

## McKenzie County Weed Management Plan

**Purpose:** This is a simplified weed management template that is specifically designed for small properties/areas. It is designed to assist in controlling noxious weeds by documenting areas at risk whether it be currently infested or could possibly become infested in the future. This weed management template is also to assist in coordinating efforts between McKenzie County Weed Control and landowners/operators/developers to accomplish noxious weed control goals in McKenzie County. A copy of this weed management plan will be kept on file with McKenzie County Weed Control as well as with all parties involved in the ownership and/or management of the property.

**Date** 1/24/2017;  
updated 8/24/2017

**Circle One:** PRIVATE

COMMERCIAL

**Name of Landowner:** Arrow Field Services, LLC

**Name of Party Responsible for Weed Control if Different than Landowner**

Curt Van Hoorn, Arrow Field Services, LLC

**Address of Responsible Party:**

10702 Highway 73, Keene, ND 58847

**Phone Number:** 701.675.8602

**E-Mail:** curt.vanhoorn@crestwoodlp.com

**Approximate Size of Property:**

Total = 112 acres (gas plant = 80 acres; pipelines ROW = 31.5 acres)

**Legal Description of Property:** See attached

**Purpose of Property** Construct a natural gas processing plant to remove natural gas liquids (NGLs) from gas supplied by a gathering pipeline and to transport the resulting residue gas and NGLs to a third-party natural gas transmission pipeline and a third-party NGL processing facility.

**Surface Movement for Commercial Construction Purposes:** Circle or highlight one

~~Scoria~~ ~~Manure~~ ~~Dirt~~ ~~Sand~~ ~~Gravel~~ Construction ~~Other~~



**1.0 Management Goals:** Management goals describe the purpose/use of the property and what you are trying to achieve. Having clear management goals is key to developing a weed management plan. (The minimum amount required by North Dakota and McKenzie County Weed Law is to mow noxious weeds to prevent them from going to seed. Another management goal may be to restore an area with native vegetation. Management goals might also include preventing contamination and/or spread of noxious weeds due to mining or storage of construction materials by a yearly or bi-yearly application of herbicide.)

**Please list your management goals as they apply to this property:**

- a. The property will be used as a natural gas processing facility to remove natural gas liquids (NGLs) from gas delivered by a natural gas gathering pipeline and transport the resulting residue gas and NGLs to third-party companies via pipelines
- b. Up to 50 acres of the plant site and approximately 31.5 acres of the pipelines right-of-way (ROW) may be disturbed by construction activities.
- c. Arrow has a Stormwater General Permit (NDR10-8788) and has developed an Area of Operations Stormwater Pollution Prevention Plan (SWPPP) for construction activities within McKenzie County that will be amended to include the plant site and pipelines ROW.
- d. As specified in the SWPPP, active noxious weed control measures will be implemented as part of the revegetation process as construction activities are completed that will use mechanical, chemical or biological management approaches, seeding, and erosion control blankets (ECBs) to prevent or minimize erosion, sedimentation, and the growth of the noxious weeds.
- e. Weed-free native grass seed mixtures will be used for all re-vegetation activities.
- f. During the post-construction stabilization period, trained Arrow personnel and/or contractors will utilize specific inspection and monitoring procedures to assess the robustness of the vegetative cover, identify potential noxious weed accumulations, estimate the erosion potential of these areas and develop recommendations to address suspect or deficient areas to ensure that noxious weed accumulations do not become significant.

**2.0 Weed Control Objectives:**

Knowing which weed species occur on your property and where they are located is very important in developing control priorities. Weed species vary considerably in the threat that they pose to the resource values of the property. In addition, weed species vary greatly in their susceptibility to control measures. Thus, weed species that pose the greatest threat to achieving the management goals for the property and which can be most easily controlled are the highest priority for management. To create weed control objectives for your weed management plan, first search your property for weeds (if you have not already done so).

The plant site and a portion of the pipelines ROW were used for hay production up through the 2014 growing season and, due to the noxious weed control activities used in that process, very minor accumulations of noxious weeds, if any, are present on the site. As part of the

permitting process for the project, a noxious weed survey of the plant site and the pipelines ROW was conducted and no occurrences of the state-listed or county-listed noxious weeds listed in Table 1 were identified within the survey corridor. This Weed Control Plan addresses the more common noxious weeds in McKenzie County.

**Table 1. State-Listed and County-Listed Noxious Weeds in McKenzie County**

| Common Name                        | Scientific Name               |
|------------------------------------|-------------------------------|
| <b>State-Listed Noxious Weeds</b>  |                               |
| Absinth wormwood                   | <i>Artemisia absinthium</i>   |
| Canada thistle                     | <i>Cirsium arvense</i>        |
| Dalmatian toadflax                 | <i>Linaria dalmatica</i>      |
| Diffuse knapweed                   | <i>Centaurea diffusa</i>      |
| Leafy spurge                       | <i>Euphorbia esula</i>        |
| Musk thistle                       | <i>Carduus nutans</i>         |
| Purple loosestrife                 | <i>Lythrum salicaria</i>      |
| Russian knapweed                   | <i>Acroptilon repens</i>      |
| Salt cedar                         | <i>Tamarix ramosissima</i>    |
| Spotted knapweed                   | <i>Centaurea stoebe</i>       |
| Yellow toadflax                    | <i>Linaria vulgaris</i>       |
| <b>County-Listed Noxious Weeds</b> |                               |
| Black henbane                      | <i>Hyoscyamus niger</i>       |
| Common burdock                     | <i>Arctium minus</i>          |
| Field bindweed                     | <i>Convolvulus arvensis</i>   |
| Houndstongue                       | <i>Cynoglossum officinale</i> |
| Yellow star-thistle                | <i>Centaurea solstitialis</i> |

Sources: North Dakota Department of Agriculture (2015);  
McKenzie County Weed Board (2016).

### 3.0 Weed Control Objectives – 3 year plan

#### 1<sup>st</sup> Year Weed Control Objective:

Install, inspect, and maintain stormwater best management practices (BMPs), including re-establishing vegetative cover on disturbed areas that will not be disturbed by site operations, using weed-free native grass mixtures (see Table 2), erosion control blankets, and other means as required. Perform regularly scheduled inspections to assess site conditions and develop and implement corrective actions as necessary to address identified deficiencies.

**Table 2 Native Grass Seeding for the Area of Operations**

| Species                     | Percent in Mixture | Pure Live Seed Application for Range Areas | Pure Live Seed Application for Critical Areas |
|-----------------------------|--------------------|--|---|
|                             |                    | Pounds/Acre                                | Pounds/Acre                                   |
| Sideoats Grama              | 20                 | 1.2  | 2.4   |
| Western Wheatgrass          | 30                 | 2.4  | 4.8   |
| Slender Wheatgrass          | 10                 | 0.5  | 1.0   |
| Canada Wildrye              | 10                 | 0.7  | 1.3   |
| Green Needlegrass           | 20                 | 1.2  | 2.4   |
| Purple Prairieclover        | 10                 | 0.4  | 0.8   |
| <b>Total Pure Live Seed</b> |                    | <b>6.3</b>                                 | <b>12.7</b>                                   |

Note: Seed mixtures are listed for a warm/cool season mix, May 1 – June 15.  
 Critical Areas are ground slopes with a 3:1 ratio and greater; all other ground surfaces are considered Range Areas.

**2<sup>nd</sup> Year Weed Control Objective:**

Perform regularly scheduled inspections to assess site conditions and develop and implement corrective actions as necessary to address identified deficiencies. Areas to be inspected include the whole site to ensure early detection of noxious weeds that may transfer on to the facility from adjacent/nearby lands and equipment and vehicles coming onto the site.

**3<sup>rd</sup> Year Weed Control Objective:**

Periodically inspect the property to ensure successful site re-vegetation and to monitor for potential incursions of noxious weeds.

**4.0 Evaluating Weed Control:** After you have created weed control objectives and have begun to control the priority weed species on your property, you should evaluate the results of your control methods. This requires follow-up visits to the areas where weeds were controlled and a re-assessment of the size and density of an infestation. (For example, compare the size of the infestation after a growing season has elapsed to the size before control actions were initiated). In most cases, the elimination of an infestation will take several years with multiple treatments per year to kill the plants and eliminate the bank of weed seeds in the soil.

ND Law 4.1-47-02. Control of noxious weeds.

**Each Person shall do all things necessary and proper to control the spread of noxious weeds.**

In signing this document I understand that I will be responsible for noxious weed control on the property listed above.

Responsible Party Curt Van Hoorn  Date 1-25-2017

McKenzie County  
Weed Board Chairperson: Quinn Hoggins Date 3-28-17

Please allow 48 hours for review of this plan prior to receiving confirmation of approval.