	Intermittent/Ephemeral	Southeast	33,506	Drains Wetland Wa3 and Wa22. Flows off south site boundary.
Stream Sb3	Unnamed	Intermittent/Ephemeral	West	3,729	Drains Wetland Wb13/14, Flows into Stream Sb1.
Stream Sb4	Unnamed	Ephemeral	Southeast	2,419	Small stream flowing
Stream Sb5	Unnamed	Ephemeral	North	950	Drains cattle pond associated with Wetland Wb13/14, Flows into Stream Sb4.
Stream Sb6	Unnamed	Ephemeral	Northeast	4,200	Drains Wetland Wb12, Flows into Linn Lake.
Stream Sb7	Unnamed	Ephemeral	North	225	Flows into Stream Sb6
Stream Sb8	Unnamed	Ephemeral	East	3,205	Drains Wetland Wb12, Flows into Linn Lake.
Stream Sb9	Unnamed	Intermittent/Ephemeral	Northeast	5,747	Flows towards Linn Lake
Stream Sb10	Unnamed	Ephemeral	North	428	Flows into Stream Sb9
Stream Sb11	Unnamed	Intermittent/Ephemeral	East	1,254	Flows into Stream Sb9
Stream Sb12	Unnamed	Ephemeral	East	397	Flows into Stream Sb11
Stream Sb13	Unnamed	Intermittent/Ephemeral	Southeast	18,299	Drains Wetland Wa16 and Wb1, Flows off east site boundary towards Linn Lake.
Stream Sb14	Unnamed	Ephemeral	North	1,020	Flows into Stream Sb13

Stream Label	Name	Flow Regime	Direction of Flow	Length (feet)	Comment
Stream Sb15	Unnamed	Ephemeral	East	389	Flows into Stream Sb13
Stream Sb16	Unnamed	Ephemeral	Northeast	2,142	Flows off site boundary at northeast corner.
Stream Sb17a	Unnamed	Ephemeral	Northeast	3,054	Flows off site boundary towards Linn Lake
Stream Sb17b	Unnamed	Ephemeral	Northwest	343	Flows into Stream Sb17a
Stream Sb18	Unnamed	Ephemeral	Northeast	1,671	Drains Wetland Wa15 during times of high flow, flows into Stream Sb17a.

4.1 AQUATIC RESOURCES SUMMARY MAP



5.0 REFERENCES

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31, Washington, D.C. 131 pp.

Environmental Laboratory. 1987. United States Army Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineers Waterways Experiment Station, Vicksburg, MS. 100 pp.

Munsell Color. 1988. Munsell Soil Color Chart. MacBeth Division of Kollmorgen Instruments Corporation. Baltimore, MD. 27 pp.

National Oceanic and Atmospheric Administration, National Weather Service Forecast Office. 2010. Observed Weather Reports, Accessed http://www.weather.gov/climate/index.php?wfo=crp January 2010.

P2ES. 2008. Topographic Index Contour For Exelon VCS Project. Victoria, Texas. Contact: tmariano@p2es.com

Reed, P B., Jr. 1988. National List of Plant Species That Occur in Wetlands: (South Plains) Region 6. U.S. Fish and Wildlife Service, Washington, D.C. 94 pp.

Tetra Tech, Inc. 2008. Wetland Delineation Report for the Proposed Victoria County Station, Units 1 and 2 Site, Victoria County, Texas. Germantown, MD. 187 pp.

United States Army Corps of Engineers. 1990. Guidance for Submittal of Wetland Delineation Reports. Buffalo, New York. 7 pp.

United States Army Corps of Engineers. 2008. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region. Vicksburg, MS. 159 pp.

United States Department of Agriculture, Natural Resources Conservation Service, Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2009.

United States Department of Agriculture, Natural Resources Conservation Service. 2002. WETS Station Victoria, Texas. Accessed ftp://ftp.wcc.nrcs.usda.gov/support/climate/wetlands/tx/48469.txt January 7, 2010.

United States Department of the Interior, United States Fish and Wildlife Service. 2009. National Wetland Inventory Wetland Digital Maps, Accessed http://data.geocomm.com March 2009.

United States Geological Survey. 1995. Topographic Quadrangle, 7.5-minute Series Quadrangles, Bloomington, Texas.

United States Geological Survey. 1995. Topographic Quadrangle, 7.5-minute Series Quadrangles, Bloomington SW, Texas.

United States Geological Survey. 1987. Topographic Quadrangle, 7.5-minute Series Quadrangles, McFaddin, Texas.

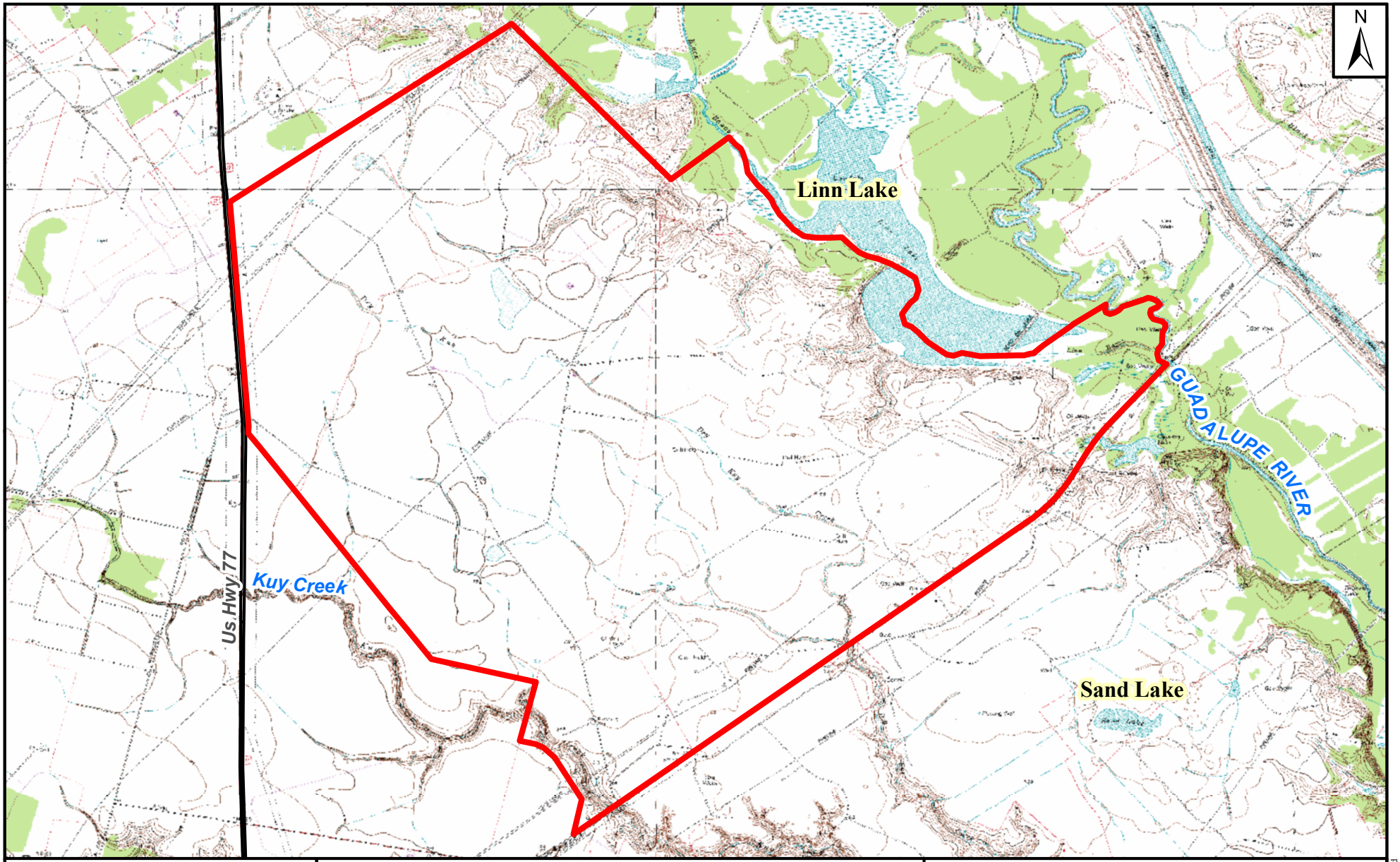
United States Geological Survey. 1987. Topographic Quadrangle, 7.5-minute Series Quadrangles, Raisin, Texas.

APPENDIX A

FIGURES

FIGURE 1

SITE LOCATION MAP



Source: USGS 7.5 Minute Quadrangles, Digital Raster Graphic (DRG). DRGs used; Raisin and McFaddin, Texas 1964 and Bloomington and Bloomington SW, Texas 1977.

Legend

Site Boundary

Road

0 0.25 0.5 1 Miles

0 0.5 1 Kilometers

Figure 1. Site Location Map for Main Site, Victoria County, Texas.

Prepared For: Exelon Generation Company, LLC

Prepared By: TETRA TECH

Date: 11/09

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FIGURE 2

USDA SOILS
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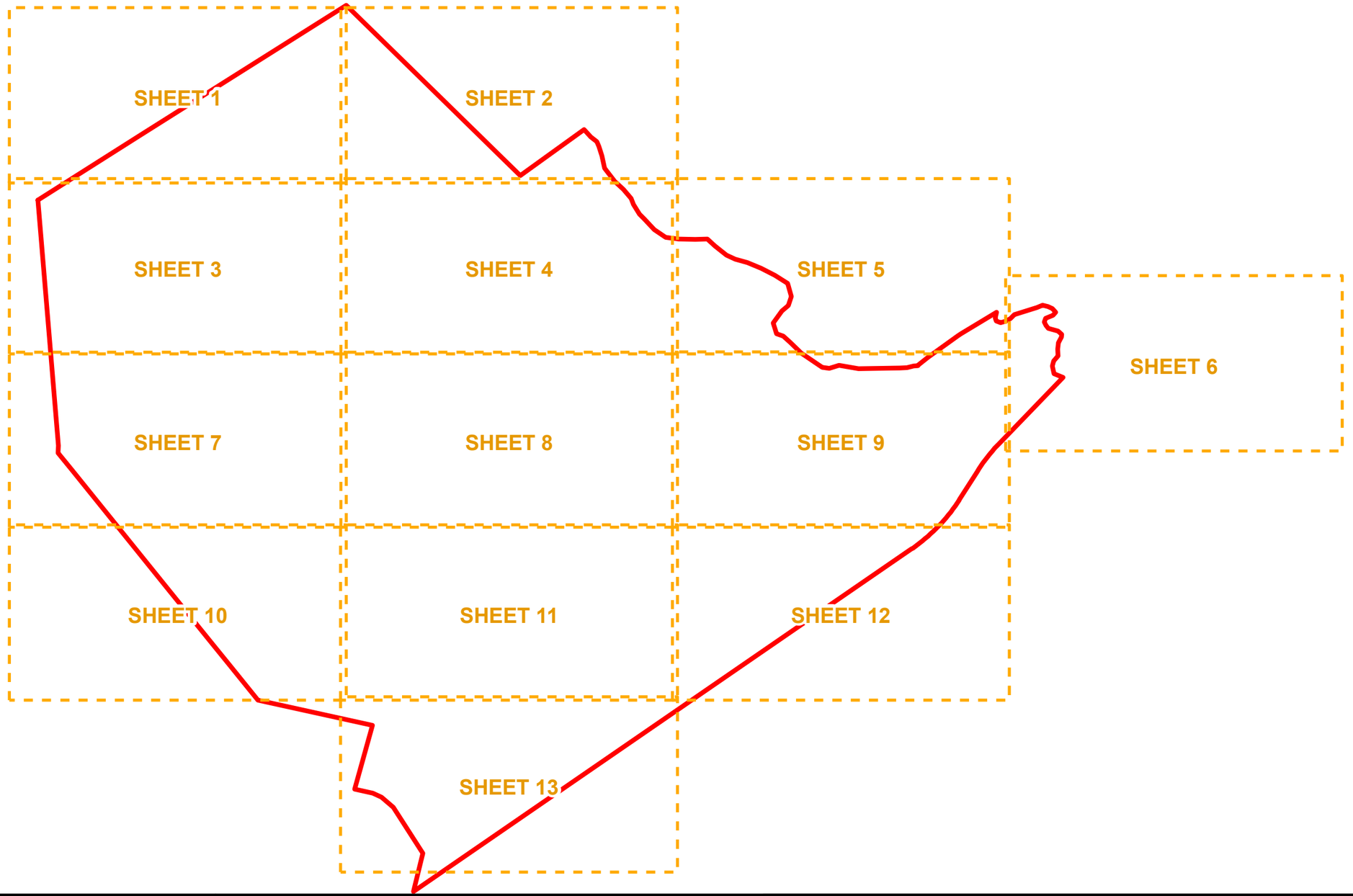

Legend

Site Boundary

Sheet Boundaries

0 1,912.5 3,825

Feet

0 460 920

Meters

N

Source: U.S. Department of Agriculture, Natural Resources Conservation Service; Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2007. Wetland/stream data, Tetra Tech spring, 2009.

Figure 2 Sheet Key for Main Site, Victoria County, Texas.

Prepared For: Exelon Generation Company, LLC

Prepared By: TETRA TECH

Date: 11/09

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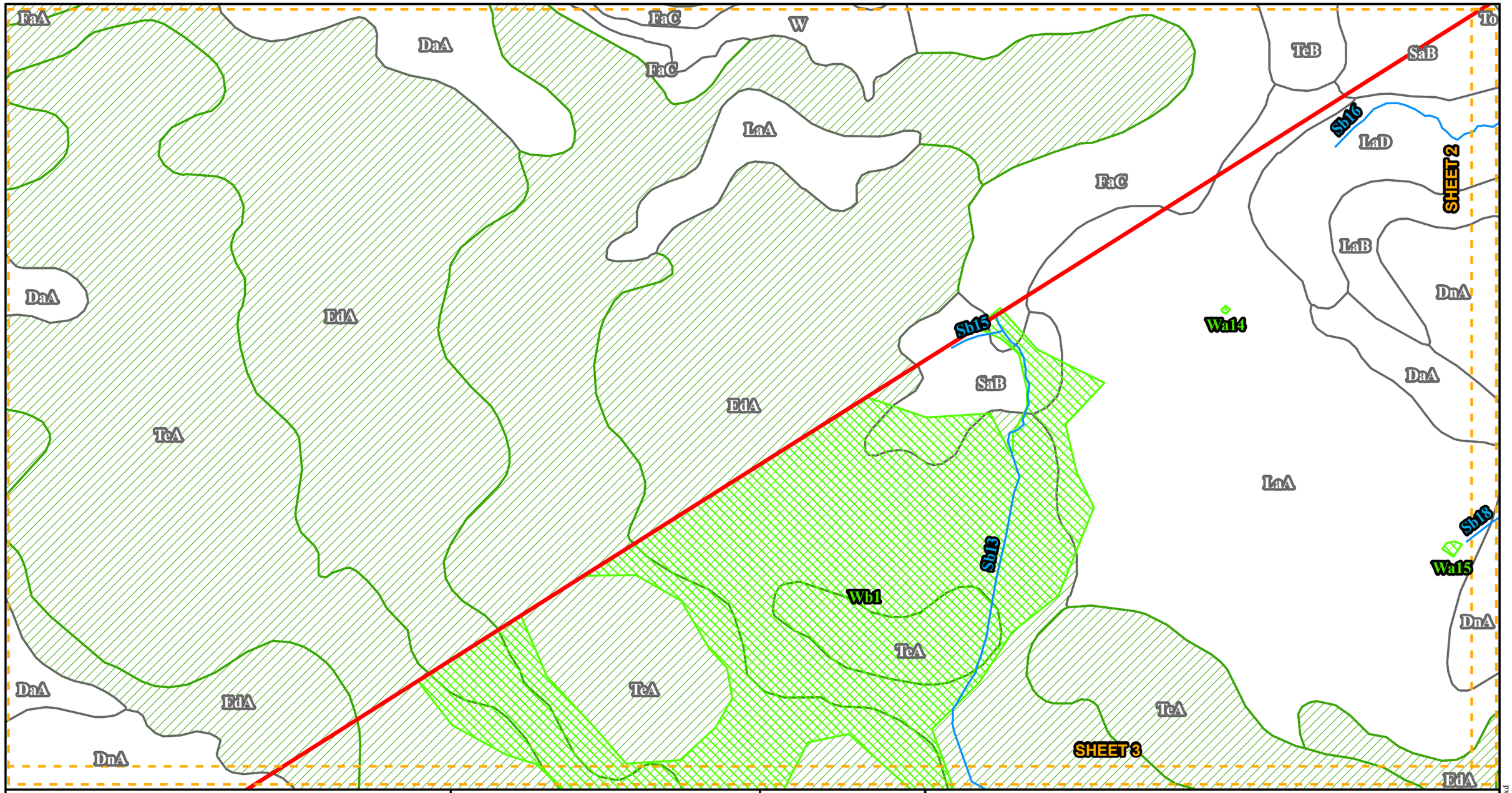

Legend

- Soils
- Hydric Soils
- Streams
- Wetlands
- Upland Areas in Wetlands
- Site Boundary
- Sheet Boundaries

Ar - Aransas clay, frequently flooded, hydric
DaA - Dacosta sandy clay loam
DnA - Dacosta -Contee complex
EdA - Edna fine sandy loam, 0 to 1 percent, hydric
FaA - Faddin fine sandy loam, 0 to 1 percent, hydric
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TeA - Telferner fine sandy loam, 0 to 1 percent, hydric
To - Trinity clay, occasionally flooded, hydric
Tr - Trinity clay, frequently flooded

0 375 750 Feet

0 90 180 Meters

N

SHEET 1

Source: U.S. Department of Agriculture, Natural Resources Conservation Service; Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2007. Wetland/stream data, Tetra Tech spring, 2009.

Figure 2. USDA Soils Map for Main Site, Victoria County, Texas.

Prepared For: Exelon Generation Company, LLC

Prepared By: TETRA TECH

Date: 11/09

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SaB
To
Sb16
LaD
SHEET 1
FoB
Sb17a
Tr
FaC
LaD
KyC
LaD
KyC
DaA
DnA
Sb18
Sb17b
LaA
DnA
FaC
LaB
EdA
LaA
EdA
TeA
SHEET 4
FaC
Sb13
FaB
Wp1
W
RbC
W

Legend

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0 375 750 Feet

0 90 180 Meters

N

SHEET 2

Source: U.S. Department of Agriculture, Natural Resources Conservation Service; Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2007. Wetland/stream data, Tetra Tech spring, 2009.

Figure 2. USDA Soils Map for Main Site, Victoria County, Texas.

Prepared For: Exelon Generation Company, LLC

Prepared By: TETRA TECH

Date: 11/09

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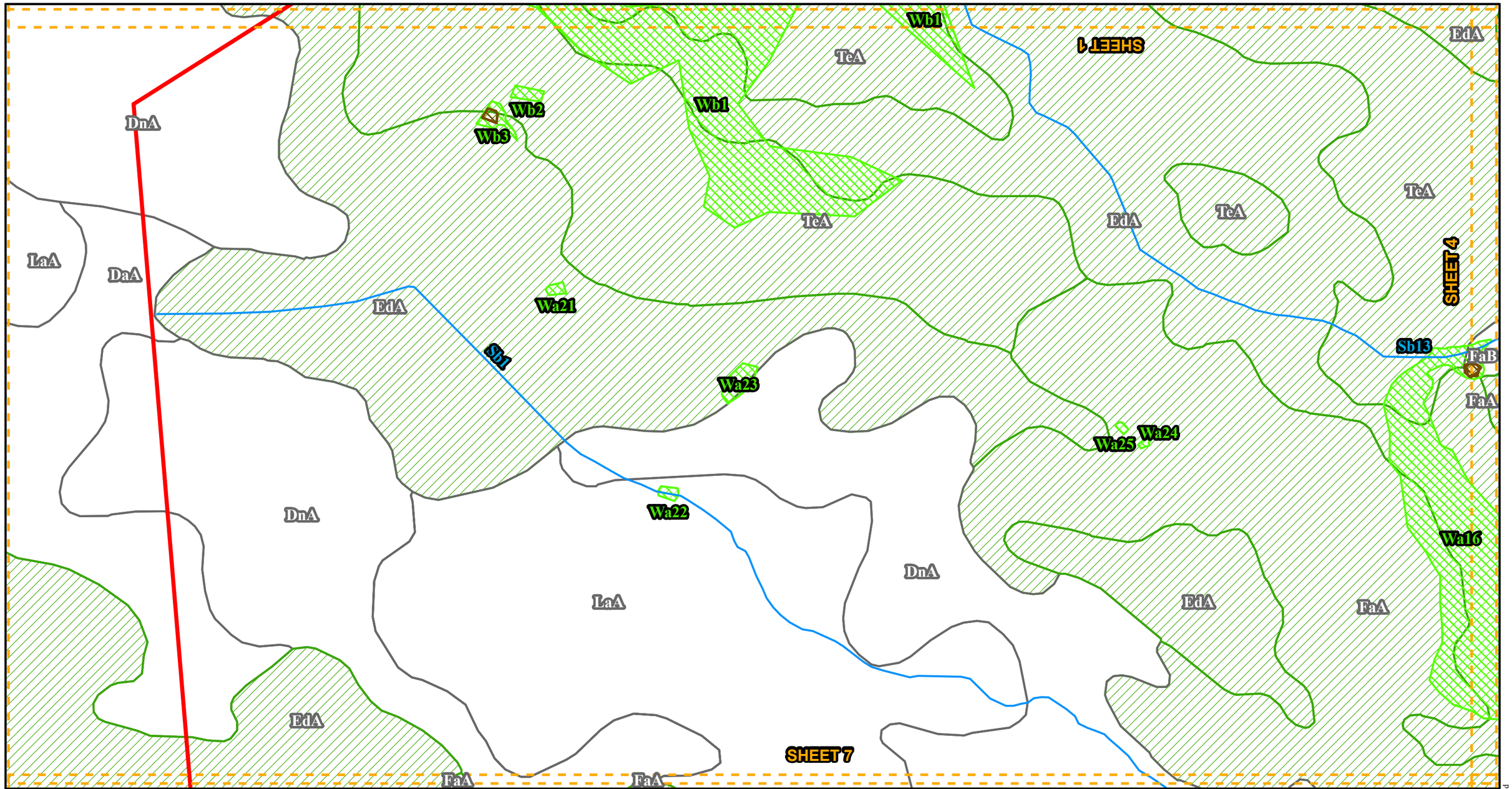

Legend

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Tr - Trinity clay, frequently flooded

0 375 750 Feet

0 90 180 Meters

N

SHEET 3

Source: U.S. Department of Agriculture, Natural Resources Conservation Service; Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2007. Wetland/stream data, Tetra Tech spring, 2009.

Figure 2. USDA Soils Map for Main Site, Victoria County, Texas.

Prepared For: Exelon Generation Company, LLC

Prepared By: TETRA TECH

Date: 11/09

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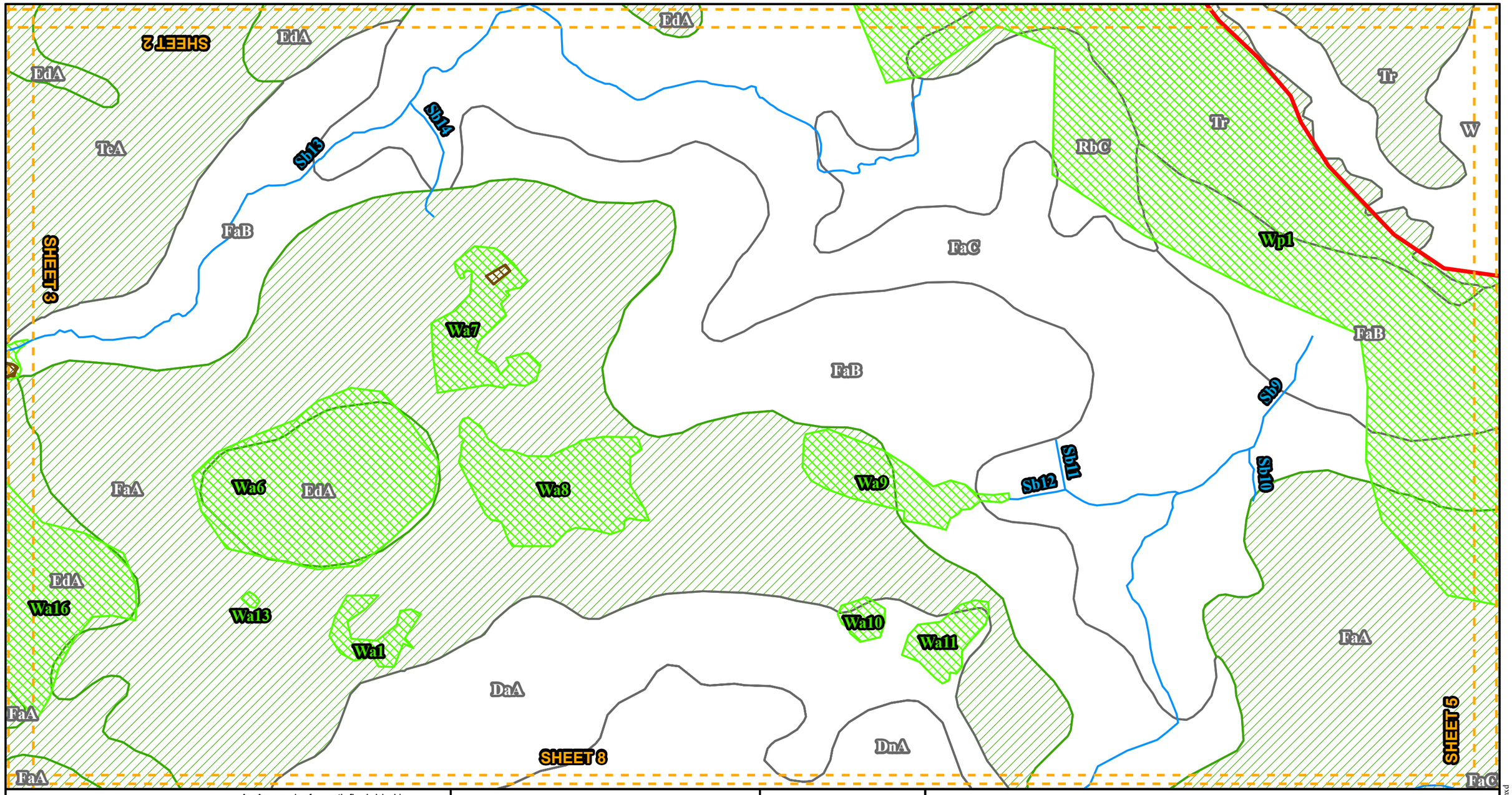

Legend

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To - Trinity clay, occasionally flooded, hydric
Tr - Trinity clay, frequently flooded

0 375 750 Feet

0 90 180 Meters

N

SHEET 4

Source: U.S. Department of Agriculture, Natural Resources Conservation Service; Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2007. Wetland/stream data, Tetra Tech spring, 2009.

Figure 2. USDA Soils Map for Main Site, Victoria County, Texas.

Prepared For: Exelon Generation Company, LLC

Prepared By: TETRA TECH

Date: 11/09

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SHEET 4

SHEET 6

SHEET 9

FaB

FaC

Wp1

FaA

FaC

Tr

W

Rf

W

Rf

Tr

Au

W

Wp1

Legend

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To - Trinity clay, occasionally flooded, hydric
Tr - Trinity clay, frequently flooded

0 375 750 Feet

0 90 180 Meters

N

SHEET 5

Source: U.S. Department of Agriculture, Natural Resources Conservation Service; Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2007. Wetland/stream data, Tetra Tech spring, 2009.

Figure 2. USDA Soils Map for Main Site, Victoria County, Texas.

Prepared For: Exelon Generation Company, LLC

Prepared By: TETRA TECH

Date: 11/09

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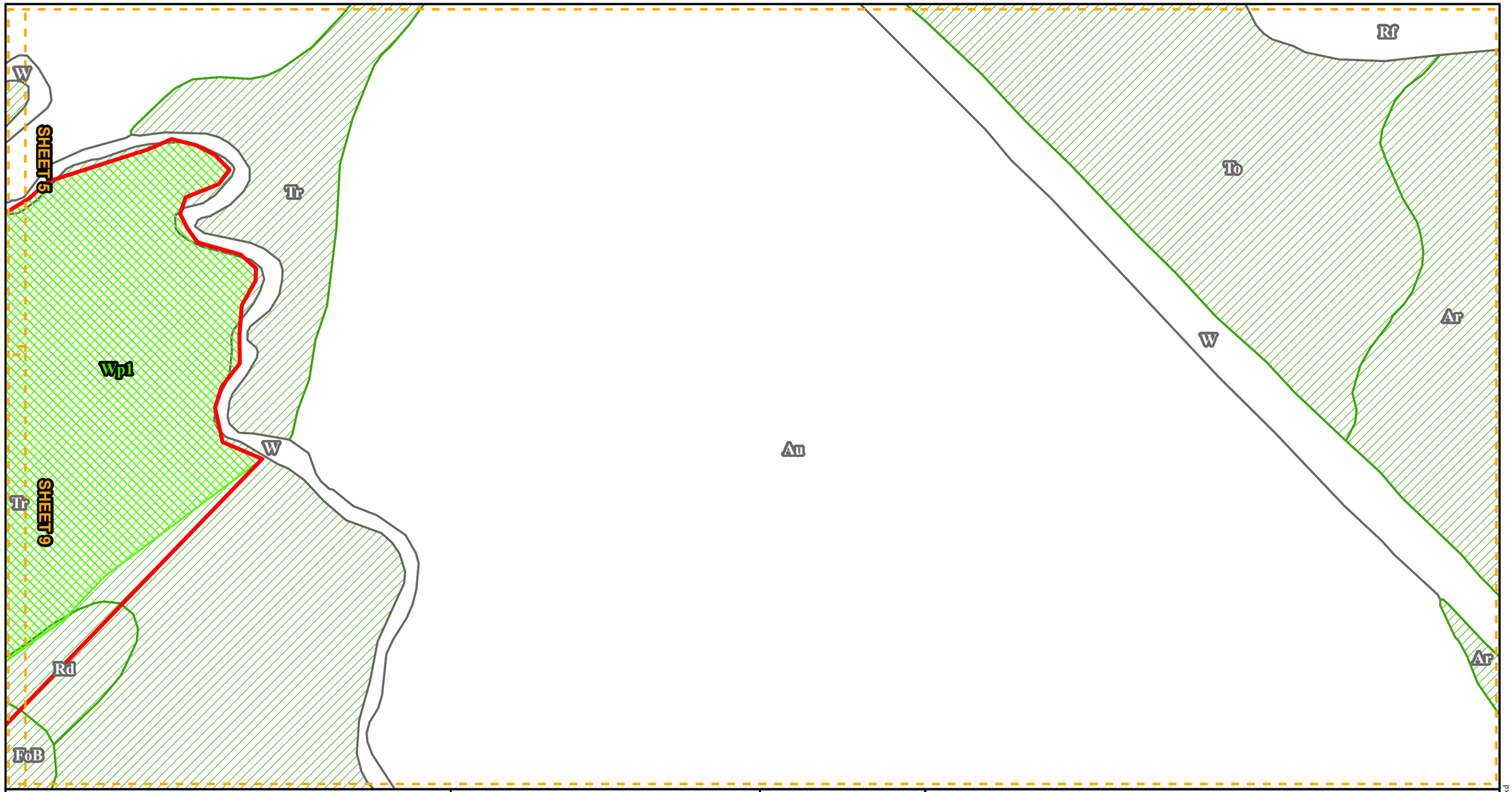

Legend

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To - Trinity clay, occasionally flooded, hydric
Tr - Trinity clay, frequently flooded

0 375 750 Feet

0 90 180 Meters

N

SHEET 6

Source: U.S. Department of Agriculture, Natural Resources Conservation Service; Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2007. Wetland/stream data, Tetra Tech spring, 2009.

Figure 2. USDA Soils Map for Main Site, Victoria County, Texas.

Prepared For: Exelon Generation Company, LLC

Prepared By: TETRA TECH

Date: 11/09

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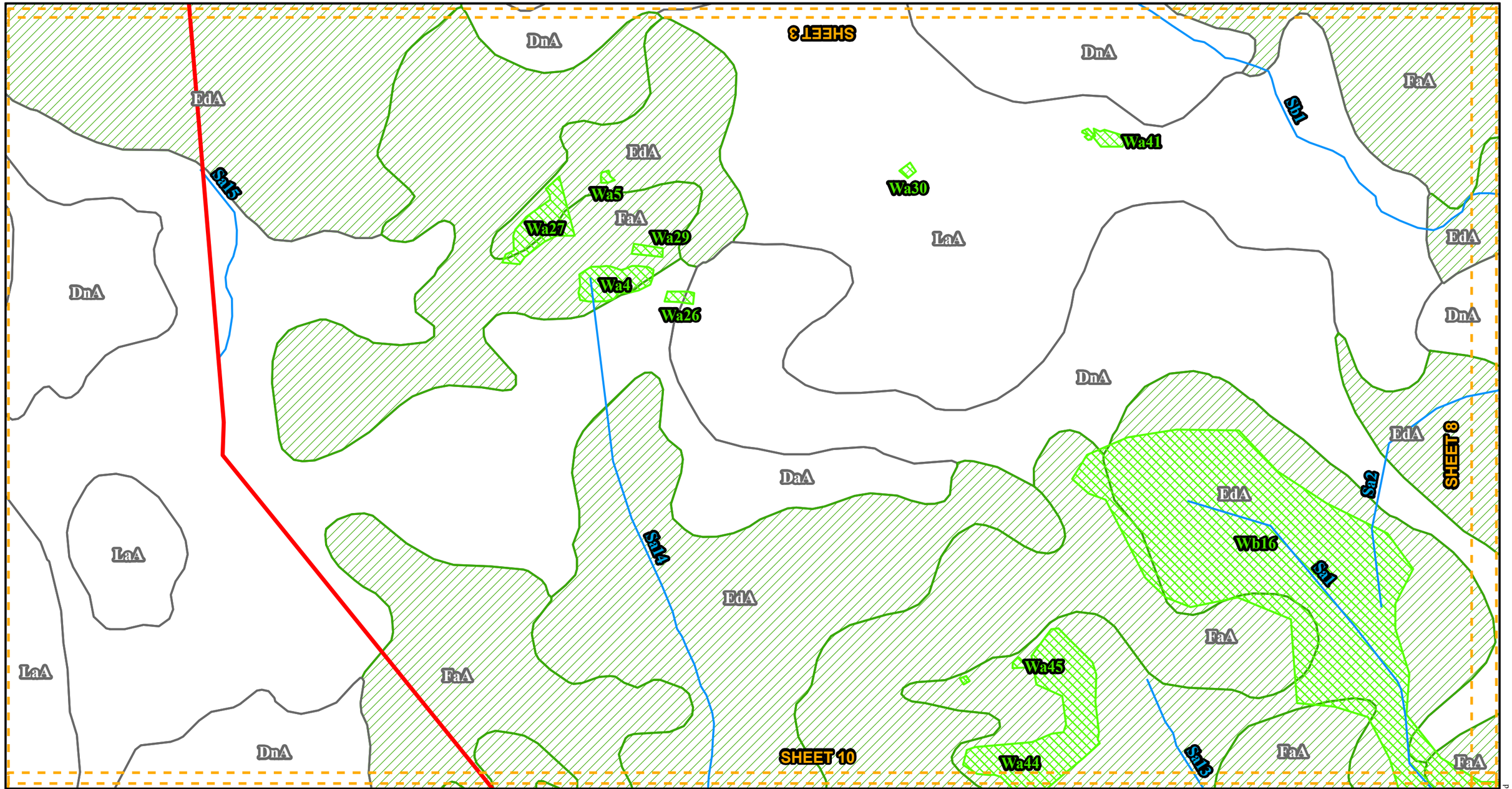

Legend

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Tr - Trinity clay, frequently flooded

0 375 750 Feet

0 90 180 Meters

N

SHEET 7

Source: U.S. Department of Agriculture, Natural Resources Conservation Service; Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2007. Wetland/stream data, Tetra Tech spring, 2009.

Figure 2. USDA Soils Map for Main Site, Victoria County, Texas.

Prepared For: Exelon Generation Company, LLC

Prepared By: TETRA TECH

Date: 11/09

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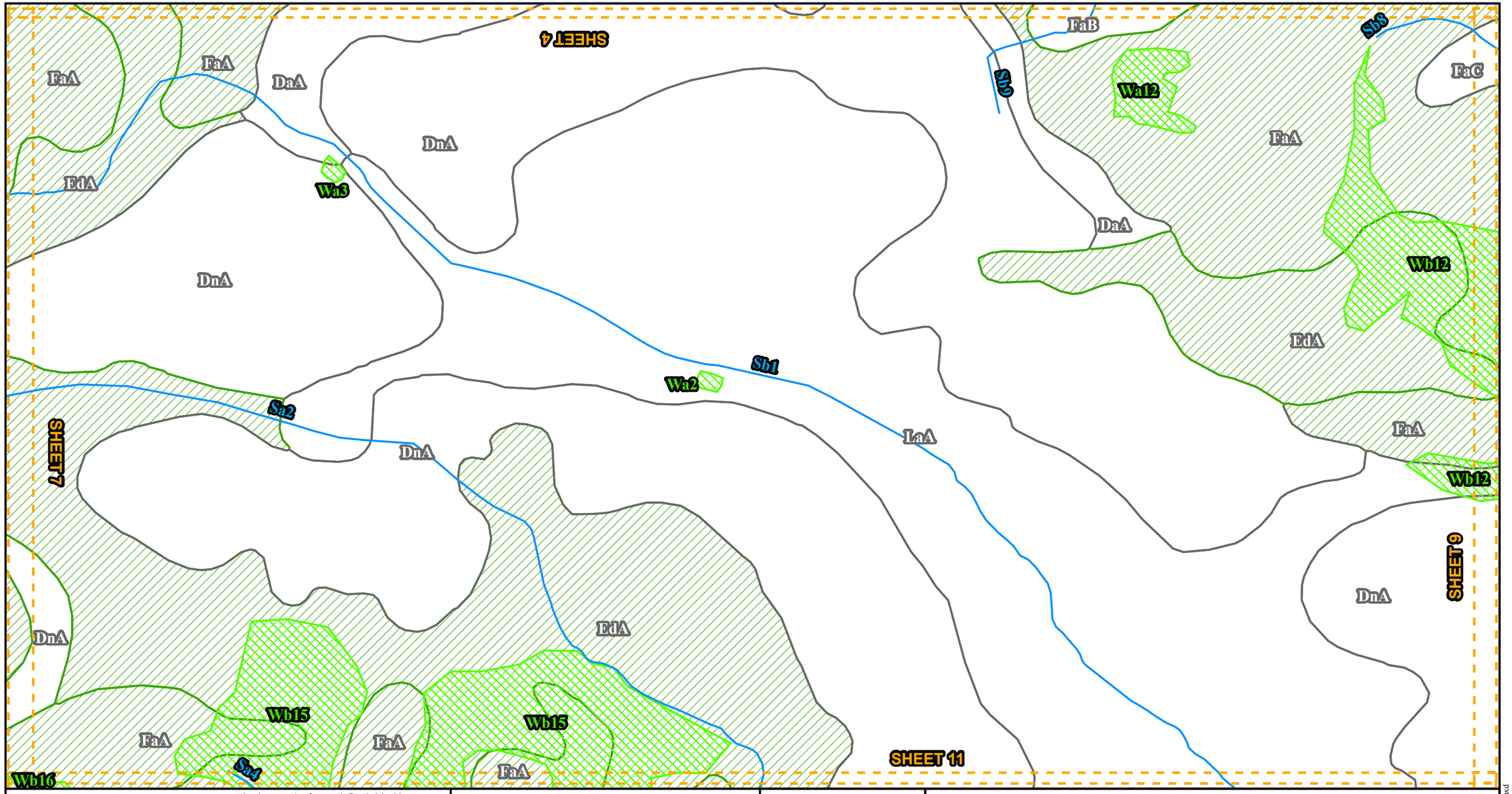

Legend

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Tr - Trinity clay, frequently flooded

0 375 750 Feet

0 90 180 Meters

N

SHEET 8

Source: U.S. Department of Agriculture, Natural Resources Conservation Service; Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2007. Wetland/stream data, Tetra Tech spring, 2009.

Figure 2. USDA Soils Map for Main Site, Victoria County, Texas.

Prepared For: Exelon Generation Company, LLC

Prepared By: TETRA TECH

Date: 11/09

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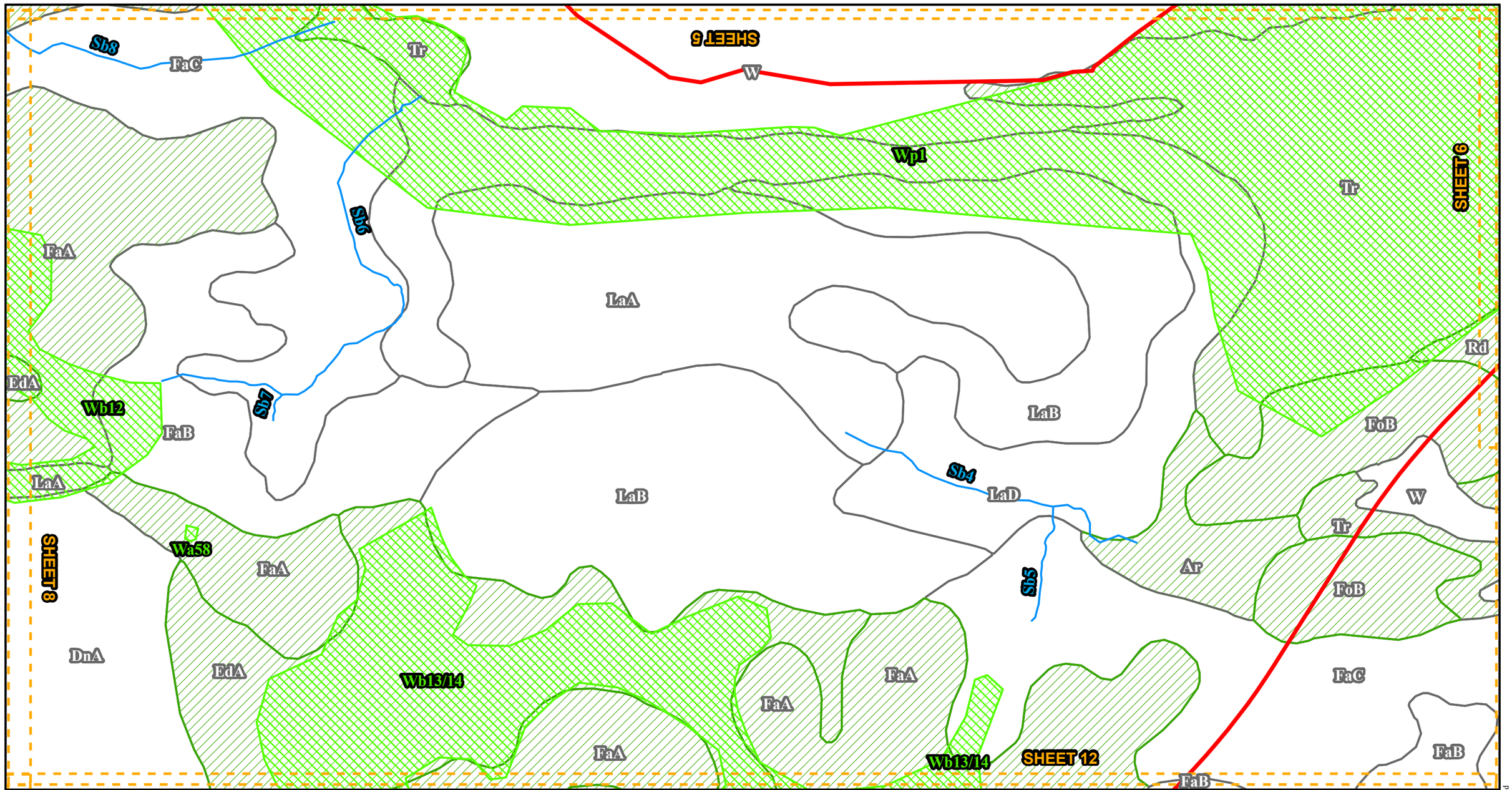
Sb8
FaC
Tr
SHEET 6
W
Wp1
Tr
SHEET 6
Sb6
FaA
LaA
Rd
EdA
Wb12
Sb7
FaB
LaB
FoB
LaA
LaB
Sb4
LaD
W
Tr
SHEET 8
Wa58
FaA
Sb5
Ar
FoB
DnA
EdA
Wb13/14
FaA
FaA
FaC
FaA
Wb13/14
SHEET 12
FaB
FaB
Legend
Soils
Hydric Soils
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To - Trinity clay, occasionally flooded, hydric
Tr - Trinity clay, frequently flooded
0 375 750
Feet
0 90 180
Meters
N
SHEET 9
Source: U.S. Department of Agriculture, Natural Resources Conservation Service; Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2007. Wetland/stream data, Tetra Tech spring, 2009.
Figure 2. USDA Soils Map for Main Site, Victoria County, Texas.
Prepared For: Exelon Generation Company, LLC
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Date: 11/09
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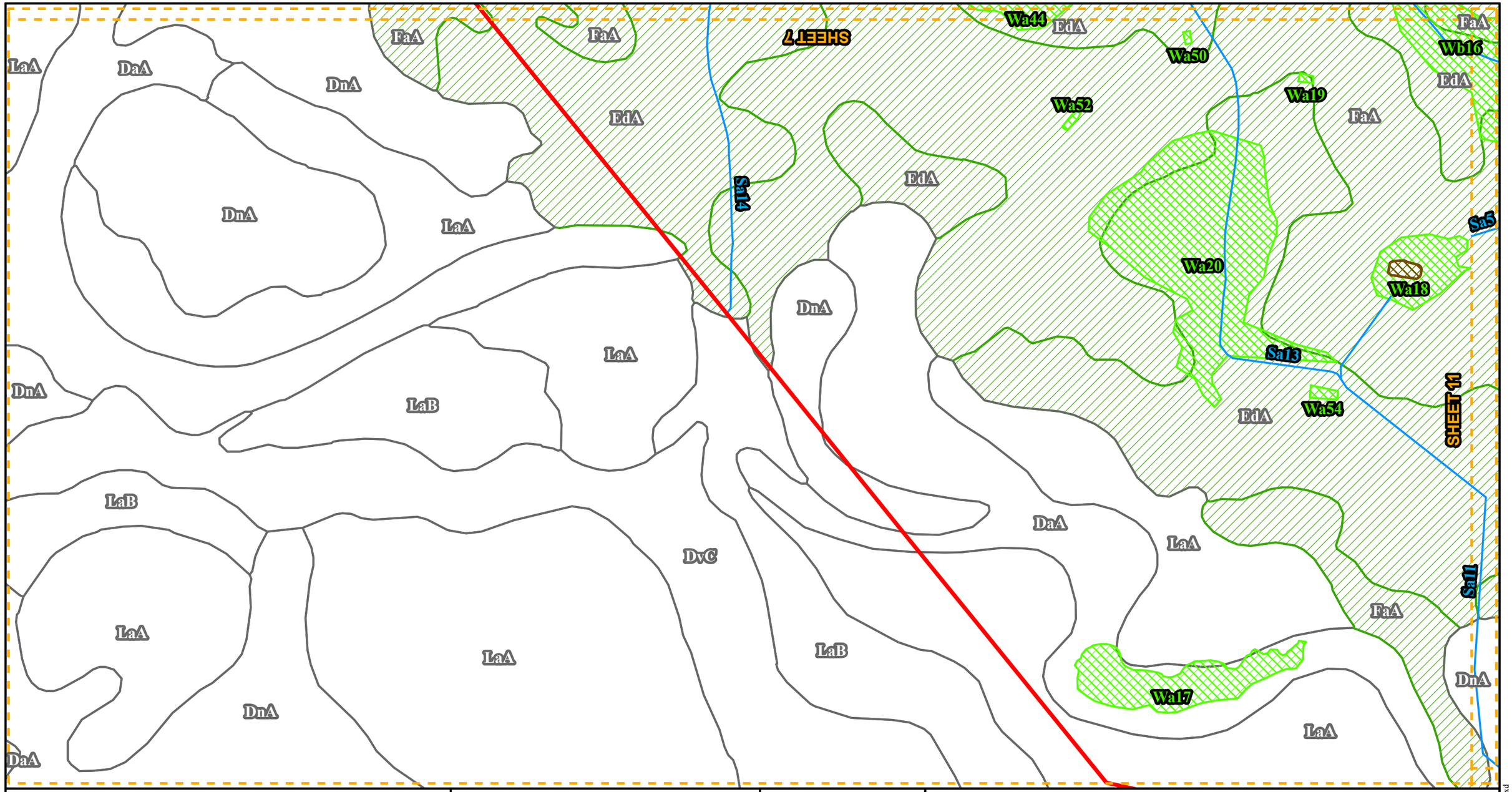

Legend

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To - Trinity clay, occasionally flooded, hydric
Tr - Trinity clay, frequently flooded

0 375 750 Feet

0 90 180 Meters

N

SHEET 10

Source: U.S. Department of Agriculture, Natural Resources Conservation Service; Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2007. Wetland/stream data, Tetra Tech spring, 2009.

Figure 2. USDA Soils Map for Main Site, Victoria County, Texas.

Prepared For: Exelon Generation Company, LLC

Prepared By: TETRA TECH

Date: 11/09

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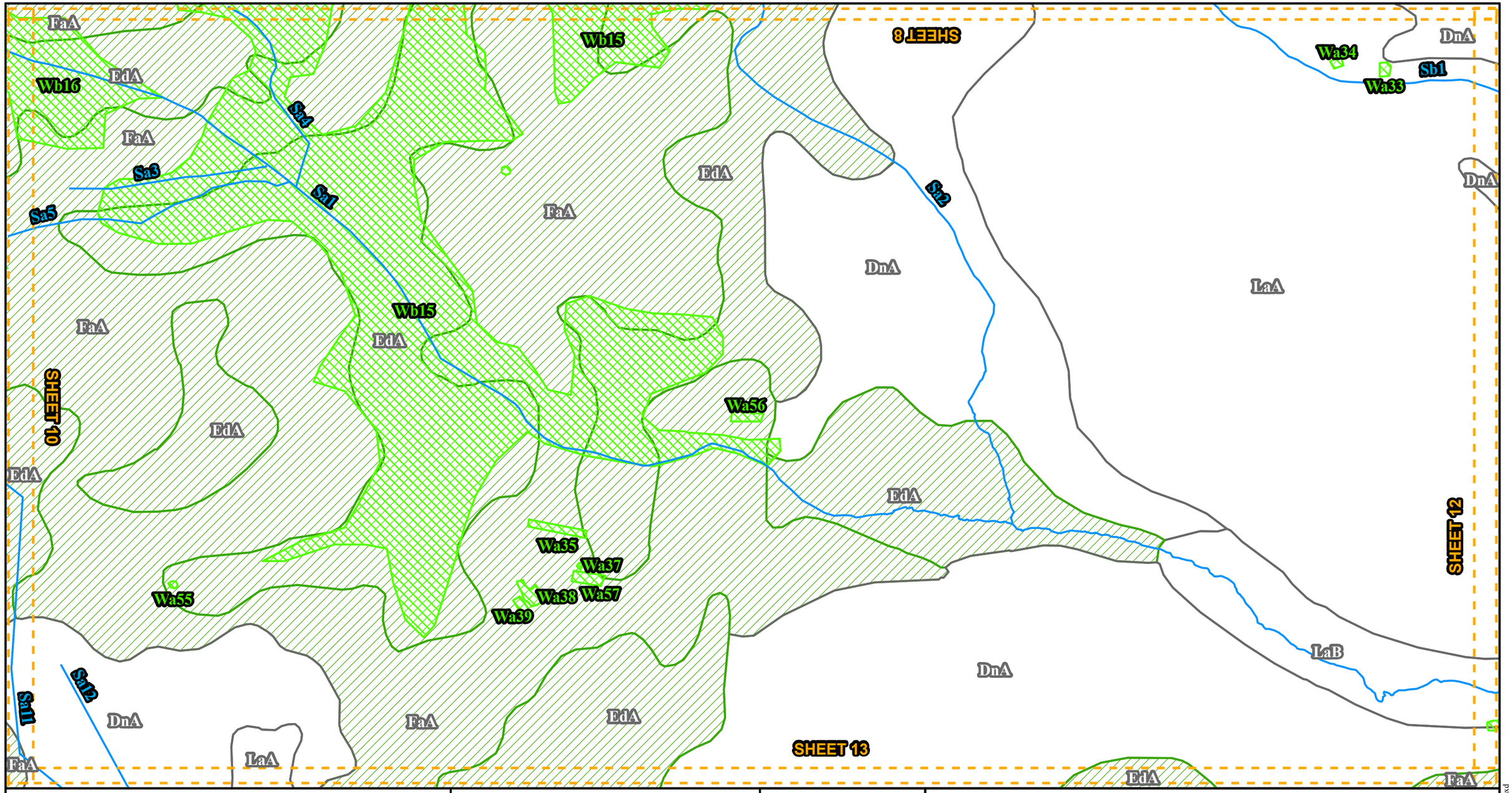

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0 375 750 Feet

0 90 180 Meters

N

SHEET 11

Source: U.S. Department of Agriculture, Natural Resources Conservation Service; Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2007. Wetland/stream data, Tetra Tech spring, 2009.

Figure 2. USDA Soils Map for Main Site, Victoria County, Texas.

Prepared For: Exelon Generation Company, LLC

Prepared By: TETRA TECH

Date: 11/09

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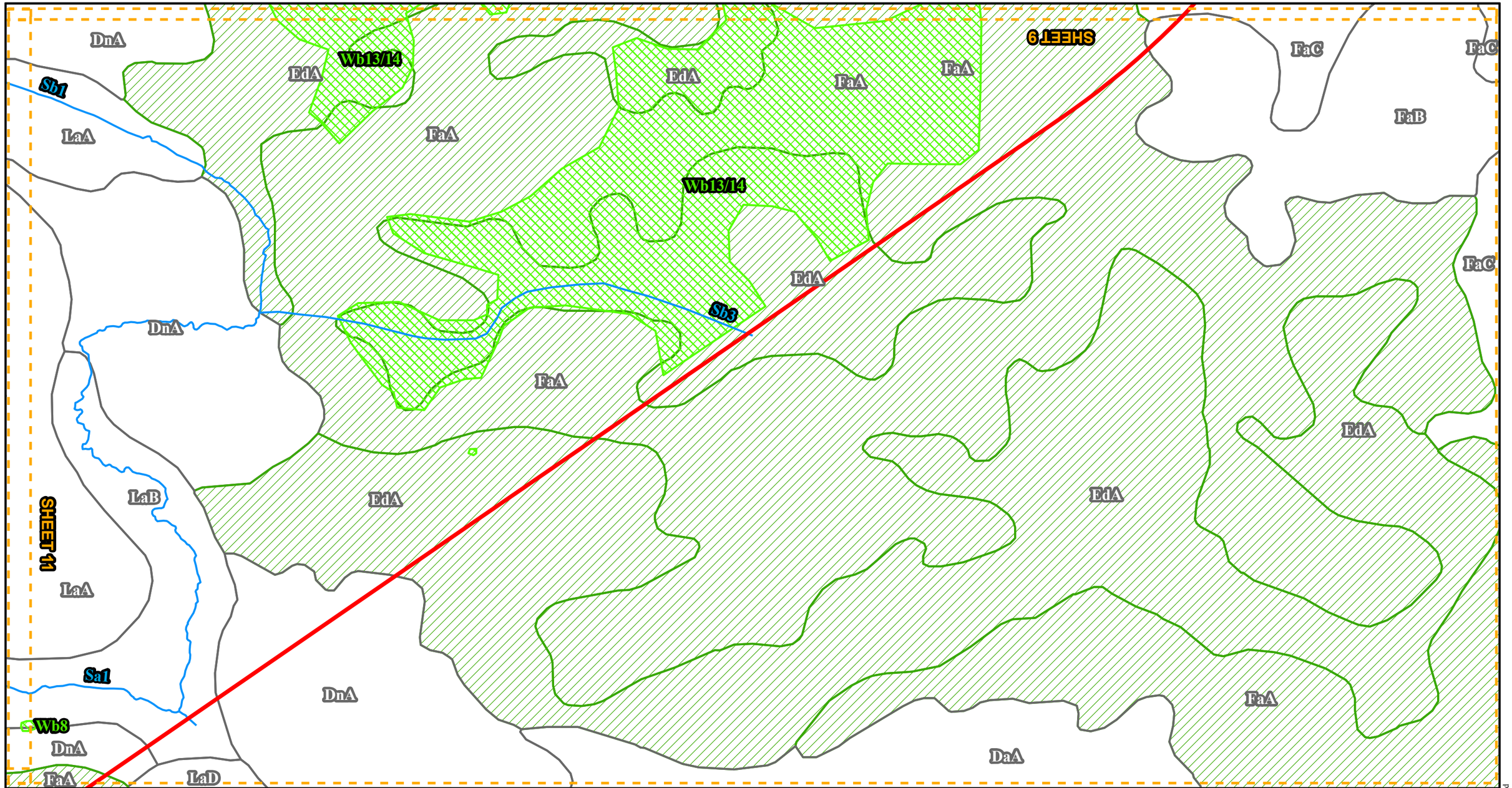


Legend

- Soils
- Hydric Soils
- Streams
- Wetlands
- Upland Areas in Wetlands
- Site Boundary
- Sheet Boundaries

Ar - Aransas clay, frequently flooded, hydric
DaA - Dacosta sandy clay loam
DnA - Dacosta -Contee complex
EdA - Edna fine sandy loam, 0 to 1 percent, hydric
FaA - Faddin fine sandy loam, 0 to 1 percent, hydric
FaB - Faddin fine sandy loam, 1 to 3 percent
FaC - Faddin fine sandy loam, 3 to 5 percent
FoB - Fordtran loamy fine sand, 0 to 3 percent, hydric
LaA - Laewest clay, 0 to 1 percent
LaB - Laewest clay, 1 to 3 percent
LaD - Laewest clay, 3 to 8 percent
RbC - Rupley fine sandy loam, 0 to 1 percent
Rd - Rydolph silty clay, occasionally flooded, hydric
SaB - Sarnosa loam, 1 to 3 percent
TeA - Telferner fine sandy loam, 0 to 1 percent, hydric
To - Trinity clay, occasionally flooded, hydric
Tr - Trinity clay, frequently flooded

0 375 750 Feet

0 90 180 Meters

N

Source: U.S. Department of Agriculture, Natural Resources Conservation Service; Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2007. Wetland/stream data, Tetra Tech spring, 2009.

SHEET 12

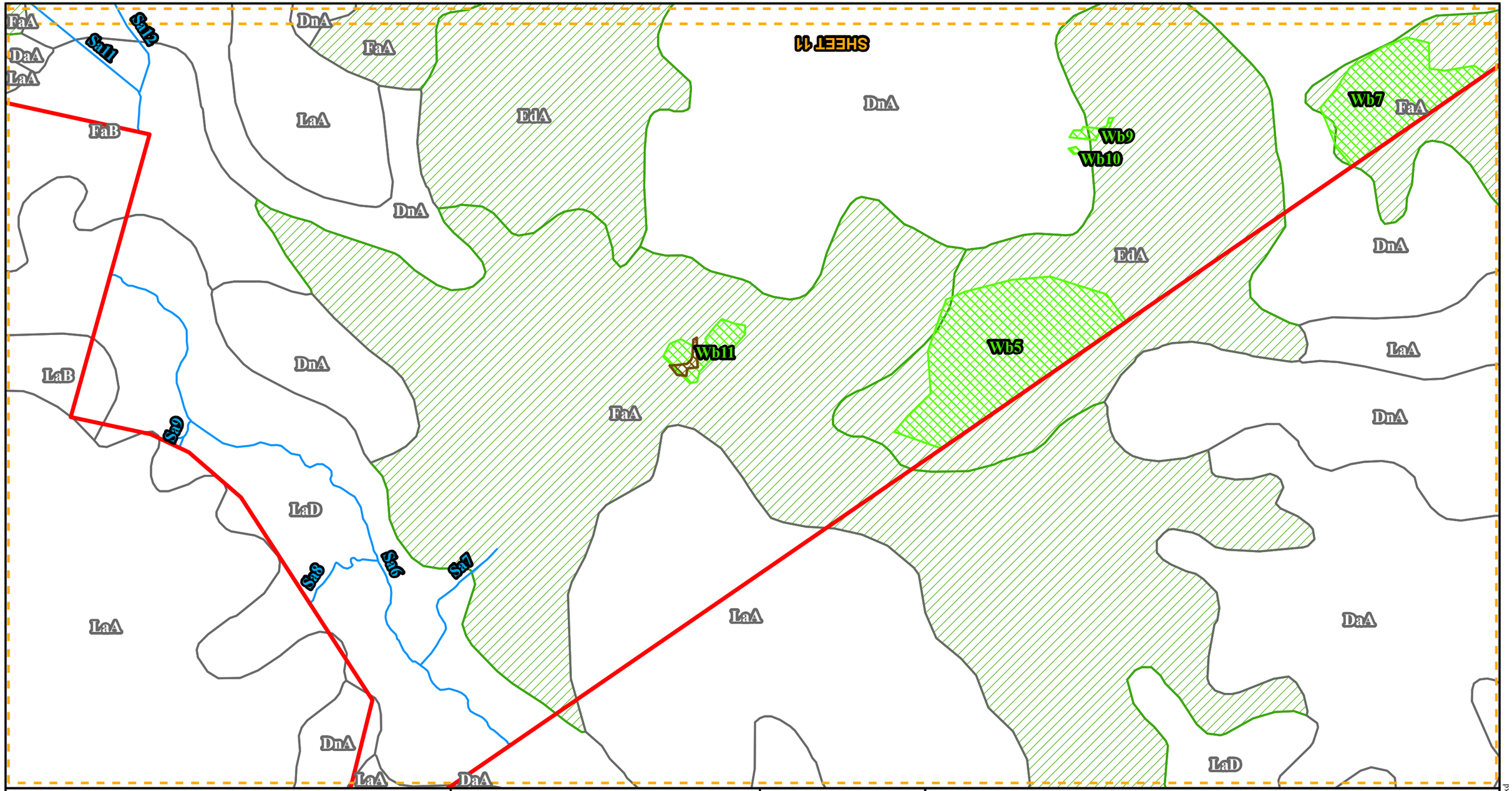
Figure 2. USDA Soils Map for Main Site, Victoria County, Texas.

Prepared For: Exelon Generation Company, LLC

Prepared By: TETRA TECH

Date: 11/09

P:GIS/Projects/Exelon/MXD/Report/Figure2.mxd



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0 90 180 Meters

N

SHEET 13

Source: U.S. Department of Agriculture, Natural Resources Conservation Service; Soil Survey Geographic (SSURGO) database for Victoria County, Texas 2007. Wetland/stream data, Tetra Tech spring, 2009.

Figure 2. USDA Soils Map for Main Site, Victoria County, Texas.

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