



**BEAR DEN PROJECT**

**Plan of Development**

**APPENDIX N  
Transportation Plan**





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**Transportation Plan**

**Prepared for:  
BUREAU OF LAND MANAGEMENT**

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## **1.0 INTRODUCTION**

The purpose of this *Transportation Plan* is to describe how CenterPoint Energy Bakken Crude Services, LLC (CEBCS) will comply with Bureau of Land Management (BLM) and U.S. Forest Service (USFS) policy, standards, and guidelines relative to planning, location, improvement, maintenance, and operation of roads for the Bear Den Project (Project). Additionally, the plan describes how CEBCS will provide construction equipment access to and from the Project right-of-way, and describes how drainage improvement, dust control, maintenance, and road reclamation will be accomplished.

## **2.0 GENERAL REQUIREMENTS**

The maintenance of existing access roads required for the Bear Den Project will include implementing proper drainage measures, minimizing soil erosion, and preserving topsoil. Permits required for installation of the pipeline underneath existing public roads and, as needed, to transport equipment will be obtained prior to construction.

Construction workers, rubber-tired vehicles, and heavy equipment will be restricted to operating within the approved construction right-of-way and extra workspaces. Unauthorized cross-country vehicular travel by construction and maintenance crews will be prohibited.

### **2.1 Public Road Use**

In most cases, existing public highways will be used to transport construction equipment to the approved access roads and yards, with the appropriate approvals from the state Department of Transportation (DOT), BLM, USFS, or county highway departments.

Temporary impacts on public highway traffic during construction will result from the daily commuting of the construction workforce to the construction site(s). Up to approximately 10 pipe stringing trucks will be making up to 3 roundtrips per day on access roads to the construction right-of-way. It is also expected that water trucks and transport trucks will make as many as 10 trips per day (on average) to deliver materials and equipment to the construction right-of-way. Once a vehicle leaves a pipe or contractor yard, the exact route taken will vary depending on the current location of construction activity.

CEBCS will require its construction contractor to comply with local load weight restrictions when using existing public roads and crossing public bridges. The construction contractor will also be directed to remove soil left on paved road surfaces at equipment crossings. At the end of each work day, appropriate measures (e.g., shoveling or sweeping) will be used to reduce deposition of mud and soils on public roads and highways.

In order to reduce traffic congestion and roadside parking hazards on public roads that could result from construction activities, CEBCS will implement the following measures:

- Project personnel will exercise caution when commuting to and from the construction area to minimize the potential for accidents, and local speed limits will be enforced. Peak traffic hours on main highways will be between 5:30 and 7:30 AM and between 5:00 and 6:30 PM.

- Most contractor personal vehicles will be parked at the construction contractor yard except in special circumstances for supervisory agency or inspection personnel. Personal vehicle use will be limited within the construction right-of-way or along roadsides near the right-of-way. The construction contractor will provide transportation for workers that do not require personal vehicles to the work site from the yard.

Overall, the number and frequency of construction vehicle trips on major highways will be low on any particular roadway at any one time because construction activities will move sequentially along the right-of-way. Travel by vehicles on the right-of-way on a regular basis (e.g., pickup trucks, crew bus) will be distributed along the length of the pipeline route over time as the pipe is installed and construction activity progresses to a different part of the right-of-way.

Following pipeline construction, long-term traffic on existing roads associated with operation and maintenance of the new pipeline is anticipated to be minimal as only one to two (pre-existing) permanent workers will be required to operate the pipeline on an on-going basis.

## **2.2 Private Road Use**

Private road use will follow the guidelines as listed above for public roads except where specific landowner requirements are requested.

## **2.3 Existing Access Roads**

In general, all existing public and private roads crossed by the Project pipelines, as well as lease roads to the wells serviced by the Project, would be utilized to provide temporary construction access to the right-of-way and planned work areas. In total, CEBCS intends to use 57 existing access roads to transport personnel; equipment; vehicles, including high clearance vehicles and heavy trucks; and materials to the construction right-of-way and work areas. Of these roads, CEBCS has identified five existing roads that will require upgrade and/or modification to facilitate temporary construction equipment access. Roads that will be used for the project include public and private dirt, gravel, or scoria roads. Table 2.3-1 lists the public and private access roads to be utilized by the project, the pipeline segment, approximate pipeline access milepost, and road surface type.

Existing roads consist mostly of dirt and/or gravel roads, such as farm, ranch, and BLM or U.S. Forest Service (USFS) access roads, and two-track trails. Where necessary, road improvements such as blading and filling will be restricted to the existing road surface.

TABLE 2.3-1

**Bear Den Project  
Existing Access Roads**

Road Name*	Pipeline Segment and Milepost (MP)	Requires Improvement	Condition
Private Road	Main AR at MP 10.9	None	Gravel
CO. Road 34	Main AR at MP 11.9	None	Improved gravel
CO. Road 34	Main AR at MP 13.2	None	Improved gravel
Private Road	Main AR at MP 4.6	None	Improved scoria
CO. Road 34	Main AR at MP 4.8	None	Improved gravel
CO. Road 34	Main AR at MP 6.0	None	Improved gravel
CO. Road 34	Main AR at MP 7.6	None	Improved gravel
Private Road	Main AR at MP 9.4	None	Improved scoria
CA1-AR	Main AR at MP 8.2	Grading, gravel	Two track
Forest Service Rd #856	AR-03 at MP 0.1	None	Improved scoria
Private Road	AR-06 at MP 0.1	None	Improved scoria
Private Road	AR-07 at MP 0.1	None	Improved scoria
Private Road	AR-08 at MP 0.1	None	Improved scoria
Private Road	AR-13 at MP 0.1	None	Improved scoria
Private Road	AR-15 at MP 0.1	None	Improved scoria
Private Road	AR-15 at MP 0.2	None	Improved scoria
125th Ave NW	AR-16 at MP 0.1	None	Improved gravel
Private Road	AR-17 at MP 0.1	None	Improved scoria
Private Road	AR-19 at MP 0.1	None	Improved scoria
Private Road	AR-20 at MP 0.1	None	Improved scoria
112th Ave NW	AR-20 at MP 0.7	None	Improved scoria
23rd ST NW	AR-21 at MP 0.1	None	Improved gravel
107th NW	AR-22 at MP 0.1	None	Improved scoria
107th NW	AR-22 at MP 0.4	None	Improved scoria
107th NW	AR-22 at MP 0.8	None	Improved scoria
Private Road	AR-22 at MP 1.1	None	Improved scoria
PA1-AR 23	AR-23 at MP 0.7	Gravel	Two track
Forest Service Rd #856	AR-24 at MP 0.7	None	Improved scoria
Private Road	AR-26 at MP 1.0	None	Improved scoria
Private Road	AR-28 at MP 0.1	None	Improved scoria
117th Ave SW	AR-28 at MP 1.1	None	Improved scoria
Private Road	AR-28 at MP 2.3	None	Improved scoria
Private Road	AR-28 at MP 2.5	None	Improved gravel
Private Road	AR-28 at MP 2.9	None	Improved gravel
16th ST NW	AR-28 at MP 3.0	None	Improved gravel
Private Road	AR-29 at MP 2.4	None	Improved gravel
Private Road	AR-29 at MP 2.7	None	Improved gravel
Private Road	AR-29 at MP 3.0	None	Improved gravel
112th Ave SW	AR-29 at MP 5.0	None	Improved gravel
Private Road	AR-30 at MP 1.0	None	Improved scoria
PA5-AR 30	AR-30 at MP 1.7	Grading, gravel	Two track
Private Road	AR-30 at MP 1.8	None	Improved scoria
Private Road	AR-30 at MP 2.8	None	Improved scoria
111th Ave NW	AR-30 at MP 3.0	None	Improved scoria

TABLE 2.3-1 (cont'd)

**Bear Den Project  
Existing Access Roads**

Road Name*	Pipeline Segment and Milepost (MP)	Requires Improvement	Condition
111th Ave NW	AR-30 at MP 3.5	None	Improved scoria
Private Road	AR-30 at MP 4.1	None	Improved scoria
Private Road	AR-30 at MP 7.2	None	Improved scoria
112th Ave SW	AR-30 at MP 7.6	None	Improved gravel
120th Ave NW	AR-31 at MP 0.1	None	Improved gravel
120th Ave NW	AR-31 at MP 0.5	None	Improved gravel
Private Road	AR-31 at MP 12.7	None	Improved scoria
Forest Service Rd #856	AR-31 at MP 7.0	None	Improved gravel
Forest Service Rd #856	AR-31 at MP 7.4	None	Improved gravel
CA1-AR 31	AR-31 at MP 7.6	Grading, gravel	Two track
Forest Service Rd #856	AR-31 at MP 8.1	None	Improved gravel
Forest Service Rd #856	AR-31 at MP 8.2	None	Improved gravel
CA1-AR 35	AR-35 at MP 2.1	Timber matts	Two track

\* CA = construction access; PA = Permanent Access

The use of dirt roads, particularly farm and ranch roads and two-track trails, by construction vehicles and equipment can result in road deterioration even without rain events. CEBCS proposes to perform road maintenance to maintain roads in their existing condition where there is evidence that the roads have been previously graded. This maintenance will only occur within the existing footprint of the road (i.e., the road will not be widened).

Where there is no evidence of previous grading or the existing road requires currently unanticipated widening, road improvement will be allowed only after CEBCS completes required cultural resources and biological surveys, and associated agency consultations. Roads will be used and improved only with permission of the landowner. Access roads used for construction that require grading will be restored to their preconstruction condition, unless the property owner requests otherwise.

Rutting on access roads will be monitored by the Environmental Inspectors. If excessive rutting takes place on BLM or USFS roads, CEBCS will either perform maintenance activities on the road prior to continued use, or discontinue use of the road. Rutting will be considered excessive if more than 4-inches deep. CEBCS will not blade mud off driving surfaces to achieve the 4-inch rut standard.

CEBCS will work with the local law enforcement, fire departments, and emergency medical services to coordinate access for effective emergency response.

## 2.4 New Access Roads

In addition to the existing access roads, CEBCS will build 13 new access roads in association with the Project (see Table 2.4-1). All new access roads are located on private land, will be approximately 20-foot wide, will be designed to maintain proper drainage, and built to minimize erosion. Typical road construction will require the road area to be cleared of any trees, stumps, brush, boulders or other debris and then graded. Any subgrade areas will be filled and compacted to grade. Cross-drain pipes or culverts will be placed as appropriate to allow proper drainage of surrounding land. Once grading and subgrade are complete an appropriate base material, such as gravel, sand, crushed stone, will be placed, and then gravel or scoria will be placed to cover the base material and used as a surface. In addition, side or bar ditches will be excavated and contoured where needed to maintain proper drainage, and vegetation trimming extending up to five feet on either side of the road may be required. A typical road cross section drawing is located in Appendix B of the Plan of Development (POD).

TABLE 2.4-1 Bear Den Project New Access Roads			
Road Name*	Pipe Segment and Milepost (MP)	Improvements Needed	Length (feet)
CA2-AR	AR at MP 6.9	Grading, gravel	305
PA1-AR 15	AR-15 at MP 0.4	Grading, gravel	131
CA1-AR 19	AR-19 at MP 0.5	Grading, gravel	455
CA1-AR 22	AR-22 at MP 0.5	Grading, gravel	384
PA1-AR 28	AR-28 at MP 4.1	Grading, gravel	110
PA1-AR 30	AR-30 at MP 6.4	Grading, gravel, low water crossing	1555
PA2-AR 30	AR-30 at MP 4.5	Grading, gravel	275
PA3-AR 30	AR-30 at MP 4.1	Grading, gravel	831
PA4-AR 30	AR-30 at MP 2.4	Grading, gravel, low water crossing	877
PA1-AR 31	AR-31 at MP 7.3	Grading, gravel	353
CA1-AR 34	AR-34 at MP 2.4	Gravel, grading	812
CA2-AR 34	AR-34 at MP 1.7	Gravel, grading	228
CA3-AR 34	AR-34 at MP 0.5	Gravel, grading	185

\* CA = construction access; PA = Permanent Access

## 2.5 Road Crossings

The project will cross 9 public roads and 27 private roads (see Table 2.5-1). Some public roads are crossed multiple times for a total of 25 public road crossings. Road crossings will be installed using either a subsurface boring technique or Horizontal Directional Drill (HDD). Major paved roads generally will be crossed by a HDD underneath the road. During pipeline construction, little or no disruption of traffic will result at road crossings that are bored or drilled.

At road crossings, CEBCS will require the construction contractor to post caution signs on roads, where appropriate, to alert motorists of pipeline construction and warn them of slow traffic. Traffic control measures such as flaggers, warning signs, lights, and barriers will be used during construction to ensure safety and to minimize traffic congestion, if required. Pipe trucks transporting pipe joints and low boys hauling heavy equipment will be equipped with flashing yellow caution lights or will travel with an escort vehicle that is equipped with flashing yellow caution lights. The construction contractor will use flagmen on paved roads during equipment crossings to ensure safe passage of local traffic.

TABLE 2.5-1				
<b>Bear Den Project Roads and Crossing Method</b>				
Road Name	Segment and Milepost (MP)	Crossing Method	Bore Length (feet)	Condition
Private Road	Main AR at MP 4.6	HDD	150	Improved scoria
CO. Road 34	Main AR at MP 4.8	HDD	275	Improved gravel
CO. Road 34	Main AR at MP 6.0	HDD	150	Improved gravel
CO. Road 34	Main AR at MP 7.6	HDD	175	Improved gravel
Private Road	Main AR at MP 9.4	HDD	500	Improved scoria
Private Road	Main AR at MP 10.9	HDD	150	Gravel
CO. Road 34	Main AR at MP 11.9	HDD	250	Improved gravel
CO. Road 34	Main AR at MP 13.2	HDD	250	Improved gravel
Forest Service Rd #856	AR-03 at MP 0.1	HDD	150	Improved scoria
Private Road	AR-06 at MP 0.1	HDD	200	Improved scoria
Private Road	AR-07 at MP 0.1	HDD	150	Improved scoria
Private Road	AR-08 at MP 0.1	HDD	150	Improved scoria
Private Road	AR-08 at MP 0.1	HDD	1200	Improved scoria
Private Road	AR-15 at MP 0.1	HDD	165	Improved scoria
Private Road	AR-15 at MP 0.2	HDD	150	Improved scoria
125th Ave NW	AR-16 at MP 0.1	HDD	150	Improved gravel
Private Road	AR-17 at MP 0.1	HDD	300	Improved scoria
Private Road	AR-19 at MP 0.1	HDD	300	Improved scoria
Private Road	AR-20 at MP 0.1	HDD	1000	Improved scoria
112th Ave NW	AR-20 at MP 0.7	HDD	150	Improved scoria
23rd ST NW	AR-21 at MP 0.1	HDD	400	Improved gravel
107th NW	AR-22 at MP 0.1	HDD	800	Improved scoria
107th NW	AR-22 at MP 0.4	HDD	700	Improved scoria
107th NW	AR-22 at MP 0.8	HDD	150	Improved scoria
Private Road	AR-22 at MP 1.1	HDD	200	Improved scoria
Forest Service Rd #856	AR-24 at MP 0.7	HDD	150	Improved scoria
Private Road	AR-26 at MP 1.0	HDD	150	Improved scoria
Private Road	AR-28 at MP 0.1	HDD	150	Improved scoria
117th Ave SW	AR-28 at MP 1.1	HDD	100	Improved scoria
Private Road	AR-28 at MP 2.3	HDD	175	Improved scoria
Private Road	AR-28 at MP 2.5	HDD	100	Improved gravel
Private Road	AR-28 at MP 2.9	HDD	150	Improved gravel
16th ST NW	AR-28 at MP 3.0	HDD	250	Improved gravel
Private Rd	AR-29 at MP 2.4	HDD	175	Improved gravel
Private Rd	AR-29 at MP 2.7	HDD	200	Improved gravel
Private Rd	AR-29 at MP 3.0	HDD	150	Improved gravel
112th Ave SW	AR-29 at MP 5.0	HDD	100	Improved gravel
Private Road	AR-30 at MP 1.0	HDD	175	Improved scoria
Private Road	AR-30 at MP 1.8	HDD	300	Improved scoria
Private Road	AR-30 at MP 2.8	HDD	325	Improved scoria
111th Ave NW	AR-30 at MP 3	HDD	400	Improved scoria
111th Ave NW	AR-30 at MP 3.5	HDD	160	Improved scoria
Private Road	AR-30 at MP 4.1	HDD	100	Improved scoria
Private Road	AR-30 at MP 7.2	HDD	425	Improved scoria
112th Ave SW	AR-30 at MP 7.6	HDD	150	Improved gravel

TABLE 2.5-1 (cont'd)				
<b>Bear Den Project Roads and Crossing Method</b>				
Road Name	Segment and Milepost (MP)	Crossing Method	Bore Length (feet)	Condition
120th Ave NW	AR-31 at MP 0.1	HDD	200	Improved gravel
120th Ave NW	AR-31 at MP 0.5	HDD	150	Improved gravel
Forest Service Rd #856	AR-31 at MP 7.0	HDD	175	Improved gravel
Forest Service Rd #856	AR-31 at MP 7.4	HDD	175	Improved gravel
Forest Service Rd #856	AR-31 at MP 8.1	HDD	900	Improved gravel
Forest Service Rd #856	AR-31 at MP 8.2	HDD	200	Improved gravel
Private Road	AR-31 at MP 12.7	HDD	150	Improved scoria

## 2.6 Special Roadway Requirements

### Rangeland

As needed in rangeland, permanent cattle guards or steel gates will be installed across access roads to:

- avoid safety hazards;
- replace a permanent existing cattle guard when damaged or destroyed by construction activities;
- fulfill the appropriate land managing agencies' requirements;
- provide temporary containment at fences crossed by temporary roads;
- provide temporary or permanent cattle fencing; and
- allow access by heavy equipment where needed.

CEBCS' construction contractor will determine if existing cattle guards can support trucks and other equipment prior to crossing the guards. Where applicable, the construction contractor will be responsible for either strengthening the cattle guard or using another access route.

### Dust Control

Dust control measures will be used on roads when fugitive dust resulting from construction activities creates a nuisance to nearby residences or a safety hazard. CEBCS' Environmental Inspectors will determine on a case-by-case basis whether or not dust has become a nuisance or hazard in a particular area.

The construction contractor will be responsible for dust control, and may use one or more of the following methods to control dust:

- apply water or other approved dust extinguishers to access roads, sections of the right-of-way, or other specific locations (e.g., spoil piles);
- curtail dust-generating activities during high winds;

- implement mandatory speed limits of 25 miles per hour on unimproved dirt roads for construction vehicles using access roads or traveling the right-of-way; and/or
- limit the number of vehicles allowed on the right-of-way.

CEBCS will only apply non-toxic dust reducers to road surfaces where appropriate. Section 4.9 of the Construction, Reclamation and Monitoring Plan (Appendix E of the POD) provides more detail with regard to dust control.

### **Off-Highway Vehicles**

The proposed Project would not cross any designated Off-Highway Vehicle (OHV) management areas and would not impact their current or future designation. Construction and operation of the Project could cause conditions that may affect OHV use in non-designated areas. Possible effects of construction include the temporary disruption of authorized OHV use due to closures or impacts on OHV staging areas, and potential road closures to OHV use. During Project operations, the right-of-way could provide increased accessibility for unauthorized OHV use into previously restricted or inaccessible areas. The need for potential OHV blocking measures would be assessed in areas where the Project crosses OHV use trails to discourage OHV access to the right-of-way. Examples of potential OHV blocking measures include: leaving the right-of-way in rough condition through areas of OHV use, placing berm, rocks, boulders, vegetation, salvaged woody debris along right-of-way or access points, using fences or locked gates, and posting signs indicating that OHV use is not allowed.

### **2.7 Removal of Obstructions**

Obstructions affecting access roads will be cleared as follows:

- Removal of trees, limbs, brush, and other obstructions will be limited to those obstructing the driver's sight distance, or within 14 feet of vertical clearance above the roadway.
- Limbing will be accomplished by use of pruning saws, power saws, nippers, bow saws, or crosscuts. Limbs will be pruned flush with the trunk of the tree, except for portions of overhanging limbs. Use of axes for limbing will be prohibited. Material removed will be disposed in an approved location.
- Cattle guards crossed by construction vehicles will be cleaned of all material, where necessary, after construction. Any cattle guard damaged by the construction contractor will be replaced with guards of equal or better quality. CEBCS will attempt to install cattle guards where necessary, rather than gates, at the request of applicable land owners and/or resource agencies.

### **3.0 RECLAMATION AND ABANDONMENT**

Prior to construction, an Environmental Inspector will document the condition of all access roads to be used by the project. Roads that are improved to provide access to the project corridor will be returned to their pre-construction condition, or better. CEBCS will regrade to original contour, install erosion controls, and revegetate these roads, as appropriate. CEBCS may import road base for reclamation use to achieve pre-construction conditions on some roads.