

U.S. Department of the Interior Bureau of Land Management

DOI-BLM-MT-L070-2011-0011-EA
Environmental Assessment
October 22, 2012

Powerline Repair/Replacement

Location: Chouteau County, West of Winifred, Montana

T. 23 N., R. 14 E.,

Section 25: N¹/₂NE¹/₄, SW¹/₄NE¹/₄, N¹/₂S¹/₂NW¹/₄; and

Section 26: NW¹/₄SE¹/₄, NW¹/₄NE¹/₄SE¹/₄



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**HILL COUNTY ELECTRIC
OVERHEAD POWERLINE – MTM-102525
CHOUTEAU COUNTY, MONTANA**

BACKGROUND

Hill County Electric Cooperative (HCEC) has operated and maintained a transmission facility in this location since the early 1950s. The original facility was an overhead line until 1982, when a severe snowstorm/blizzard destroyed this line and HCEC requested that the line be converted to an underground line. The Bureau of Land Management (BLM) approved the request and authorized the buried line (as a 20' wide right-of-way) in 1984. This authorization was renewed in 2004 and will expire in 2024.

The buried line has experienced numerous faults and outages and has reached the end of its life at 30 years, which is about 20 years premature. Although HCEC believed that line burial was the proper solution at the time that has not proven to be the case. In fact, in the early 1990s, because of the frequency of failures and outages which resulted in a high cost to membership, HCEC's Board of Directors placed a moratorium on new construction of all buried lines for HCEC.

INTRODUCTION/DESCRIPTION

Hill County Electric has requested permission to amend their current authorization for a buried line to allow for replacement with a single phase 12.47/7.2kV overhead powerline in order to provide more reliable service. The total length of the route is less than 2.25 miles, of which approximately 1.45 miles is in on BLM-administered land. Approximately one-third of this line is on BLM land within the Lewistown Field Office (LFO) administrative boundaries and the remaining two-thirds are within the Upper Missouri River Breaks National Monument (UMRBNM). The UMRBNM portion lies within the Wild section of the Wild and Scenic river corridor.

PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of this action is to allow for replacement of an existing buried powerline with an overhead powerline to improve public health and safety by providing members of the public with reliable power. The Federal Land Policy and Management Act (FLPMA) makes public lands available for this type of use under Section 501.

DECISION TO BE MADE

This environmental assessment (EA) discloses the environmental consequences of implementing the proposed action or alternatives to that action. The BLM field managers for the UMRBNM and LFO will be the deciding officials. Based on the information provided in this EA, the managers must decide whether to grant the right-of-way (ROW) application with appropriate mitigation measures, or to reject it.

AUTHORITY AND LAND USE PLAN CONFORMANCE

Section 501 of FLPMA (Public Law 94-579) authorizes the granting of such rights-of-way. This action is in conformance with the Judith Valley Phillips Resource Management Plan (JVP RMP) (BLM 1994), which allows for rights-of-way on public land which are in corridors and/or not in avoidance or excluded areas (JVP RMP, 30).

The West HiLine RMP (BLM 1988) also designated this as an exclusion area. The UMRBNM RMP (BLM 2008a and 2008b) continued this designation. Both designations were made with the overhead powerline already in place. An exclusion area has been defined as follows:

The West HiLine RMP defined an exclusion area as:

Land areas determined to be unavailable for corridor allocation or facility siting. Only those areas with a legal Congressional mandate that excludes linear facilities should be included. The corresponding definition for the Montana Major Facility Siting Act is a geographic area specified in ARM 36.7.2503 and ARM 36.7.2532 legally designated for its environmental values and having legally defined boundaries wherein facility construction or operation is prohibited, excepting those portions of the area where permission to a site a facility has been obtained from the legislative or administrative unit of government with direct authority over the area.

The corresponding definition for a ‘facility’ in the Montana Major Facility Siting Act (Montana EQC 1985) is defined as:

Electric transmission line and associated facilities of a design capacity of more than 69 kilovolts, (75-20-104 (10) (b)).

The UMRBNM RMP defined an exclusion area as:

An area unavailable for corridor designation or facility siting. A geographical area designated for its environmental values and having defined boundaries wherein facility construction or operation is prohibited.

The UMRBNM Record of Decision and Approved Resource Management Plan (BLM 2008b) Visual Resources management decision (47) states:

The Management objectives will not preclude the maintenance of existing structures

The Visual Resources implementation section (48) further states:

Maintenance of existing range improvements or other structures in VRM Class I areas will be allowed.

The UMRBNM RMP implementation section for Rights-of-Way (56) states:

*Applications for rights-of-way will be considered pursuant to existing policies and practices, identified transportation and utility corridors, identified avoidance and exclusion areas, **valid existing rights**, and as necessary for **adequate and reasonable access** to state or private land as well as access for **utility** or transportation services. (**emphasis** added)*

The applicant's proposed action is not a facility as defined by the Montana Major Facility Siting Act, and is not a proposal for corridor designation. Further, the proposed action is an amendment to a valid existing authorization/right.

Based on the above-stated references, the proposed action is in conformance with the realty decisions from the UMRBNM Record of Decision and Approved Resource Management Plan, (BLM 2008b, 56). The proposed action is not consistent with VRM objectives from the same plan.

PROPOSED ACTION AND ALTERNATIVES

- A. **Proposed Action Alternative A (All Overhead):** Hill County Electric has applied for a ROW to install an overhead powerline in order to address needed repairs on the existing buried powerline. The BLM parcels affected by this application are in Chouteau County, Montana and further described as:

T. 23 N., R. 14 E.,

Section 25: N¹/₂2NE¹/₄, SW¹/₄NE¹/₄, N¹/₂S¹/₂NW¹/₄;

Section 26: NW¹/₄SE¹/₄, NW¹/₄NE¹/₄SE¹/₄

The requested route would be immediately adjacent to the county road (see Appendix A for showing specific routing and location). A buried powerline is currently authorized along this same route. However, this existing line is nearing the end of its service life and the rugged topography in the area has caused multiple failures in the line with delayed and expensive repairs. The company is proposing to replace the buried line with an overhead line consisting of approximately thirty 35' power poles, each buried 6' in the ground. The normal tangent structure would have an A1A pole top assembly. A drawing of an A1A assembly is included as Appendix B. Two #3 ACSR conductors would be strung between each structure. Any temporary work areas would be within the authorized right-of-way corridor. Nominal span between poles would be 300'. Construction would be accomplished with a rotary digger mounted on a large truck. An auger would be used to bore a 24" hole, 6' deep, with a pole being placed in that hole. All excavated soil would be backfilled and tamped. Any excess dirt would be placed around the pole base in a conical shape, which aids in shedding water from the pole. Once the poles have been set, the conductor would be strung along the ROW using a truck or trailer and tightened into place using predetermined tensions. The tensions would be such that the overhead clearances are maintained according to guidelines of the National Electrical Safety Code (NESC). The line would be constructed using raptor-

proof design. Guidelines set forth in the “Suggested Practices for Avian Protection on Power Line – The State of Art in 2006’ would be followed.

Construction would start upon receipt of an approved grant. The ROW corridor would be approximately 5.27 acres, with an actual surface disturbance (for the poles associated with an overhead line) of approximately .41 acres.

- B. **Alternative B (No Action):** The requested amendment to the ROW would be denied. Repair frequency is increasing and in order to make the frequent repairs required, there would continue to be surface disturbance for maintenance and repairs of the line. Depending on the soil type in the area of the repair, either plowing or trenching would be used to remove material down to the existing line (approximately 36” deep) and make necessary repairs. All excavated soil would be backfilled and tamped. The amount of excavated soil and soil disturbance for each repair depends on size and location of the damaged area requiring the repair. The ROW corridor would encompass approximately 3.515 acres, with an actual surface disturbance for installing a new line of at least 3.515 acres, and likely higher depending on soil types during installation.
- C. **Alternative C (Partial Buried/Partial Overhead):** This alternative would allow for a portion of the line to be made overhead (Section 26), but all segments of the line visible from the Upper Missouri River and within the Wild and Scenic river corridor would remain buried (Section 25). However, this alternative would require HCEC to lift the moratorium for construction of buried line to remove the line in Section 25 and replace it with new line. If HCEC did approve the lifting of the moratorium, construction activities would be similar to the No Action Alternative. HCEC would use a trench or a plow to a depth of 36”. All excavated soil would be backfilled and tamped. The ROW corridor would be approximately 3.515 acres, with an actual surface disturbance of approximately 2.44 acres.

ALTERNATIVES CONSIDERED BUT NOT FURTHER ANALYZED

One of the alternatives discussed was similar to Alternative A, but would allow shorter power poles be used for the construction of the overhead line. However, due to public health and safety rules, the lower conductor on the line must maintain a 25’ height above the ground at all times. The shorter pole would be 30’ high, with 6’ buried, resulting in a ground clearance of only 24’ (which would not meet health and safety rules). This height difference would not result in any less of a visual impact. In order to maintain tensile strength, this would also result in a need for more poles (approximately 14 percent more depending on terrain) which would increase the visual impact and would also result in more surface disturbance.

AFFECTED ENVIRONMENT

Only those aspects of the affected environment that are potentially impacted by this project are described in detail. The following aspects of the existing environment were determined to be not present or not potentially impacted by this project: Forestry, Water, and Fisheries.

Cultural Resources: Ethnoscience, Inc. completed a cultural resource inventory of the proposed powerline route on May 19, 2011. No National Register of Historic Places eligible properties have been identified with the area of potential effect. A Lewis & Clark campsite (Slaughter River) exists approximately one mile downriver from the project area. That site (24CH0566) is a National Register Listed property located on State-owned land.

The Lewis & Clark National Historic Trail is the Missouri River and by its designation is a nationally-significant resource, but since it has not been recorded as a historic site it is not managed as a “historic property” as defined by the National Historic Preservation Act, as amended, and therefore is not evaluated for effects like other historic properties.

Paleontological Resources: The western portion of the ROW at the top of the ridge is within the Claggett Shale. According the LFO Class I Paleontological Overview (Hanna 2009), the Claggett Shale is a class 3a geologic unit under the BLM’s Potential Fossil Yield Classification (PFYC) system. This unit has moderate paleontological potential for producing vertebrate fossils or scientifically significant nonvertebrate fossils.

The Claggett Shale overlies the Eagle Sandstone, a class 3b geologic unit under the PFYC system for being known to yield some significant fossils, but due to being poorly studied, has and unknown potential (Hanna 2009). Within the project area, the Eagle is the light colored sandstone that outcrops toward the bottom of the slope in road cuts or a few of the small, narrow draws that incise the hillside.

Underlying the Eagle Sandstone is the Telegraph Creek Formation, a class 2 geologic unit under the PFYC system for having a low potential to yield vertebrate fossils or scientifically significant nonvertebrate fossils (Hanna 2009).

There are no documented fossil localities within the project area along the powerline ROW.

Soils: Soils were identified from the Natural Resources Conservation Service’s (NRCS) Soil Survey Geographic (SSURGO) dataset and the Soil Data Mart (SDM) website (<http://soildatamart.nrcs.usda.gov/>). Soil surveys were performed by the NRCS according to National Cooperative Soil Survey (NCSS) standards. Pertinent information for review and analysis is from the SDM and the National Soils Information System (NASIS) database for the area.

Soils developed from sedimentary (sandstone and shale) residuum and slope alluvium. Soil depths range from shallow (10 to 20 inches) to very deep (>60 inches) but are mostly shallow. Water erosion hazards, mostly dependent on slope, ranges from slight to severe but are mostly severe.

The primary soil map units (SMUs) the proposed action would occur on are: Map unit: 251E - Bascovy-Neldore silty clays, 8 to 25 percent slopes; Map unit: 654F - Fleak-Twilight-Rock outcrop complex, 25 to 70 percent slopes; Map unit: 661E - Twilight-Fleak complex, 8 to 25 percent slopes; Map unit: 793C - Yamacall clay loam, 4 to 8 percent slopes; and Map unit: 972F - Neldore-Rock outcrop complex, 25 to 70 percent slopes.

Appendix C provides a description of the major soils that occur in an SMU. Descriptions of non-soil (miscellaneous areas) and minor SMU components are not included.

Vegetative Resources: The project area is composed of primarily two dominate Ecological Sites: Clayey Steep (SiStp), 11–14" MAP and Shallow Clay (SwC), 11–14" MAP.

Clayey Steep (SiStp), 11–14" MAP: The physical aspect of this site in Historical Climax is that of grassland dominated by cool and warm-season grasses with scattered shrub cover. Approximately 80 to 85 percent of the annual production is from grasses and sedges, 5 to 10 percent is from forbs, and 5 to 10 percent is from shrubs and half-shrubs. The canopy cover of shrubs is 5 to 10 percent. Slight differences in production and plant species composition will occur depending on the surface texture of the site (silty, clayey, or sandy).

Dominant species include bluebunch wheatgrass, green needlegrass, western or thickspike wheatgrass, plains muhly, and needleandthread. Short grasses such as Sandberg bluegrass and prairie junegrass also occur. There are abundant forbs (purple and white prairie clovers, prairie coneflower, dotted gayfeather) which occur in smaller percentages. Shrubs such as Wyoming big sagebrush and winterfat are common.

Shallow Clay (SwC), 11–14" MAP: The physical aspect of this site in the Historical Climax (HCPC) is that of a gentle to steep sloping grassland with scattered shrubs on steeper slopes. Approximately 70 to 75 percent of the annual production is from grasses and sedges, 5 to 10 percent is from forbs, and 5 to 15 percent is from shrubs and half-shrubs. The canopy cover of shrubs is 1 to 5 percent.

Dominant species include bluebunch wheatgrass, green needlegrass, plains muhly, and western or thickspike wheatgrass. Short grasses such as Sandberg bluegrass and prairie junegrass are also present. There are abundant forbs (purple and white prairie clover, prairie coneflower, dotted gayfeather) which occur in smaller percentages. Shrubs such as Nuttall's saltbush and winterfat are common. Rocky Mountain juniper may also occur on steeper slopes.

Rangeland Resources: Managed livestock grazing within these Ecological Sites is suitable, although sometimes limited by steep terrain and shallow soils. Two grazing allotments are within the proposed project area: Flat Creek and Sheep Shed Coulee. Currently, the Flat Creek Allotment is authorized 80 cattle animal unit months (AUMs) from 8/1 to 10/15 at 100 percent public land. The Sheep Shed Coulee Allotment is authorized 697 cattle AUMs from 7/10 to 11/29 at 78 percent public land. The proposed project area lies within a small portion of the Sheep Shed Coulee Allotment and enters the Allotment on the east side for approximately 0.5 miles of BLM-administered land. The rest of the proposed action occurs on approximately 1.0 mile of the Flat Creek Allotment.

Noxious Weeds: The BLM conducted a survey for the presence/absence of noxious and invasive plants along open and seasonally open roads in the Upper Missouri River Breaks National Monument in 2009. There are no documented infestations along the adjacent road

segment identified in the proposed action. Most likely, infestations of several noxious plants occur on the private land on the river bottom.

Wildlife and Special Status Species: The project area includes habitat for many species common to the Missouri River breaks and sagebrush grasslands adjacent to the breaks. The proposed project crosses habitat for mule and whitetail deer, elk, and bighorn sheep, sharp-tailed grouse, various rodents and furbearers, various hawks, owls, bald and golden eagles, various migratory birds, common reptiles and amphibians. For a complete list of species, see the UMRBNM RMP (2008), and the JVP RMP (1994).

No known Threatened or Endangered species are near or on these locations or designated critical habitat or forage species. The greater short-horned lizard (BLM Designated Sensitive Species) occupies open sagebrush and grassland habitat and is likely present within the project area. Most BLM Designated Sensitive Species (IM No. MT-2004-82) have no suitable habitat within the project area, or if adjacent to the project area will not be impacted from any of the alternatives. These species are not considered to be part of the affected environment. The remaining Sensitive Species within the project area are covered under Migratory Birds.

Migratory Birds: Bald eagles could be transient during seasonal migrations, but no crucial habitat, forage species or nesting sites occur within the project area. These areas are used by numerous raptors, including Swainson's hawk, and golden eagles, BLM sensitive species. No raptor nests have been documented within the analysis area that would be affected by any of the proposed alternatives. Other migratory bird species present in this area are locally abundant and the habitat is not considered crucial to any species.

Visual Resources: Public lands have a variety of visual values. These different values warrant different levels of management. Because it is neither desirable nor practical to provide the same level of management for all visual resources, it is necessary to systematically identify and evaluate these values to determine the appropriate level of management. The visual resource management (VRM) classes are based on a process that considers scenic quality, sensitivity to changes in the landscape and distance zone. The four VRM classes are numbered I to IV; the lower the number, the more sensitive and scenic the area. The degree to which an action affects the visual quality of the landscape depends on the visual contrast which is created between the proposed action and the existing landscape character. Visual resource contrast ratings are conducted based on Handbook 8431-1 to evaluate levels of management. The visual contrasts can be measured in terms of the changes in the basic elements, such as form, line, color, and texture.

The project area has an enclosed landscape character with rolling terrain. The dominant vegetation is a low-lying sagebrush/grassland community. Currently, there are existing disturbances in the vicinity of the proposed action which include a portion of overhead powerlines on private land adjacent to and crossing the river, small buildings, and a county road. Even though existing disturbances exist, the adjacent Monument land is classified as VRM I since it is located within the Wild and Scenic river corridor. The proposed powerline continues into the Lewistown Field Office (LFO) with a classification of VRM I and II where the dominant vegetation continues with a low-lying sagebrush/grassland community. However, the only current structure disturbance within the LFO is the existing county road.

The objective of VRM Class I is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention. The VRM Class II objective is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color and texture found in the predominant natural features of the characteristic landscape.

The proposed action is in a Wild section of the Wild and Scenic river corridor (Upper Missouri Wild and Scenic River Management Plan (BLM 1978). “Primary emphasis in managing this wild segment of the Missouri River will be given to protecting the highly scenic and pristine character of the *seen area* within the management corridor. Management activity will center on preserving natural processes and limiting man’s impact on the environment.” (BLM 1978, 58) The general lack of screening vegetation adds to the visual sensitivity of the *seen area* (Upper Missouri National Wild and Scenic River Management Plan Update (BLM 1993, 3). The Upper Missouri Wild and Scenic River Management Plan provides that the BLM “Examine all existing utility lines to determine if their present locations and visual aspects are compatible with the river management prescriptions. The long range goal is to place aesthetically displeasing overhead lines underground or to channel them into corridors, subject to existing rights.” (BLM 1978, 17). Therefore, current utility lines within the wild section, such as the subject powerline, are subject to being placed underground or in less sensitive locations when they are esthetically displeasing (BLM 1978, 59).

Recreation Resources: The proposed action is located in the Upper Missouri River Special Recreation Management Area (SRMA). The BLM’s goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes (BLM 2008b, 64). Recreational activities enjoyed by the public on BLM lands within the analysis area include boating, fishing, camping, hiking, wildlife viewing, and hunting. The height of recreational use begins during Memorial Day weekend and ends Labor Day weekend. Slaughter River Recreation Area is located across the river one mile southeast of the proposed action. The Slaughter River Recreation Area is the site of a Lewis and Clark campsite and is a convenient one-day float from a major take out point at Judith Landing (BLM 1993, 39). The BLM manages this recreation site and it is maintained as a minimally developed recreation area (BLM 1993, 39).

The proposed project site is within the Wild and Scenic river corridor. The BLM is required to manage Wild and Scenic rivers to fulfill the obligations contained in the Wild and Scenic Rivers Act (WSRA) of 1968, as amended. The WSRA requires that the BLM manage the designated rivers to protect and enhance the free-flowing condition, water quality, and outstanding remarkable values of each designated segment. In order to become a Wild and Scenic river, the river must possess these qualities, with a minimum of one Outstanding Remarkable Value (ORV) that is located on public lands. The initial river study conducted in 1975 identified the esthetic, scenic, historic, fish and wildlife, and geologic features of the river as being the primary emphasis for future management (US DOI, Bureau of Outdoor Recreation, 1975). The WSRA

also requires that the managing agency determine a classification for managing the segments of the river. The three management classifications are Wild, Scenic, and Recreational. The allowable developments vary based on classification of the segment; Wild rivers are the most restrictive, whereas Recreational rivers are the least restrictive. The project site occurs within the designated corridor of a river segment that is classified as Wild.

The Missouri River is the Lewis & Clark National Historic Trail and approximately 5,000 recreationists used the river during the 2010 season (Recreation Management Information System (RMIS) data). Many river users float this river to be a part of the experience of the Lewis & Clark National Historic Trail. As per the UMRBNM RMP, the BLM will manage the segment of the Lewis & Clark National Historic Trail that is consistent with the purposes and provisions of the National Trails System Act (PL 90-543, 1968) as amended by PL 95.625 (64).

ENVIRONMENTAL IMPACTS OF THE ALTERNATIVES

ALTERNATIVE A: (Proposed Action-All Overhead)

Direct/Indirect

Cultural Resources: A cultural resources inventory was conducted for the proposed project. The Rural Utilities Service (RUS) reviewed the report and submitted it to the Montana State Historic Preservation Office (SHPO) in Helena, with a finding of “No Historic properties Affected.” SHPO reviewed the report and concurred with that finding on December 1, 2011. The Lewis & Clark National Historic Trail Comprehensive Plan for Management and Use (NPS 1982) states, “Land uses which adversely affect sites and segments should be carefully monitored and, if necessary, modified.” (98) This plan cites the BLM’s Upper Missouri Wild and Scenic River Management Plan (1978) for direction on management and protection of the trail. Direction within this Plan states that the management objective for cultural resources is to: Provide for the preservation, protection, and enhancement of historical and archaeological sites in compliance with federal laws and policies (13).” This alternative does not have a direct effect on the Lewis & Clark National Historic Trail. An additional overhead line would have an adverse indirect effect on the overall setting and feeling associated with the Lewis & Clark National Historic Trail. However, the existing overhead line crossing over the Missouri River is contributing to that adverse indirect effect as well. The existing overhead line is not on surface administratively managed by the BLM, so we are unable to mitigate that impact.

Paleontological Resources: Under this alternative, the augered holes would have minimal impact to the geologic units. Considering that each hole is only 24” in diameter and mostly in previously disturbed ground, the potential to directly damage paleontological resources is low within the Claggett Shale and Eagle Sandstone that are classified as 3a and 3b, respectively, under the PFYC system. For disturbance within the class 2 Telegraph Creek Formation, the possibility of damaging paleontological resources would be even more unlikely.

Soils: There would be minimal soil disturbance at each pole site, approximately 2 square feet per augered hole. Total soil disturbance for the project would be approximately 60 square feet.

All excavated soil would be backfilled and tamped. Any excess material would be placed around the pole base in a conical shape.

Equipment and vehicles used to construct and maintain the powerline could cause soil compaction and rutting. Severity would be directly related to soil type, soil moisture, frequency and weight (lbs./sq. inch) of equipment/vehicles. Compaction alters soil structure and decreases porosity, infiltration rate, air space and available water holding capacity. Severe compaction of soil inhibits natural revegetation by reducing root penetration, restricts water and air movement, severely limits the rate of water infiltration, and slows seed emergence. Ruts provide a channel for concentrated flow to accelerate soil erosion. Soils are the most susceptible to compaction and rutting during moist or wet conditions.

Soils could also be affected by fluid spills, including engine oil, hydraulic oil, fuel, etc. These spills could severely affect soil in localized areas; excessive concentrations may be capable of soil sterilization.

Vegetative Resources: Impacts from the proposed action would disrupt approximately .41 acres of the vegetative community. Potentially, impacts to vegetation from the construction of the proposed action would be temporary, although permanent impacts could occur. For example, vegetation would be permanently removed from areas where powerline poles are put into the ground. Seeding with native plants to reclaim the construction area would likely be needed.

Rangeland Resources: There would be no effect on grazing operations within the project area.

Noxious Weeds: The proposed action could contribute to the spread of noxious and invasive plants. This risk is attributed to disturbance caused during construction and maintenance of the utility line and the potential that vehicles used in these activities may possibly be contaminated with seed or other propagative plant parts. Mitigation measures proposed in this document would minimize this risk to the extent possible and there would be little to no effect from this alternative.

Wildlife and Special Status Species: Initial construction may cause direct mortality to a few individuals not mobile enough to leave the construction zone. There could be a temporary displacement of wildlife during construction operations. A loss of vegetation and habitat would occur within the area of surface disturbance. Removal of vegetation important to wildlife on all sites and lines could impact wildlife if disturbance sites are not adequately reclaimed. This same loss of vegetation and habitat could occur if noxious weeds or invasive non-native species move into disturbed areas. This impact would be greater and long-term. If reclamation is adequate and invasive species and noxious weeds do not take over disturbed areas, long-term impacts would be due to repair and maintenance of the powerline.

Additional traffic and construction into badlands habitat may result in an increased mortality for resident reptiles (including short-horned lizard, a BLM Sensitive Species). Overhead powerlines would create additional obstacles for flying birds, creating potential for strikes and additional mortality. Overhead structures would cause some ground nesting and foraging species to avoid habitat due to potential use by raptors. Overhead powerlines are subject to high wind and icing, which can cause breaks in the line. These breaks could cause wildfires, resulting in loss of

habitat to wildfire. Wooden power poles are scheduled for regular replacement, as they would rot over time when exposed to wet soil. Power poles are also vulnerable to wildfire. Loss of poles would increase the need for replacement, increasing or prolonging impacts to vegetation and local wildlife.

Migratory Birds: Impacts to migratory birds could occur if construction activities disturbed nesting birds, destroyed nests, or caused vehicle strikes. There would be potential for reduced breeding and nesting success, and increased juvenile mortality of migratory birds in the immediate area of construction activities. Temporary displacement of birds would occur during construction operations. Overhead powerlines would create additional obstacles for flying birds, creating potential for strikes and additional mortality. Overhead structure could cause some ground nesting and foraging species to avoid habitat, due to potential use by raptors. All species present are locally abundant and potential impacts would not affect the populations of any species locally or regionally.

Visual Resources:

Monument: The proposed action would create a visual contrast on BLM land that would exceed VRM Class I objectives. Three visual resource contrast rating analyses were completed for the Hill County Electric Project within the Monument. The three Key Observation Points (KOPs) are in the following locations: the Upper Missouri River, Slaughter Campsite Recreation Area, and the local access road.

KOP #1 is on the river since one of the predominant recreational uses is both non-motorized and motorized boating. Through the visual contrast rating analysis, it was found that VRM Class I standards in the seen area would not be met with the proposed action of all overhead powerlines. When floating the river, the proposed action on BLM land has a length of time view of 9 minutes at a speed of 4 mph. However, the proposed action on the private land has an increased length of time view from the river of 18 minutes when floating at a speed of 4 mph.

KOP #2 is located at Slaughter River Recreation Area. This area is only accessible by river users. The powerlines have less of a contrast at KOP #2 than KOP #1 due to proximity to the proposed project. However, through the visual contrast rating worksheet, VRM Class I would not be met with overhead powerlines.

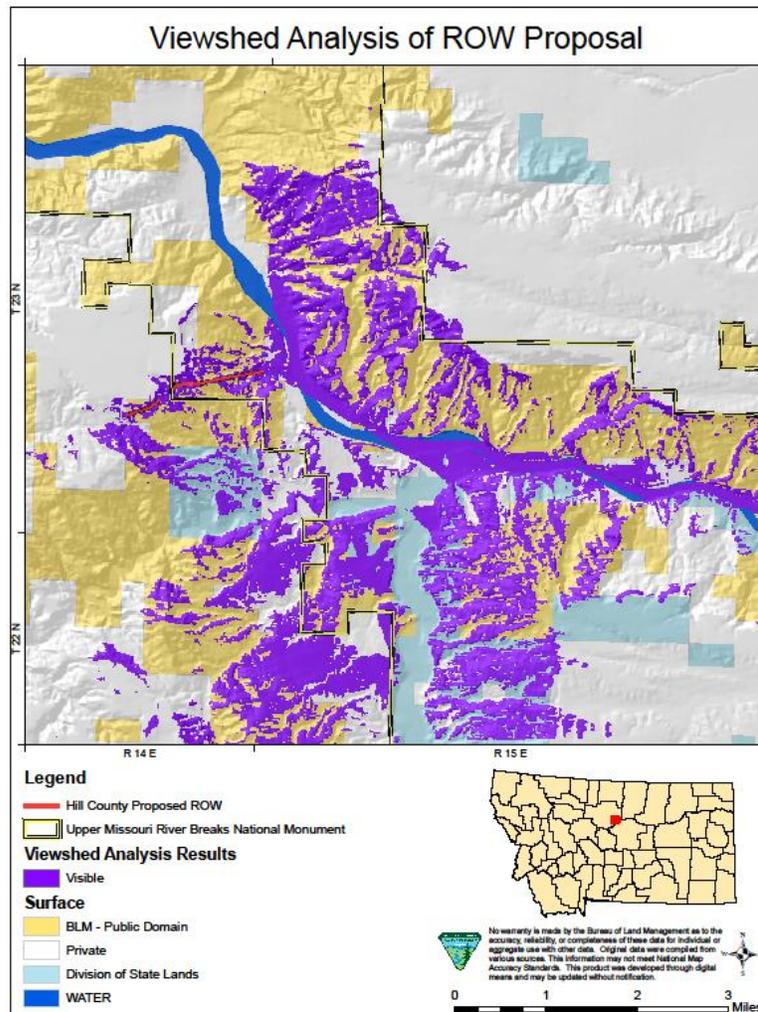
KOP #3 is located on the local access road. This road is primarily used by private landowners. From this view, the current powerlines on the private land blend with the river in the background. However, VRM Class I would not be met at KOP #3 since the powerline modification would have an increased number of poles and the height of the poles would be increased.

No mitigating measures for Alternative A would meet the criteria for VRM Class I.

LFO: Currently, the proposed action would not meet VRM Class I or II, since powerlines on BLM land do not currently exist in the area.

KOP #1 is located on the local access road within the LFO. The proposed powerline poles would be visible on the land by the casual observer. The county road and nearby low-lying fence are the only other linear disturbances in the area. The proposed powerline would not repeat the basic elements found in the predominant landscape, since there are currently no other above-ground powerlines in the area to continue the linear disturbance. The proposed powerline is crossing VRM Class II within the LFO, but is near VRM Class I in both the Monument and LFO.

A viewshed analysis of the proposed ROW was completed (see figure below). The analysis revealed that the proposed ROW within the LFO BLM land is visible from portions of the Monument VRM I and from portions of the LFO VRM II, but the LFO portion is not visible from the LFO VRM I portion. On-site observations at the KOP reveal that the viewable powerline from VRM I within the Monument would be difficult to see from the 5 mile distance.



VRM objectives within the LFO are currently not being met. However, the current condition of no overhead powerlines in the vicinity will be changing in the near future (Hill County

Electric). Powerlines are proposed for private land on both sides of the LFO land which will create a linear disturbance that currently not existing in the area. Due to the cumulative effects of the additional linear disturbance on private land, VRM objectives within the LFO would be met.

Recreation Resources: Selecting the proposed action, Alternative A, would have no effect on recreation activities within the project area. Current recreational activities, such as boating, fishing, camping, hiking, wildlife viewing, and hunting would continue. However, the primitive experience would be diminished with the proposed action since the corridor is primarily undeveloped.

The proposed action would not affect the free-flowing condition or water quality of the WSR. However, the scenic Outstanding Remarkable Value (ORV) would have impacts similar to the Visual Resource Management section. The historic ORV would also be impacted by the creation of additional developments within the Lewis & Clark National Historic Trail corridor, as described in the Cultural Resources section.

The additional overhead line would have an adverse indirect effect on the overall experience associated with the Lewis & Clark National Historic Trail. However, the existing overhead line crossing over the Missouri River is contributing to that adverse indirect effect as well.

ALTERNATIVE B (No Action)

Direct/Indirect

Cultural Resources: Selecting this alternative would have no effect on cultural resources within the area of potential effect. The 2011 inventory covered the corridor and identified no other historic properties that could be affected by leaving the line buried.

The Lewis & Clark National Historic Trail Comprehensive Management Plan states “Land uses which adversely affect sites and segments should be carefully monitored and, if necessary, modified (p.98).” This plan cites the BLM’s Upper Missouri Wild and Scenic River Management Plan (1978) for direction on management and protection of the trail. Direction within this Plan states that the management objective for cultural resources is to: Provide for the preservation, protection, and enhancement of historical and archaeological sites in compliance with federal laws and policies (13).” This alternative does not have a direct effect on the Lewis & Clark National Historic Trail. The proposed buried powerline does not have an indirect effect on the Trail.

Paleontological Resources: Maintenance activity would be within the geologic units that have already been impacted by the initial installation of underground utilities. There would no effect to paleontological resources within the project area.

Soils: Soils would be disturbed during maintenance activities.

Vegetative Resources: Impacts from the activities of Alternative B would disrupt approximately 3.5 acres of the vegetative community. Potentially, most of the impacts to vegetation from the construction would be temporary, although permanent impacts could occur in areas where powerline poles are put into the ground. Construction of the trench for new replacement underground cable would temporarily disrupt vegetation within the trenching/plowing area. Seeding with native plants to reclaim both areas would likely be needed.

Rangeland Resources: There would be no effect on grazing operations within the project area.

Noxious Weeds: The proposed action could contribute to the spread of noxious and invasive plants. This risk is attributed to disturbance caused during construction and maintenance of the utility line and the potential that vehicles used in these activities may possibly be contaminated with seed or other propagative plant parts. Mitigation measures proposed in this document would minimize this risk to the extent possible and there would be little to no effect from this alternative.

Wildlife and Special Status Species: There would be no additional impacts to wildlife and BLM Designated Sensitive Species from this alternative. Impacts from maintenance of the underground line would continue, with traffic and construction related disturbance of wildlife and habitat. Continued disturbance from maintenance would increase likelihood of non-native invasive plants and noxious weeds becoming established and reducing quality of wildlife habitat.

Migratory Birds: There would be no additional impacts to migratory birds from this alternative. Impacts from maintenance of the underground line would continue, with traffic and construction related disturbance of wildlife and habitat. Continued disturbance from maintenance would increase the likelihood of non-native invasive plants and noxious weeds becoming established and reducing the quality of wildlife habitat.

Visual Resources: Selecting the No Action alternative would be similar for both the UMBRNM and LFO. The action would have temporary impacts on visual resources. There is a potential to create a visual contrast from maintenance of the underground line with the removal of vegetation. However, for the long term, a buried powerline would not be visible after restoration and reclamation.

Recreation Resources: Selecting the No Action alternative would have no effect on recreational activities within the project area. Current recreational activities, such as boating, fishing, camping, hiking, wildlife viewing, and hunting would continue. Alternative B would also have no impact on WSR values.

The proposed buried powerline does not have an indirect effect on the Lewis & Clark National Historic Trail.

ALTERNATIVE C (Partial Buried/Partial Overhead)

Direct/Indirect

Cultural Resources: Selecting this alternative would have no effect on cultural resources. The same inventory that covered the other alternatives is valid for determining the effects from selecting this alternative.

The Lewis & Clark National Historic Trail Comprehensive Plan for Management and Use states, “Land uses which adversely affect sites and segments should be carefully monitored and, if necessary, modified.” (98) This plan cites the BLM’s Upper Missouri Wild and Scenic River Management Plan (1978) for direction on management and protection of the trail. Direction within this Plan states that the management objective for cultural resources is to: Provide for the preservation, protection, and enhancement of historical and archaeological sites in compliance with federal laws and policies.” (13) This alternative does not have a direct effect on the Lewis & Clark National Historic Trail. The proposed buried segment of the powerline does not have an indirect effect on the Trail. The new overhead segment of the line would be more than a mile from the Upper Missouri River and therefore would not have indirect effect on the overall setting and feeling associated with the Lewis & Clark National Historic Trail.

Paleontological Resources: The buried line sections would be within a geologic unit that has already been disturbed by the previous underground utilities. There would be no impacts to paleontological resources.

Impacts from installation of the overhead line sections would be the same as described in Alternative A.

Soils: Soils would be affected by means of surface disturbance to bury the line. A noticeable berm (approximately 2 feet high) and wheel and dozer tracks would be created.

There would be minimal disturbance to soils where the line would be plowed in. Plowing slices the soil without extensive excavation. By plowing in the cable, water erosion would be minimized. Plowing would allow for protective vegetative cover to remain relatively intact.

Where trenching is required, soils would be excavated to open a trench. Soils would be more susceptible to erosion. Erosion potential would be the greatest on the steep and/or sparsely vegetated slopes and within ephemeral drainageways. Soil horizon mixing would occur as a result of the trenching method. Soil mixing would bring salts or unweathered parent material to the surface, further affecting soil productivity and slowing reclamation/revegetation. Revegetation would be slow (3 to 5 years) on areas with low productive soils and areas of rock outcrop. Soils would remain bare on these areas until revegetation occurs. Once successfully stabilized and reclaimed/revegetated, effects to soil productivity from the buried line installation would be eliminated.

Effects of installing the overhead line would be the same as described in Alternative A.

Vegetative Resources: Impacts from the activities of Alternative C would disrupt approximately 2.4 acres of the vegetative community. Potentially, most of the impacts to vegetation from the construction would be temporary, although permanent impacts could occur in areas where powerline poles are put into the ground. Construction of the trench for underground cable would temporarily disrupt vegetation within the trenching area. Seeding with native plants to reclaim both areas would likely be needed.

Rangeland Resources: There would be no effect on grazing operations within the project area.

Noxious Weeds: The proposed action could contribute to the spread of noxious and invasive plants. This risk is attributed to disturbance caused during construction and maintenance of the utility line and the potential that vehicles used in these activities may possibly be contaminated with seed or other propagative plant parts. Mitigation measures proposed in this document would minimize this risk to the extent possible and there would be little to no effect from this alternative.

Wildlife and Special Status Species: Impacts from overhead powerline construction and maintenance would be same as Alternative A, and maintenance impacts from the underground portion would be the same for the underground portion as Alternative B.

Migratory Birds: Impacts from overhead powerline construction and maintenance would be same as Alternative A, and maintenance impacts from the underground portion would be the same for the underground portion as Alternative B.

Visual Resources: For both the UMRBNM and the LFO, impacts from the overhead powerline construction and maintenance would be same as Alternative A, and maintenance impacts from the underground portion would be the same for the underground portion as Alternative B.

Recreation Resources: Selecting Alternative C would have no effect on recreational activities within the project area. Current recreational activities, such as boating, fishing, camping, hiking, wildlife viewing, and hunting would continue. Similar to Alternative B, Alternative C would also have no impact on WSR values.

The new overhead segment of the line would be more than a mile from the Upper Missouri River and therefore would not have indirect effect on the overall experience associated with the Lewis & Clark National Historic Trail.

Cumulative Impacts

General: Under the proposed action, the powerline would be installed on approximately 2.25 miles of land, of which 1.45 miles are public lands. This EA addresses the portion of the line which crosses public lands. The other .80 mile of line cross private land and the applicant is negotiating easements with those landowners. Impacts to the private land from the .80 mile of line should not be any different than those noted here for the public lands.

The life of this project will require periodic maintenance or repairs, which will cause continuing disturbance to the soil, vegetation and surrounding wildlife. The construction and maintenance disturbance and ROW contributes to an overall trend within the area, the state and the country, of habitat loss to construction, roads, oil and gas development, agriculture, and habitat conversion to tame grass species.

Mitigation Measures

Hill County Electric would be required to pressure wash or otherwise thoroughly clean all construction equipment and vehicles at an approved wash station prior to entering BLM land in the ROW corridor as a preventative weed control measure. More importantly, Hill County Electric would be required to pressure wash or otherwise thoroughly clean all construction equipment and vehicles prior to leaving the ROW corridor as a preventative weed control measure.

The holder would be responsible for weed control on disturbed areas within the limits of the ROW. The holder is responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods.

Timing restrictions for construction in big game winter range would be followed for initial construction, as listed in the RMPs.

Installation and routine maintenance activities shall not be performed during periods when the soil is too wet to adequately support equipment/vehicles. If equipment/vehicles create ruts in excess of 3 inches deep, operations must cease as the soil will be deemed too wet to adequately support equipment/vehicles.

Where trenching is required and suitable topsoil is present, the topsoil shall be stripped and stockpiled separately from subsoil. Topsoil shall be salvaged for use in reclamation. In no instance would subsoil be allowed to be mixed or placed over topsoil. The order of soil replacement would be the reverse of removal, e.g. first off, last on.

The holder should backfill the trench in a manner to reduce the potential for trench line differential settling or subsidence. The holder would be required to monitor for and repair any differential settling or subsidence for the life of the ROW.

The holder would be responsible for erosion control, sediment containment and revegetation. Appropriate erosion control and sediment containment products/devices (straw wattles, erosion control blankets, etc.) shall be installed by the holder and the holder shall be responsible for maintaining those devices for their intended function and until the disturbed area is successfully reclaimed/revegetated. The holder shall inspect them on a regular schedule and within 24 hours of a rainfall event of 0.5 inches or greater. Erosion control and sediment containment products/devices shall be certified weed free and installed according to manufacturer's specifications. Erosion control blankets shall be installed on all slopes greater than 25 percent. Straw wattles or other approved device shall be installed to control runoff and accelerated erosion. They should be installed across the width of the cable disturbance area and shall extend

onto undisturbed ground. The placement of the first straw wattle shall be at the top of the disturbance area (i.e. top of the hill) with the subsequent wattles spaced down the slope and parallel to one another. Placement will be dependent on slope:

<u>Slope (percent)</u>	<u>Spacing (feet)</u>
2 – 4	200
5 – 9	100
10 – 17	50
18 – 25	25
26 – 50	20
51 – 100	10
> 100	5

If significant paleontological resources are discovered during construction, work would immediately cease and the BLM Field Office will be notified. Work would not proceed until the area has been formally cleared.

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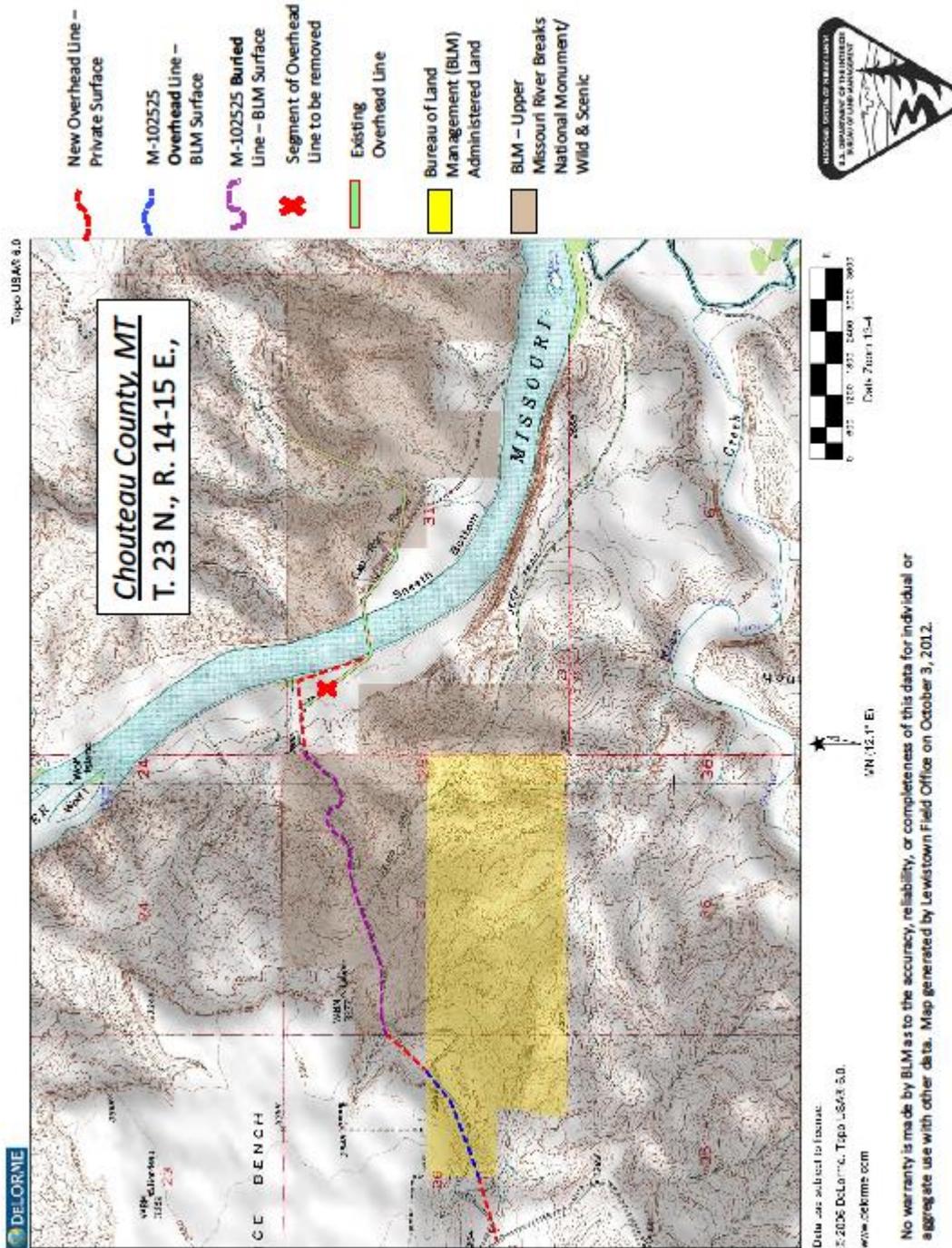
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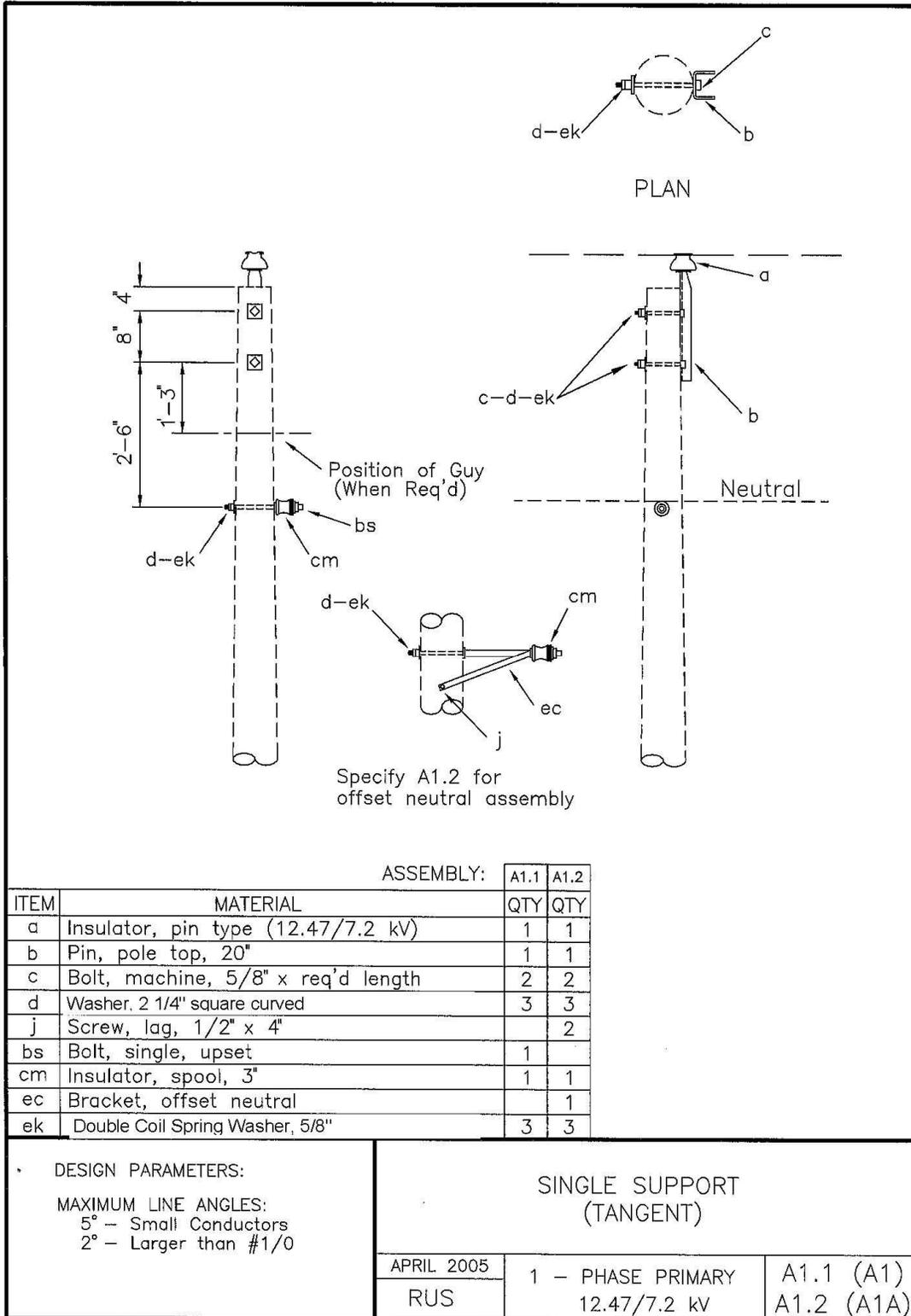
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Appendix A Map of Project Area



Appendix B A1A Assembly



Appendix C

Major Soils in a Soil Map Unit

Map unit: 251E - Bascovy-Neldore silty clays, 8 to 25 percent slopes

The Bascovy component makes up 50 percent of the map unit. Slopes are 8 to 25 percent. The parent material consists of residuum. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is low. 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 component is in the R052XN164MT Clayey-steep (cystp) 10-14" P.z. ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. The soil has a very slightly saline horizon within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

The Neldore component makes up 35 percent of the map unit. Slopes are 8 to 25 percent. The parent material consists of residuum. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very low. 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 component is in the R052XN179MT Shallow Clay (swc) 10-14" P.z. ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: 654F - Fleak-Twilight-Rock outcrop complex, 25 to 70 percent slopes

The Fleak component makes up 35 percent of the map unit. Slopes are 25 to 70 percent. The parent material consists of residuum. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. 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. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

The Twilight component makes up 30 percent of the map unit. Slopes are 25 to 45 percent. The parent material consists of residuum. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. 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 component is in the R052XN165MT Sandy-steep (systp) 10-14" P.z. ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent.

The Rock outcrop is a miscellaneous area.

Map unit: 661E - Twilight-Fleak complex, 8 to 25 percent slopes

The Twilight component makes up 50 percent of the map unit. Slopes are 8 to 25 percent. The parent material consists of residuum. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. 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 component is in the R052XN165MT Sandy-steep (systp) 10-14" P.z. ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent.

The Fleak component makes up 35 percent of the map unit. Slopes are 8 to 25 percent. The parent material consists of residuum. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. 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 component is in the R052XN178MT Shallow (sw) 10-14" P.z. ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: 793C - Yamacall clay loam, 4 to 8 percent slopes

The Yamacall component makes up 85 percent of the map unit. Slopes are 4 to 8 percent. The parent material consists of alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. 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 component is in the R052XN162MT Clayey (cy) 10-14" P.z. ecological site. Nonirrigated land capability classification is 4e. Irrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 13 percent.

Map unit: 972F - Neldore-Rock outcrop complex, 25 to 70 percent slopes

The Neldore component makes up 60 percent of the map unit. Slopes are 25 to 70 percent. The parent material consists of residuum. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very low. 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 component is in the R052XN179MT Shallow Clay (swc) 10-14" P.z. ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

The Rock outcrop is a miscellaneous area