APPENDIX E
WETLAND DELINEATION REPORT

WETLAND DELINEATION REPORT

Northeast Wyoming Generation Project
Campbell County, Wyoming
Alternative Action and Ash Disposal Site
(To Be Submitted to USACE)

July 2006

Prepared for:

BASIN ELECTRIC POWER COOPERATIVE
Your Touchstone® Energy Cooperative

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1.0 Introduction

EDAW Inc. was contracted by Basin Electric Power Cooperative to delineate jurisdictional wetlands at the Dry Fork Mine site, including the Proposed Ash Disposal site and the Alternative Action Plant site for the future Northeast Wyoming Generation Project in Campbell County, Wyoming. This assessment was conducted for use in designing development plans that comply with federal regulations concerning water quality as set forth under the Clean Water Act (CWA) of 1972. This report describes and documents the methods, results, and conclusions of the wetland delineation conducted for this project. The Proposed Power Plant site for the same project was delineated on May 24 and 25, 2005 by EDAW Inc. The U.S. Army Corps of Engineers (USACE) approved the determination of jurisdiction on the 1.5 acres of wetlands located on the Proposed Power Plant site and adjacent to the Dry Fork and unnamed drainage in a letter dated September 9, 2005 (File No. 200540177).

1.1 Project Area

The project area is a 353-acre site located approximately 7 to 8 miles north of Gillette, Wyoming, in Campbell County. Legal coordinates of the project area are as follows: Sixth Principal Meridian, Township 51 North, Range 72 West, South ½ of Southwest ¼ of Section 13, North ½ of Section 24, Northeast ¼ of Section 23). As indicated on Figure 1, two separate areas were evaluated during this effort, including the Proposed Ash Disposal site and the Alternative Action Plant site. The Proposed Ash Disposal site is located within an abandoned and reclaimed mine site that is bounded by a rail line to the north and other active mines to the south and east. The Alternative Action Plant site occurs along the primary access road. Land uses in the area surrounding both sites include coal mining, rural farmsteads, and grazing. Both project areas occur on drainages that flow into the Dry Fork of the Little Powder River.

1.2 Regulatory Basis

Discharges of dredged or fill material into waters of the United States are regulated under Section 404 of the CWA. Any such action proposed in wetlands or other waters of the U.S. are subject to review by USACE and other federal and state agencies and require authorization by USACE.

For jurisdictional purposes, USACE and the U.S. Environmental Protection Agency (EPA) jointly define wetlands as follows:

> *Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. (USACE 1987).*

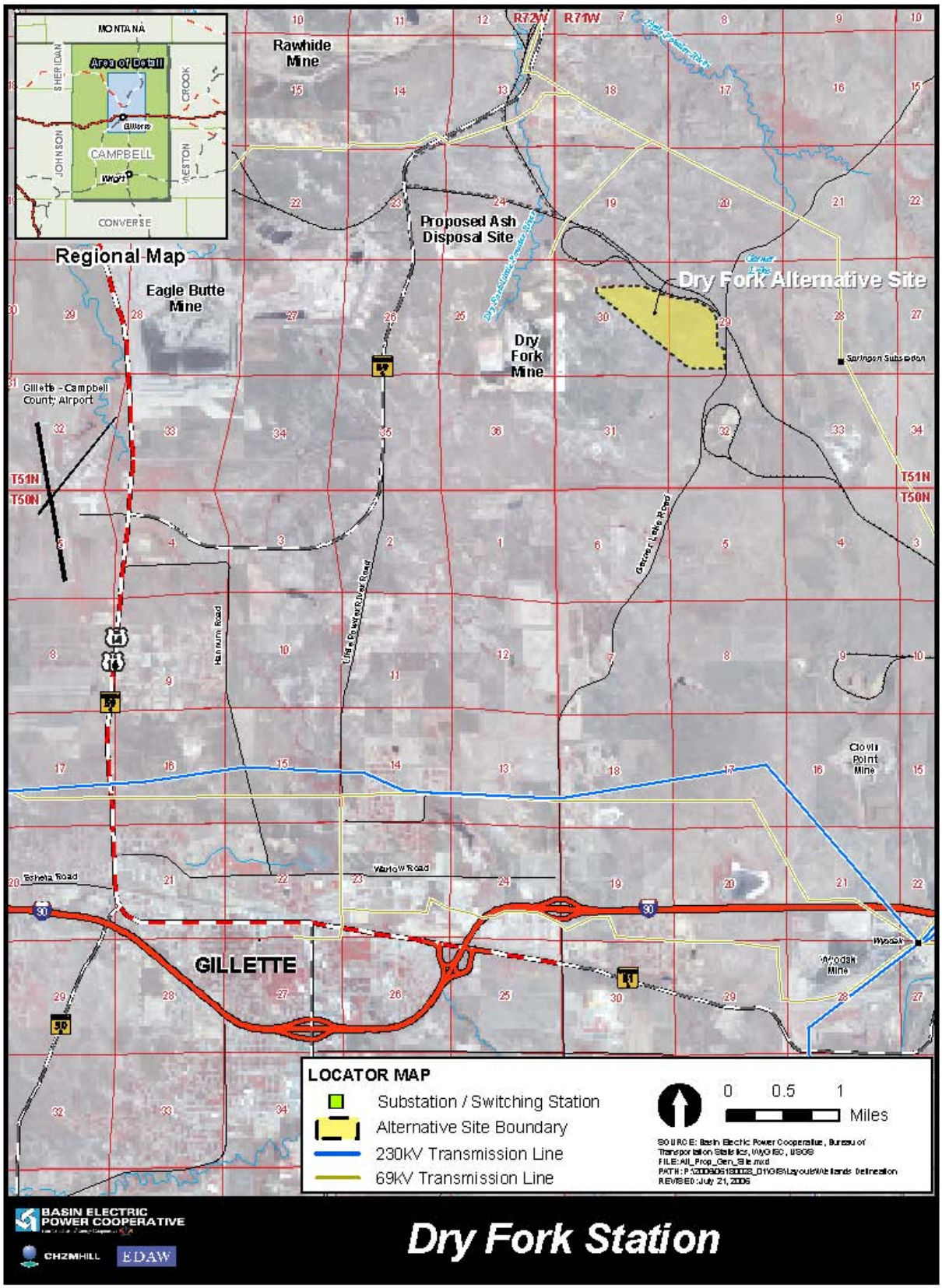

Figure 1. Locator Map

USACE uses three characteristics of wetlands when making wetland determinations: vegetation, soil, and hydrology. Hydrophytic vegetation includes plants that are adapted to life in soil that is at least periodically saturated. Soils that may occur in wetlands (hydric soils), have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season. Wetland hydrology refers to the presence of water at or near the soil surface for a sufficient period of the year to significantly influence the plant types and soils that occur in the area. One or more indicators of hydrophytic vegetation, hydrology, and hydric soils must be present for an area to meet the definition of a jurisdictional wetland.

In certain situations, one or more indicators each of wetland vegetation, hydric soil, and wetland hydrology may not be readily identifiable. Recent human activities or natural events can create “atypical situations” in which positive indicators of hydrophytic vegetation, hydric soils, or wetland hydrology cannot be found. Additional investigation may be needed in these situations to determine the presence or absence of wetland indicators.

In other situations, normal seasonal or annual variation in environmental conditions can lead to the development of “problem areas” in which, as with atypical situations, one or more indicators each of wetland vegetation, hydric soil, and wetland hydrology may not be readily identifiable. Additional investigation may also be needed in these situations to determine the presence or absence of wetland indicators.

Recent case law (Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, January 9, 2001 [SWANCC]) has substantially changed the scope of regulatory jurisdiction under the CWA. In essence, the SWANCC decision held that USACE does not have jurisdiction over non-navigable, isolated, intrastate waters. Waters that are navigable, interstate, or tributary to navigable or interstate waters upstream to the highest reaches of the tributary systems, and all wetlands adjacent to those waters, remain under the jurisdiction of USACE.

2.0 Methodology

The wetland identification procedures were conducted in accordance with the *U.S. Army Corps of Engineers Wetland Delineation Manual* (USACE 1987) and by applying the standards established in the USACE 1987 manual.

Field investigations were conducted on July 5, 2006, by EDAW Inc. A routine small-area method was utilized to identify the location of wetland boundaries. An assessment of USACE hydric indicators (soils, hydrology, and vegetation) was conducted at representative locations within the project area. The indicator status of plants identified at the site was determined using the *National List of Plant Species That Occur in Wetlands* for Region 4 (Reed 1988). (Additional information about plant indicator status is provided in Appendix A.) Soil pits were dug to a depth of approximately 46 centimeters (18 inches) to evaluate indicators of wetland soils and hydrology. Parameters evaluated included soil color, texture, saturation, and other

indicators of inundation. Soil colors were determined using the *Munsell Soil Color Chart* (Munsell 1998). Sample points that exhibited all three qualifying wetland characteristics (vegetation, hydrology, and soils) were identified as wetlands.

Sample sites were established at both focus areas (the Proposed Ash Disposal site and the Alternative Power Plant site); documentation forms utilized by the USACOE were completed for each sample site and are provided in Appendix B of this report.

3.0 Results

The Proposed Ash Disposal site and the Alternative Action Plant site each support one small wetland area. Both sites were flagged and recorded electronically using a handheld Trimble Global Positioning System (GPS). Precision of the data after post-processing is sub-meter in accuracy. Sample sites and the wetland boundary are indicated herein on the Wetland Delineation Map and in the field with orange pin flags.

These wetlands are best characterized as Palustrine Emergent (PEM) using the terminology of Cowardin et al. (1979). Wetland community types identified at the project site are discussed subsequently. These discussions present central tendencies in vegetation, hydrology, and soils; data forms from all sample sites are provided in Appendix B.

3.1 Power Plant Alternative

This wetland is transected by the primary access road, the major portion of which occurs to the north and measures 1.57 acres; the southern portion measures 0.27 acres (see Areas 1 and 2 on Figure 2). Area 2 is pictured below (Photo 1); Area 1 is outside the project boundary. Dominant wetland species include *Alopecurus aequalis* (Obl) and *Phalaris arundinaceae* (FacW+) (see Appendix A for an explanation of plant indicator status). Dominant species in the adjacent upland include *Koeleria macrantha* and *Bromus inermis*. All plants were Fac or wetter at this sampling point; hydrological indicators include soil saturation at the surface and water-stained leaves. Hydrological indicators observed at this point include saturated soil in the upper 12 inches and water-stained leaves. The source of hydrology appears to be an intermittent drainage. Soils at this site are Deekay-Oldwolf loams (134) on 0 to 6 percent slopes. These soils are 20 to 60 inches deep with a lighter colored surface layer; available water capacity ranges between 5.4 and 11.9 inches. These soils are not listed as hydric in Wyoming; land use may include rangeland (SSS 2006). Hydric soil indicators observed in the field include high organic content in the surface layer and low chroma colors.

3.2 Proposed Ash Disposal Site

This 0.68-acre wetland occurs along a narrow channel within an area that has been reclaimed subsequent to mining activities that ceased in 2001 (see Photo 2 and Area 3 on Figure 2). The drainage appears to be ephemeral or intermittent. Dominant vegetation includes Alopecurus aequalis (Obl) and Phalaris arundinacea (FacU); half of the vegetative cover is Fac or wetter (see Appendix A for an explanation of plant indicator status).

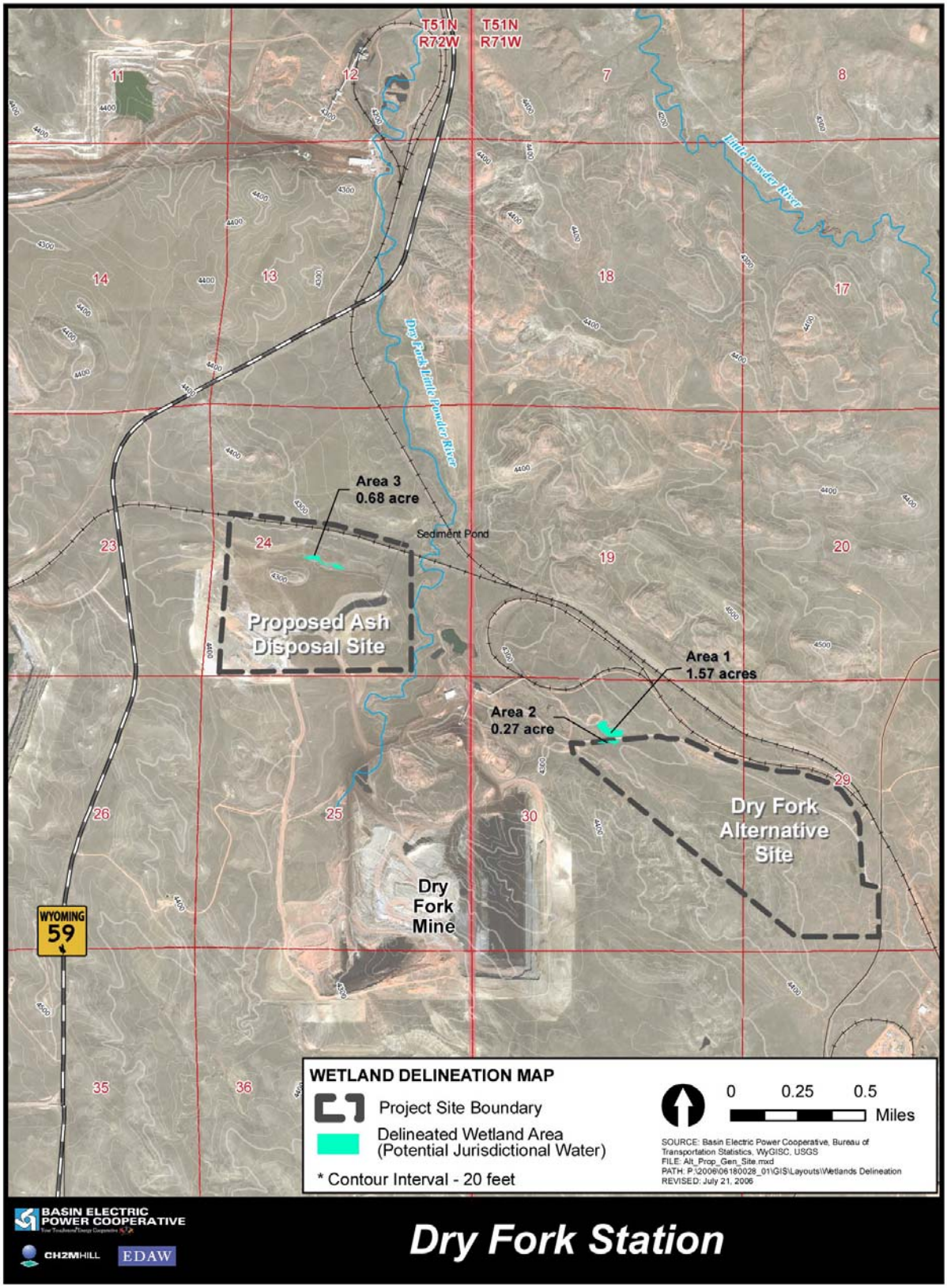

Figure 2. Wetland Delineation Map

Photo 1. Alternative Action Plant Site, Area 1

Photo 2. Proposed Ash Disposal Site (looking west)

Adjacent upland communities were dominated by Bromus inermis and Artemisia cana. Hydrological indicators observed at this point include drainage patterns and oxidized root channels; saturated soil was not observed. The source of water in this wetland appears to be an intermittent drainage. Soils at this site are the Pit-Dump complex (191), which is not listed as hydric in Wyoming; additional soil descriptions are not provided for this map type (SSS 2006). The surface layer of the soil had high organic content, indicating hydric conditions. Numerous soil horizons were observed 5 inches below the soil surface, indicating previous grading and compaction. This site also contained a sediment pond (Figure 2. Wetland Delineation Map) which carries runoff from spoil piles; this pond contained no wetland vegetation and appears to have no outlet.

4.0 Conclusion

The wetlands identified at the Ash Disposal site and at the Alternative Action Plant site occur in drainages that are associated with the Dry Fork of the Little Powder River. We request that USACE make a jurisdictional determination on these wetland areas. If impacts, including discharge of dredge or fill material into jurisdictional waters (including wetlands) are proposed, a permit should be obtained from USACE. If proposed impacts are less than 0.5 acre, authorization under a Nationwide Permit (NWP) would likely apply. If impacts are greater than 0.5 acre, an individual 4004 permit would be necessary. State 401 water quality certification and appropriate soil erosion and sediment controls may apply regardless of direct wetland impacts.

5.0 References

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6.0 GLOSSARY

Active water table: A condition in which the zone of soil saturation fluctuates, resulting in periodic anaerobic soil conditions. Soils with an active water table often contain bright mottles and matrix chromas of 2 or less.

Atypical situation: As used herein, areas in which one or more parameters (soil, hydrology, vegetation) have been sufficiently altered by recent human activities or natural to preclude the presence of wetland indicators.

Capillary fringe: A zone immediately above the water table (zero gauge pressure) in which water is drawn upward from the water table by capillary action.

Chroma: The relative purity or saturation of a color; intensity if distinct hue as related to grayness; one of the three variables of color.

Duration (inundation/soil saturation): The length of time during which water stands at or above the soil surface (inundation), or during which the soil is saturated; duration refers to a period during the growing season.

Flooded: A condition in which the soil surface is temporarily covered with flowing water from any source.

Gleyed: A soil condition resulting from prolonged soil saturation, which is manifested by the presence of bluish or greenish colors through the soil mass or in mottles among other colors. Gleying occurs under reducing soil conditions resulting from soil saturation, by which iron is reduced predominantly to the ferrous state.

Histic epipedon: An 8- to 16-inch-thick soil layer at or near the surface that is saturated for 30 or more consecutive days during the growing season in most years and contains a minimum of 20 percent organic matter when no clay is present or a minimum of 30 percent organic matter when 60 percent or more clay is present.

Hue: A characteristic of color that denotes a color in relation to red, yellow, blue, and so forth; one of the three variables of color. Each color chart in the Munsell Color Book (Munsell Color 1998) consists of a specific hue.

Hydric soil: A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation. Hydric soils occur in areas having positive indicators of hydrophytic vegetation and wetland hydrology and are wetland soils.

Hydrology: The science dealing with the properties, distribution, and circulation of water.

Hydrophyte: Any macrophyte (plant) that grows in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content; a plant typically found in wet habitats.

Inundation: A condition in which water from any source temporarily or permanently covers the surface of the land.

Mottles: Spots or blotches of different color or shades of color interspersed within the dominant color in a soil layer, usually resulting from the presence of periodic reducing soil conditions.

Poorly drained: Soils that are commonly wet at or near the surface during a sufficient part of the year such that field crops cannot be grown under natural conditions. Poorly drained conditions are caused by a saturated zone, a layer with low hydraulic conductivity, seepage, or a combination of these conditions.

Reducing environment: An environment conducive to the removal of oxygen and chemical reduction of ions in the soil.

Routine wetland determination: A type of wetland determination in which office data or relatively simple, rapidly applied onsite methods are employed to determine whether or not an area is a wetland. Most wetland determinations are this type, which does not require the collection of quantitative data.

Soil: Unconsolidated mineral and organic material that supports, or is capable of supporting, plants, and which has recognizable properties due to the integrated effect of climate and living matter acting upon parent material, as conditioned by relief and time.

Soil horizon: A layer of soil or soil material approximately parallel to the land surface and differing from adjacent layers in physical, chemical, and biological properties or characteristics, such as color, texture, or structure.

Soil profile: A vertical section of a soil through all of its horizons and extending into the parent material.

Soil structure: The combination or arrangement of primary soil particles into secondary particles, units, or peds.

Soil texture: The relative proportion of the various sizes of particles in a soil.

Upland: Areas that do not qualify as a wetland because the associated hydrologic regime is not sufficiently wet to elicit development of vegetation, soils, or hydrologic characteristics associated with wetlands.

Value: The relative lightness or intensity of color approximately a function of the square root of the total amount of light reflected from a surface; one of the three variables of color.

Water table: The upper surface of groundwater or that level below which the soil is saturated with water.

Wetlands: Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support (and that under normal circumstances do support) a prevalence of vegetation typically adapted to life in saturated soil conditions.

Wetland boundary: The point on the ground at which a shift from wetlands to uplands or aquatic habits occurs.

Wetland soil: A soil that has characteristics developed in a reducing atmosphere, which exists when periods of prolonged soil saturation result in anaerobic conditions.

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Appendix A

Plant Indicator Status

Wetland Code	Wetland Type	National Indicator
OBL	Obligate Wetland	Occurs almost always (estimated probability 99%) under natural conditions in wetlands.
FACW	Facultative Wetland	Usually occurs in wetlands (estimated probability 67% to 99%), but occasionally found in non-wetlands.
FAC	Facultative	Equally likely to occur in wetlands or non-wetlands (estimated probability 34% to 66%).
FACU	Facultative Upland	Usually occurs in non-wetlands (estimated probability 67% to 99%), but occasionally found on wetlands (estimated probability 1% to 33%).
UPL	Obligate Upland	Occurs in wetlands in another region, but almost always occurs (estimated probability 99%) under natural conditions in non-wetlands in the regions specified. If a species does not occur in wetlands in any region, it is not on the National List.
NI	No Indicator	Insufficient information was available to determine an indicator status.

National Indicators reflect the range of estimated probabilities (expressed as a frequency of occurrence) of a species occurring in wetlands versus non-wetlands across the entire distribution of the species. A frequency, for example, of 67 percent to 99 percent (Facultative Wetland) means that 67 percent to 99 percent of sample plots containing the species randomly selected across the range of the species would be wetland. When two indicators are given, they reflect the range from the lowest to the highest frequency of occurrence in wetlands across the regions in which the species is found. A positive (+) or negative (-) sign was used with the Facultative Indicator categories to more specifically define the regional frequency of occurrence in wetlands. The positive sign indicates a frequency toward the higher end of the category (more frequently found in wetlands), and a negative sign indicates a frequency toward the lower end of the category (less frequently found in wetlands) (USACE 1987).

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Appendix B

Field Data Forms

ROUTINE WETLAND DETERMINATION
(1987 USACE Wetlands Delineation Manual)

Project/Site:	Ash Disposal Site	Date:	7/5/06
Application/Owner:	Basin Electric	County:	Campbell
Investigator(s):	Matt Tobler, Craig Severn	State:	WY

Do Normal Circumstances exist on the site?		Yes	X	No
Is the site significantly disturbed (Atypical Situation)?		Yes	X	No
Is the area a Problem Area?		Yes	X	No

If needed, explain on reverse or attach a separate sheet.

Community ID:
Transect ID:
Plot ID: Site 1, Plot 1

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Alopecurus aequalis*	H 50	Obl	9.		
2. *Phalaris arundinaceas*	H 50	FacU	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 50 %

Remarks: Low species diversity

Taxonomic Reference(s):

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other (Explain in Remarks)
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: n/a (in.)
- Depth to Free Water in Pit: n/a (in.)
- Depth to Saturated Soil: >18 (in.)

____ Tidal Influence
____ Non-Tidal Influence

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in: ____ Upper 12" ____ 13-18"
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in: X Upper 12" ____ 13-18"
  ____ new roots ____ old roots ____ new and old roots
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Site is located in a small drainage that is only several feet wide in most places.

SOILS

Map Unit Name (Series and Phase): _____

Taxonomy (Subgroup): _____

Drainage Class[1]: _____

Permeability[2]: _____

Run-off[3]: _____

Field Observations Confirm Mapped Type? ____ Yes ____ No

Profile Description:

Depth (In.)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance[4], Contrast[5]	Texture[6], Concretions, Structures[7]
0 – 1	O				
1 - 2	A	10 yr 3/1	N/A	N/A	Clay loam
2 – 5	B	10 yr 5/3	7.5 yr 4/6	Few/small	Sandy loam

Hydric Soil Indicators:

____	Histosol	____	Concretions
____	Histic Epipedon	X	High Organic Content in Surface Layer in Sandy Soil
____	Sulfidic Odor (very slight)	____	Organic Streaking in Sandy Soil
____	Aquic Moisture Regime	____	Listed on Local Hydric Soils List
____	Reducing Conditions	____	Listed on National Hydric Soils List
____	Gleyed or Low-Chroma Colors	____	Other (Explain in Remarks)

Observations:

Smell: X Neutral; ____ Slightly Fresh; ____ Freshly Plowed Field Smell

Site: ____ Irrigated; ____ Land leveled; ____ Ditch Drained; ____ Pumped; X Graded to drain via slope

Remarks: There are numerous small horizons below 5 inches. This site has been backfilled and there are coal seams in this profile.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? X Yes ____ No

Wetland Hydrology Present? X Yes ____ No

Hydric Soils Present? X Yes ____ No

Is this Sampling Point within a Wetland? X Yes ____ No

Remarks: Site is within an abandoned coal mine which has been re-vegetated. Seed drill marks are apparent and the soil profile indicates backfilling. This area appears to be an internally draining intermittent gulley.

1. Possible Water of the U.S.? X Yes ____ No

2. Possibly Exempt from Corps/EPA regulation? ____ Yes ____ No If yes, check appropriate box(es) below (see above)

(a) ____ Non-tidal drainage and irrigation ditches excavated on dry land

(b) ____ Artificially irrigated areas which would revert to upland if the irrigation ceased

(c) ____ Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing

(d) ____ Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.

(e) X Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel, unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States (see 33 CFR 328.3(a)).

NOTE:

[1] Drainage class: excessively drained (ED), somewhat excessively drained (SED), well drained (WD), moderately well drained (MWD), somewhat poorly drained (SPD), poorly drained (PD), or very poorly drained (VPD).

[2] Permeability: Very slow (VS), slow (S), moderately slow (MS), moderate (M), moderately rapid (MR), rapid (R), or very rapid (VR).

[3] Runoff: slow, moderate, or rapid.

[4] Mottle abundance: few, common, or many.

[5] Mottle contrast: faint, distinct, or prominent.

[6] Texture: sand, loamy sand, sandy loam, silt loam, loam, sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, or clay.

[7] Structure: platy, prismatic, columnar, blocky, or granular.

ROUTINE WETLAND DETERMINATION
(1987 USACE Wetlands Delineation Manual)

Project/Site:	Power Plant Alternative	Date:	7/5/06
Application/Owner:	Basin Electric	County:	Campbell
Investigator(s):	Matt Tobler, Craig Severn	State:	WY

Do Normal Circumstances exist on the site?	X	Yes		No
Is the site significantly disturbed (Atypical Situation)?		Yes	X	No
Is the area a Problem Area?	X	Yes		No

If needed, explain on reverse or attach a separate sheet.

Community ID:
Transect ID:
Plot ID: Site 2, Plot 1

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Alopecurus aequalis*	G 85%	Obl	9.		
2. *Phalaris arundinaceae*	G 15%	FacW+	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ %

Remarks: Wetland vegetation is seral to yellow sweetclover, Artemisia cana, bromus tectorum, and Bromus inermis in upland settings.

Taxonomic Reference(s): Weber, Whitman

HYDROLOGY

Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other (Explain in Remarks)
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: N/A (in.)
- Depth to Free Water in Pit: 0 (in.)
- Depth to Saturated Soil: N/A (in.)

_____ Tidal Influence
_____ Non-Tidal Influence

Wetland Hydrology Indicators:

Primary Indicators:
- _____ Inundated
- X Saturated in: X Upper 12" _____ 13-18"
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- _____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- _____ Oxidized Root Channels in: _____ Upper 12" _____ 13-18"
  _____ new roots _____ old roots _____ new and old roots
- X Water-Stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-Neutral Test
- _____ Other (Explain in Remarks)

Remarks: Soil is saturated at the surface.

SOILS

Map Unit Name (Series and Phase): _____

Taxonomy (Subgroup): _____

Drainage Class[1]: _____

Permeability[2]: _____

Run-off[3]: _____

Field Observations Confirm Mapped Type? _____ Yes _____ No

Profile Description:

Depth (In.)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance[4], Contrast[5]	Texture[6], Concretions, Structures[7]
0 - 1	O	10 yr 2/1	N/A		Organic
1 – 4	A	10 yr 3/2	10 yr 5/8	Few/small	Clay
4 - 8	B1	10 yr 4/2	10 yr 5/8	Few/small	Clay
8 - 16	B2	10 yr 4/2	N/A		Sandy clay loam

Hydric Soil Indicators:

____	Histosol	____	Concretions
____	Histic Epipedon	X	High Organic Content in Surface Layer in Sandy Soil
____	Sulfidic Odor (very slight)	____	Organic Streaking in Sandy Soil
____	Aquic Moisture Regime	____	Listed on Local Hydric Soils List
____	Reducing Conditions	____	Listed on National Hydric Soils List
X	Gleyed or Low-Chroma Colors	____	Other (Explain in Remarks)

Observations:

Smell: ____ Neutral; ____ Slightly Fresh; ____ Freshly Plowed Field Smell

Site: ____ Irrigated; ____ Land leveled; ____ Ditch Drained; ____ Pumped; ____ Graded to drain via slope

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? X Yes ____ No

Wetland Hydrology Present? X Yes ____ No

Hydric Soils Present? X Yes ____ No

Is this Sampling Point within a Wetland? X Yes ____ No

Remarks: Site has been fragmented by road construction and site grading. Water source appears to be a small perennial spring that forms a small drainage which may be regulated.

1. Possible Water of the U.S.? X Yes ____ No

2. Possibly Exempt from Corps/EPA regulation? ____ Yes ____ No If yes, check appropriate box(es) below (see above)

(a) ____ Non-tidal drainage and irrigation ditches excavated on dry land

(b) ____ Artificially irrigated areas which would revert to upland if the irrigation ceased

(c) ____ Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing

(d) ____ Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.

(e) ____ Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel, unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States (see 33 CFR 328.3(a)).

NOTE:

[1] Drainage class: excessively drained (ED), somewhat excessively drained (SED), well drained (WD), moderately well drained (MWD), somewhat poorly drained (SPD), poorly drained (PD), or very poorly drained (VPD).

[2] Permeability: Very slow (VS), slow (S), moderately slow (MS), moderate (M), moderately rapid (MR), rapid (R), or very rapid (VR).

[3] Runoff: slow, moderate, or rapid.

[4] Mottle abundance: few, common, or many.

[5] Mottle contrast: faint, distinct, or prominent.

[6] Texture: sand, loamy sand, sandy loam, silt loam, loam, sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, or clay.

[7] Structure: platy, prismatic, columnar, blocky, or granular.

APPENDIX F
WEED MANAGEMENT PLAN

F1 WEED MANAGEMENT PLAN AND GUIDLINES

The following guidelines will be followed in the development of a Weed Management Plan.

1. Incorporate weed prevention into the location and construction of access roads, transmission corridors, staging areas and other facilities.

- Identify areas of (1) noxious weeds, and (2) other weeds of concern in the area of the proposed action. Weeds are more commonly found along drainages and streams; areas with deeper, more productive soils; and in areas previously disturbed or overgrazed.
- Identify areas with the greatest potential for weed infestation. Access roads and drainages with flowing water can create corridors/conduits for weed spread.

2. Treat infestations of noxious weeds and weeds of local concern within the project areas as necessary to control and contain.

- Control noxious weeds and invasive plants during construction, reclamation and operation using an integrated approach, which involves the most effective combination of the following methods.
  - Cultural
    - The prompt reseeding and revegetation of areas of disturbed soils with certified seed.
    - Encourage the cleaning of equipment and vehicles prior to entering and leaving each work site.
    - Minimize surface disturbance, where possible. This is especially important in areas of known weed populations and/or areas susceptible to weed infestation.
  - Physical
    - To control annual and noxious weeds, consider mowing newly revegetated areas during the first season of establishment, prior to weed seed formation.
    - In some unique circumstances, controlled burning may reduce the infestation of some weed species. Ensure that necessary approval is obtained and exercise extreme caution when considering/utilizing this option.
  - Biological
    - Utilize approved/available biological control agent (usually an insect) if it would be effective for the weed species considered for control.
    - Consider domestic animals for control of specific weed species.
  - Chemical
    - Consider weed species, the site on which herbicide will be applied and desired result when selecting appropriate herbicide for noxious weed control.
    - Ensure selected herbicide is approved for weed(s) to be controlled, for type of application and that herbicide label is otherwise consistent with intended use. Strictly adhere to herbicide label.
    - Ensure that all herbicides are handled and applied by properly trained and licensed personnel.
    - Coordinate application to avoid upland game bird nesting and brood-rearing periods

- On BLM administered public lands, an approved Pesticide Use Permit (PUP) is required to apply chemical herbicide and an approved Biological Release Permit (BRP) is required for the release of biological agents. The necessary forms and direction may be obtained from your local BLM office.
  - See current list of herbicides approved for application on BLM administered lands.
- On private lands first consult the private surface owner as to the desired method(s) for the control/treatment of noxious weeds/invasive plants.

3. Incorporate weed prevention and control measures into construction, reclamation, and operation activities.

- Use only certified weed-free hay, straw and/or other organic mulches used for erosion control and other environmental restoration activities.
- Use only road surfacing and other earthen materials for construction/maintenance that are certified weed-free.
- Clean all vehicles and equipment used in construction, drilling, restoration and maintenance activities by pressure washing, or other effective means. Ensure that all equipment/vehicles are weed-free prior to transporting into new areas of construction or operation.
- Reseed all areas, not further utilized, immediately following construction and reclamation activities.
- Use only certified weed-free seed for the reclamation of areas disturbed by the proposed action.

4. Minimize weed seed source and limit opportunity of weed seed transport/spread into weed-free areas.

- Identify and treat/remove weed seed sources that are within/adjacent to ROWs, material staging areas, construction areas, access roads, and other areas where noxious weed seed could be picked up by vehicles or flowing water and spread into weed free areas.
- Prevent the accidental transport and spread of weeds and weed seeds into new areas of development.
  - Clean all construction equipment and vehicles of mud, dirt and plant parts before coming onto and leaving work sites.
  - Transport/use only gravel or other earthen fill material from certified weed-free sources.

5. Initiate a weed education policy to assist contractors and field employees in the identification of noxious weeds and to create an awareness of the impacts that noxious weeds and invasive plants have on the environment.

- Participate in cooperative education and awareness programs with county weed districts, state and federal agencies and educational institutions.
- Encourage contractors and employees to report new noxious weed infestations to company representative responsible for weed management and the appropriate county weed board.

- Distribute and review weed education material at onsite inspections and preconstruction conferences.


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