

## Section 4.0 Site Plans

The following figures contain the general information regarding the existing conditions and planned facilities for Mud Springs I, Mud Spring II and Mud Springs III wind turbine project areas and the location and design of the 230 kV substation and associated transmission line. All figures are grouped together at the end of the Plan of Development. Some figures are formatted for large scale printing and therefore may not be to scale when printed on 8 ½ x 11 or 11 x 17 size paper. Copies of large scale maps have been provided to Carbon County Planning Department.

**Figure 1:** Map of Project Area. Figure 1 shows the location of the wind project phase, Mud Springs I, Mud Springs II and Mud Springs III, where the wind turbines will be located.

**Figure 2:** Topographic Map. Figure 2 shows all prominent man made and geologic features within the surrounding areas that will be affected by the Project's planned facilities.

**Figure 3:** Existing Easements and Utility Line. Figure 3 shows the locations of rights of ways, easements, and utility lines that currently exist in the Project area.

**Figure 4:** Property Lines. Figure 4 maps shows all property lines, tax plot numbers and names of adjoining property owners and Easement land owners in the project area.

**Figure 4a:** Mud Springs Phase I property areas

**Figure 4b:** Mud Springs Phase II property areas

**Figure 4c:** Mud Springs Phase III property areas

**Figure 4d:** Mud Springs Phase IV, Transmission line and substation property owners.

**Figure 4e:** Mud Springs Phase IV transmission line route south of Warren, Montana .

**Figure 4f:** Mud Springs Phase IV, alternative transmission line routes being considered across State of Montana lands west of Warren, Montana.

**Figure 5:** Access Routes: Figure 5 is a map of the existing County roads that will be used for ingress and egress routes for installation of the wind turbine facilities.

**Figure 6:** Water Courses. Figure 6 is a topographic map which highlights the location of existing water courses in the area that will be affected by construction of the Project's roads and power collection lines.

**Figure 7:** Project Plans. The Figure 7 maps show the location of planned wind turbines and other support facilities.

**Figure 7a** is a topographic map showing the location of planned wind turbine tower locations, access roads, staging areas, permanent and temporary meteorological towers , and collection substation for Mud Springs I.

**Figure 7b** is a topographic map showing the location of planned wind turbine tower locations, , permanent and temporary meteorological towers and lay down areas for Mud Springs II.

**Figure 7c** is a topographic map showing the location of planned wind turbine tower locations, access roads, permanent and temporary meteorological towers and lay down areas for Mud Springs III.

**Figure 7d** is a topographic map of primary transmission line route to the Point of Interconnection Substation located at the Wyoming boarder. See Figure 4f for a map of the alternative route under consideration for crossing the Highway 310 corridor.

**Figure 8: Project Plans Aerial.** Figure 8 maps contain project plans on aerial photos.

**Figure 8a** contains the same information as Figure 7a and is plotted on an aerial photo.

**Figure 8b** contains the same information as Figure 7b and is plotted on an aerial photo.

**Figure 8c** contains the same information as Figure 7c and is plotted on an aerial photo.

**Figure 8d** contains the same information as Figure 7d and is plotted on an aerial photo.

**See Figure 9: Major Wind Turbine Components.** Figure 9 contains illustration of the major components of the wind turbines.

**Figure 10: Major Drainages.** Figure 10 illustrates the major drainages found in the Project area.

**Figure 11: Project Roads.** Figure 11 maps show the existing and planned new roads for each phase of the Mud Springs Wind Ranch development.

**Figure 11a** is a map of the planned new road construction for Mud Springs I

**Figure 11b** is a map of the planned new road construction for Mud Springs II

**Figure 11c** is a map of the planned new road construction for Mud Springs III

**Figure 11d** is a map of the existing access road in Wyoming to the Point of Interconnection substation.

**Figure 12: Existing Cottonwood Road Entry.** Figure 12 illustrates the existing Highway 310 approach to Cottonwood Road that will be used to access to the transmission line corridor.

**Figure 13: Railbed Road Access Improvements.** The Figure 13 maps illustrate the typical turning radius problems and show the location of road improvements for which Carbon County Encroachment Permits have been filed for improvements within the County right-of-way of Quarry and Railbed roads.

**Figure 13a** illustrates a typical turning radius problem encountered by wind projects where existing roads have insufficient turning radius to accommodate the delivery truck and trailer configurations for long loads such as those used to deliver wind turbine blades.

**Figure 13b** illustrates a typical turning radius improvement involving providing additional road width on the interior radius of the road turn.

**Figure 13c** illustrates a typical turning radius improvement involving providing additional road width on the outer radius of the road turn.

**Figure 13d** shows the general location of the Quarry Road intersection with State Route 310, where grade and shoulder improvements are needed. State of Montana Department of Transportation Approach Permits will be obtained if necessary to improve the grade approach of Quarry Road that is within the Highway 310 right-of-way.

**Figure 13b** shows the location of the road widening of the Quarry Road intersection with Railbed Road to create new private approach to the south side of Quarry Road at the Railbed Road intersection. This improvement will allow for a truck by pass route to approach Railbed Road from the south and avoid impacts to the existing intersection and existing cell tower.

**Figure 13e** shows the area where Railbed Road will be straightened to improve the southern approach to the culvert that allows Sage Creek to cross under the road. This improvement will involve the shifting of the road centerline to the east to accommodate a straighter approach to the culvert crossing.

**Figure 13d** shows the location where Railbed Road will be straightened to improve the road alignment north of the King Creek culvert.

**Figure 14: Pryor Mountain Road Access Improvements.** Figure 14 maps show the location of road improvements for which Carbon County Encroachment Permits have been filed for

improvements within the County right-of-way on South Pryor Mountain and Pryor Mountain roads.

**Figure 14a** is a map of the area where a major realignment of the intersection of Pryor Mountain road and Railbed Road will be constructed.

**Figure 14b** is a map of the area where a turning radius realignment and shoulder improvements will be made on South Pryor Mountain Road to allow long loads to negotiate the turn.

**Figure 14c** is a map of the area where a turning radius realignment and shoulder improvements will be made at the intersection of South Pryor Mountain Road and Pryor Mountain Road to allow long loads to negotiate the turn.

**Figure 14e** is a map of the area where a turning radius realignment and shoulder improvements will be made along Pryor Mountain Road to allow long loads to improve ability to negotiate the climbing grade of an S-turn .

**Figure 15:** Typical Foundation. Figure 5 contains an illustration of a typical foundation.

**Figure 16:** Typical Rebar Reinforcement of Foundations. Figure 15 is a picture of a typical foundation rebar placement.

**Figure 17:** Typical Finished Foundation. Figure 17 is a photo of a typical finished foundation.

**Figure 18:** Typical Tower Base. Figure 18 is a photo of a typical tower base on foundation.

**Figure 19:** Typical Tower Sections. Figure 19 is a photo of a typical tower section being delivered..

**Figure 20:** Tower Lifting Operations. Figure 20 is a photo of a base section of a tower being lifted into position over the top of the internal control cabinet.

**Figure 21:** Typical Lay Down Area. Figure 21 illustrates a typical material laydown at the wind turbine locations.

**Figure 22:** Typical Collection Trench and Power Cable System. Figure 22 illustrates a typical collection trench and power cable system.

**Figure 23:** Photograph of Typical Collection Substation. Figure 23 is a picture of a typical collection substation with a common bus bar into which the collection power cable systems are connected, the typical layout of the high voltage transformer, disconnects switch and H-frame transmission line connection structure. The picture also illustrates the typical fence that is placed around a collection substation.

**Figure 24:** Typical 230 KV Power Line Structures. Figure 23 contains figures and photos of typical H-frame and single pole transmission line structures that are anticipated for the project.