



**BEAR DEN PHASE 2 PROJECT**

**Plan of Development**

**APPENDIX K  
Weed Management Plan**





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**Plan of Development**

**Weed Management Plan**

**Prepared for:  
BUREAU OF LAND MANAGEMENT**

**MAY 2014**

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Federal Lands 2013 Wetland, Waterbody, Weed, and Sensitive Plant Surveys

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## **1.0 INTRODUCTION**

This plan was developed to identify noxious weed and invasive species control practices that will be implemented for the Enable Bakken Crude Services, LLC (EBCS) Bear Den Phase 2 Project (Project). Pursuant to North Dakota Century Code § 4.1-47, North Dakota Law requires that measures be taken to control the spread of noxious weeds. Noxious weeds have the potential to invade areas disturbed by construction and may spread along the cleared areas of the pipeline right-of-way. Soil disturbance may also allow weed seed already present to germinate and grow.

Several laws, regulations, and policies govern the management of noxious weeds on public and private lands. Under the Noxious Weed Act, county, state, and federal agencies are charged with the responsibility to identify and control invasive plant species that are harmful to public health, crops, livestock, land, or other property. Weed boards may issue individual notices requiring control of noxious weeds on a particular property, and can cause weeds to be controlled with all expenses to be paid by the person in possession of the property. This plan is consistent with the Land and Resource Management Plan for the Dakota Prairie Grasslands Northern Region, the North Dakota Weed Control Guide, the North Dakota Prairie Grasslands Noxious Weed Management Project, and US Forest Service stipulations regarding herbicide use. The North Dakota Department of Agriculture's Noxious Weed Team controls noxious weeds by organizing the efforts of the county and city level Noxious Weed Boards.

### **1.1 Plan Purpose**

The purpose of this plan is to prescribe methods to prevent and control the spread of noxious weeds and invasive species (hereinafter referred to as weeds) during and following construction of the Bear Den Phase 2 Project. EBCS and its contractors will be responsible for carrying out the methods described in this plan.

This plan is applicable to the installation of the pipeline and ancillary facilities within the temporary construction right-of-way, permanent operational right-of-way, staging areas, access roads, and any other disturbed areas associated with the Bear Den Phase 2 Project.

### **1.2 Goals and Objectives**

The goals of weed control are to implement preventative measures to eliminate the spread of weeds during construction of the pipeline and to implement prescribed treatments to eliminate, to the maximum extent possible, the invasion of weeds from surrounding lands. Monitoring during the construction and operational phases will ensure that these goals are achieved.

## **2.0 WEED INVENTORY**

EBCS has conducted field studies, file searches, and weed consultations to identify existing weed infestations along the pipeline right-of-way and adjacent extra workspaces, along new or improved access roads, and within ancillary facility locations where clearing will be required on federal land crossed by the Project. To identify weeds that potentially occur within the proposed project area and known locations of weed infestations crossed by the proposed project, EBCS consulted with the Bureau of Land Management (BLM), U.S. Forest Service (USFS), and county weed control departments. Early identification of existing infestations is intended to help minimize the spread of weeds by identifying sites where preventative measures could be implemented. Information resulting from identification before, during, and after construction, including species identified within or adjacent to the project area, locations of infestations, and extent of infestations, will be coordinated with the BLM.

Table 2-1 lists the weeds that are known to occur or have the potential to occur along the proposed pipeline route as identified through agency consultations.

| TABLE 2-1  |  |   |                                       |  |
|--|--|---|---------------------------------------|--|
| <b>Bear Den Phase 2 Project<br/>Federally and State-Designated Noxious Weeds within North Dakota</b> |  |   |                                       |  |
| Common Name  | Scientific Name                          | U.S. Forest<br>Service<br>Designated<br>Species | North Dakota<br>Designated<br>Species | Species Identified<br>During Noxious<br>Weed Surveys on<br>Federal Land <sup>a</sup> |
| Russian knapweed   | <i>Acroptilon repens</i>                 | X   | X                                     |  |
| Crested wheatgrass   | <i>Agropyron cristatum</i>               | X   |                                       | X  |
| Tall wheatgrass  | <i>Agropyron elongatum</i>               | X   |                                       |  |
| Intermediate wheatgrass  | <i>Agropyron intermedium</i>             | X   |                                       |  |
| Quackgrass   | <i>Agropyron repens</i>                  | X   |                                       |  |
| Common burdock   | <i>Arctium minus</i>                     |   |                                       | X  |
| Absinth wormwood   | <i>Artemisia absinthium</i>              | X   | X                                     |  |
| Smooth brome   | <i>Bromus inermis</i>                    | X   |                                       |  |
| Japanese brome   | <i>Bromus japonicus</i>                  | X   |                                       |  |
| Downy brome  | <i>Bromus tectorum</i>                   | X   |                                       |  |
| Hoary cress  | <i>Cardaria draba</i>                    | X   |                                       |  |
| Spiny plumeless thistle  | <i>Carduus acanthoides</i>               | X   |                                       |  |
| Musk thistle   | <i>Carduus nutans</i>                    | X   | X                                     |  |
| Diffuse knapweed   | <i>Centaurea diffusa</i>                 | X   | X                                     |  |
| Spotted knapweed   | <i>Centaurea maculosa</i>                | X   | X                                     |  |
| Yellow starthistle   | <i>Centaurea solstitialis</i>            | X   |                                       |  |
| Canada thistle   | <i>Cirsium arvense</i>                   | X   | X                                     | X  |
| Field bindweed   | <i>Convolvulus arvensis</i>              | X   |                                       |  |
| Houndstongue   | <i>Cynoglossum officinale</i>            | X   |                                       |  |
| Leafy spurge   | <i>Euphorbia esula</i>                   | X   | X                                     |  |
| Baby's breath  | <i>Gypsophila paniculata</i>             |   |                                       |  |
| Halogeton  | <i>Halogeton glomeratus</i>              | X   |                                       |  |
| Black henbane  | <i>Hyoscyamus niger</i>                  | X   |                                       |  |
| Dalmatian toadflax   | <i>Linaria genistifolia</i>              |   | X                                     |  |
| Yellow toadflax  | <i>Linaria vulgaris</i>                  |   | X                                     |  |
| Purple loosestrife   | <i>Lythrum salicaria, L. virgatum</i>    | X   | X                                     |  |
| Sweet clover   | <i>Melilotus spp</i>                     | X   |                                       |  |
| Kentucky bluegrass, Canada bluegrass   | <i>Poa pratensis, P. compressa</i>       | X   |                                       | X  |
| Sowthistle   | <i>Sonchus spp</i>                       | X   |                                       |  |
| Saltcedar  | <i>Tamarix chinensis, T. ramosissima</i> |   | X                                     |  |

<sup>a</sup> Full results of the weed surveys including maps and specific locations are included in Attachment 1

### 3.0 WEED MANAGEMENT

Weeds are spread by a variety of means including pedestrian vectors (e.g., hiking, recreation, etc.), construction equipment, construction and reclamation materials, livestock, and wildlife. Implementation of preventative measures to control the spread of weeds is the most cost effective management approach. The Bear Den Phase 2 Project will implement weed

control management measures that are consistent with the standards and guidelines included in the Land and Resource Management Plan for the Dakota Prairie Grasslands regarding noxious weeds and invasive species.

### 3.1 Preventative Measures

The following preventative measures will be used to prevent the spread of weeds along the Bear Den Phase 2 Project right-of-way and within ancillary facilities:

- All Contractor equipment will arrive at the work site clean and weed-free. Prior to being allowed access to the right-of-way or ancillary facilities, all equipment will be power or high-pressure air washed. In addition, all equipment leaving an area infested with noxious weeds will first be cleaned with an air compressor to limit the spread of noxious weed seeds and propagules.
- An inspector will ensure that equipment is free of soil and debris capable of transporting weed seeds, roots, or rhizomes. An inspector will place a sticker on equipment determined to be free of weeds.
- The pipeline right-of-way and ancillary facility sites that occur on federal land crossed were inspected for weeds prior to the clearing of vegetation on the right-of-way and ancillary facilities. Infestations were recorded for reference in clearing the right-of-way and ancillary facilities for construction and for post-construction monitoring.
- In the construction right-of-way topsoil would be segregated and would not be mixed with spoil material before or during replacement. Once the disturbed areas have been de-compacted as needed, topsoil would be re-distributed over the entire disturbed area from which it was salvaged and re-contoured. Final revegetation would occur within the approved seeding window.
- The contractor will implement reclamation of disturbed lands following construction as outlined in EBCS's project-specific *Construction, Reclamation, and Monitoring Plan* (Appendix E of the Plan of Development). Continuing revegetation efforts will ensure adequate vegetative cover to prevent the invasion of weeds.
- The contractor will ensure that straw bales, used on the project for sediment barrier installations, or mulch are certified weed-free.
- Equipment will not be sprayed with pre-emergent chemicals as a preventative measure, as these chemicals target a wide range of vegetation. As a result, the use of such chemicals could affect the success of revegetation efforts.

Field wash stations with water are not proposed as a preventative measure as they have not proven to be an effective means of weed control. In order for a wash station to be effective, high-pressure steam cleaners and controlled drainage are essential. These criteria cannot be met in the field. As a result, field wash stations run the risk of creating conditions favorable to seed germination (e.g., presence of seeds or rhizomes, presence of disturbed soils, water from uncontrolled drainage).

### **3.2 Treatment Methods**

Weed controls will be used in accordance with existing regulations and landowner or agency agreements, including USFS's Dakota Prairie Grasslands Noxious Weed Management Project. During and after construction EBCS proposes to periodically monitor the Project right-of-way along federal lands crossed by the Project during pipeline operations to allow for early detection of noxious and invasive weed species infestations. If such species are found in numbers that are significantly different from existing nearby off right-of-way locations, appropriate control measures will be implemented in an attempt to eradicate the identified weed infestations along the right-of-way and to reduce the spread or proliferation of weeds. Post-construction control measures may include one or more of the following methods:

- Mechanical methods reliant on the use of equipment to disk or excavate weed populations. If this method is used, subsequent seeding will be conducted to re-establish a desirable vegetative cover, which will stabilize the soils and slow the potential re-invasion of weeds. Seed selection will be based on site-specific conditions, and the appropriate seed mix identified for those conditions, as presented in the *Construction, Reclamation, and Monitoring Plan*.
- Herbicide application is an effective means of reducing the size of weed populations. Herbicide application and handling methods are described in section 5.0 below.

### **3.3 Education**

EBCS and the contractor will provide information regarding weed identification, management, and impacts on agriculture, livestock, and wildlife to their appropriate employees. The critical importance of preventing the spread of weeds in areas not infested and controlling the proliferation of weeds already present will be explained. The importance of adhering to measures to prevent the spread of weeds (e.g., not driving off the cleared right-of-way, cleaning equipment that collect soil and plant seeds, and quickly identifying new infestations of weeds) will be stressed.

### **4.0 MONITORING**

EBCS will annually monitor the right-of-way and ancillary facilities that occur on federal land for weeds following construction and reclamation of the project for a period of five years. Locations of infestations on federal land crossed by the Project, and extent of infestations, will be submitted to the BLM, USFS, or the local weed district, depending on the location of the infestation. If species or colonies of species are found in numbers which are significantly different from existing nearby off right-of-way locations, EBCS will conduct spot eradication of those species.

### **5.0 HERBICIDE APPLICATION, HANDLING, SPILLS, AND CLEANUP**

Herbicide selection (if required) would be based on information gathered from local county weed control districts and the BLM, and would be consistent with the USFS' stipulations for herbicide use as found in the Dakota Prairie Grasslands Noxious Weed Management Project, if located on Forest Service land.

## 5.1 Herbicide Application and Handling

Prior to herbicide application, EBCS' contractor will obtain any required permits from the local authorities (BLM or weed district). EBCS or the contractor would submit a Pesticide Use Proposal to document their use of herbicide on federally administered lands, as well as a pesticide application report within 24 hours following application. The chemical application will be done by a licensed contractor in accordance with all applicable laws and regulations.

Herbicide label instructions and manufacture guidelines will be strictly adhered to. For example, manufacturer's guidelines recommend that herbicides only be applied under appropriate weather conditions (i.e., periods of low wind speeds, when precipitation is not imminent, etc.), that application sprayers be mounted low to the ground, and that sprayer booms incorporate specialized nozzles designed to produce large droplet sizes with limited drift potential. Adherence to these specifications and manufacturer label directions would minimize the potential for drift or transport of herbicides to off right-of-way areas.

Vehicle-mounted sprayers (e.g., handgun, boom, and injector) will be used primarily in open areas that are readily accessible by vehicle. Hand application methods (e.g., backpack spraying) that target individual plants will be used to treat small scattered weed populations in rough terrain. Calibration checks of equipment will be conducted at the beginning of spraying and periodically thereafter to ensure proper application rates are being achieved.

Herbicides will be transported daily to the project site with the following provisions:

- Herbicides will be premixed and delivered in returnable/refillable containers and transferred by closed system to application tanks to limit worker and environmental exposure and eliminate the need for disposal of herbicide containers in area landfills.
- Herbicides will be transported in a manner that will prevent tipping or spilling;
- Mixing of surfactants or other additives with water or other carriers and refilling of containers will typically be conducted at road crossings, and no mixing or filling will occur within 200 feet of open or flowing water, wetlands, or other sensitive resources; and
- Mixing and application procedures will be supervised by a licensed commercial applicator, and monitoring will be conducted to ensure that proper mixing, application, cleanup, personal protection and safety procedures are followed;
- All herbicide equipment and containers will be inspected daily for leaks.

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## **BEAR DEN PHASE 2 PROJECT**

### **ATTACHMENT 1**

**Enable Bakken Crude Services, LLC (EBCS) Bear Den Project Phase II  
– Federal Lands 2013 Wetlands, Waterbody, Weed, and Sensitive  
Plant Surveys**