

**APPENDIX I – CIG’S INVASIVE SPECIES PLAN**

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**Invasive Species Plan**

**Colorado Interstate Gas Company**

**High Plains Expansion Project**  
**Adams, Morgan, Weld Counties, Colorado**

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**Prepared for:**  
**Colorado Interstate Gas**  
**P.O Box 1087**  
**Colorado Springs, Colorado 80944**

**Prepared by:**  
**Bio-Resources, Inc**  
**135 East Center**  
**Logan, Utah 84321**

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## **1.0 INTRODUCTION**

Noxious weed control practices for the Colorado Interstate Gas Company's (CIG) High Plains Expansion Project (Project) as described in this plan have been developed utilizing the following sources:

1. Noxious weed surveys of the pipeline right-of-way conducted in 2006 and 2007 by Bio-Resources, Inc.;
2. Colorado Department of Agriculture, Division of Plant Industry;
3. Colorado County Noxious Weed Program;
4. Colorado Noxious Weed Act.

### **1.1 Plan Purpose**

The purpose of this plan is to prescribe methods to prevent and control the spread of noxious weeds during and following construction of the sion Project. The CIG and its contractors will be responsible for carrying out the methods described in this plan.

This plan is applicable to the construction and operation of the proposed pipeline facilities, including the pipeline right-of-way, aboveground facilities, staging areas, railyard/pipe storage areas, temporary extra workspaces, and any other areas disturbed during construction.

### **1.2 Goals and Objectives**

The goal of weed control is to implement preventive measures to minimize the spread of noxious weeds during pipeline installation and construction of the proposed facilities. Noxious weeds are opportunistic plant species that readily flourish in disturbed areas, thereby preventing native plant species from establishing communities. Monitoring and maintenance during the construction and operational phases will include identification of any local infestation areas on and adjacent to the right-of-way that may pose potential infestation. An evaluation of the efficiency of the prescribed control measures will be implemented during the operational phase.

### **1.3 Project Description**

The Project is comprised of four segments of 24-inch and 30-inch outside diameter (O.D.) pipeline facilities totaling about 163.7 miles and to be located in Adams, Morgan, and Weld counties, Colorado. The first pipeline component, Line No. 250A, would be comprised of 30-inch pipeline extending 62.5 miles south from CIG's existing Cheyenne Compressor Station to a point near the Town of Hudson, Colorado all located in Weld County, Colorado. This line would change to a 24-inch O.D. pipeline near the Town of Hudson and extend 22.3 miles southeasterly to intersect with the proposed 24-inch, Line No. 251A, described as the second pipeline component in north/central Adams County, Colorado. The second pipeline component,

Line No. 251A would be comprised of a 24-inch pipeline extending 57.9 miles northeast from CIG's existing Watkins Compressor Station in Adams County, Colorado to its existing Fort Morgan Compressor Station located Morgan County, Colorado. The third pipeline component, Line No. 252A, would begin approximately one mile north of the Hudson Power Plant in the Town of Hudson, Colorado and would extend about 14.9 miles west to a new interconnect with Xcel Energy all located in Weld County, Colorado. Finally, the fourth component, Line No. 253A, would be comprised of 24-inch O.D. pipeline and would begin at CIG's Watkins Compressor Station and extend west for about 6.1 miles, terminating at CIG's existing East Denver measurement facility all located in Adams County, Colorado.

## 2.0 NOXIOUS WEED INVENTORY

Preconstruction field surveys were conducted to identify existing noxious weed infestations along the pipeline right-of-way, and at the proposed facilities. Field surveys targeted species designated by law as noxious weeds within the state of Colorado (Table 1). The results of field surveys are shown in Table 2.

The state of Colorado maintains an official list of weed species that are designated noxious species. Local weed supervisors in Colorado designate weed species as noxious within individual counties. Noxious weeds are defined as weeds "...arbitrarily defined by law as being especially undesirable, troublesome, and difficult to control. Definition will vary according to legal interpretation (USU Cooperative Extension 1992)." Information such as species identified within counties traversed by the project was collected from the Colorado Department of Agriculture, Division of Plant Industry and local Weed Districts.

CIG, the state of Colorado and other agencies recognize there are species, such as cheatgrass (*Bromus tectorum*), that because of their widespread distribution, are not considered feasible for general control. In addition, CIG's objective is to prevent the spread of noxious weeds, and treat selected areas along the right-of-way where target species are problematic and form a significant portion of the vegetation community in comparison to adjacent undisturbed areas.

The preventive measures identified in Section 3.2 will be implemented along the pipeline right-of-way and at all of the proposed facilities to minimize the spread of noxious weeds during construction activities.

Under the authority of the Colorado Weed Management Act (§§ 35-5.5-101 through 119, C.R.S.) (2003), 71 plant species have been officially designated as noxious. The state of Colorado classifies noxious weeds into three lists, A, B, and C.

1. List A includes noxious weeds targeted for eradication. State noxious weed management plans for List A species are included in Part 3 of 8 CCR 1203-19, Rules Pertaining to the Administration and Enforcement of the Colorado Noxious Weed Act.
2. List B includes noxious weed species that the state recommends managing, but does not require it by law (though other agencies may require management).

3. List C includes noxious weed species for which the state's goal is not to stop their continued spread (though other agencies may require management), but to provide educational, research, and biological control resources.

List A, B and C weeds of concern known to occur along the pipeline right-of-way are noted in Table 1. The goal for noxious weeds on the county lists is eradication where possible, or containment then control where eradication is not feasible.

Table 1 Noxious and Invasive Weeds of Concern along CIG's High Plains Expansion Project <sup>a</sup>						
Common Name <sup>b</sup>	Scientific Name	State List	Line No. 250A	Line No. 251A	Line No. 252A	Line No. 253A
Field Bindweed	<i>Convolvulus arvensis</i>	List C	P, X	P, X	P, X	P, X
Jointed Goatgrass	<i>Aegilops cylindrica</i>	List C		X <sup>1</sup>	P	P
Knapweed, Diffuse	<i>Centaurea diffusa</i>	List B	P, X	X	X	X
Knapweed, Russian	<i>Centaurea repens</i>	List B	X	P, X	X	X
Knapweed, Spotted	<i>Centaurea maculosa</i>	List B	P, X	X	X	X
Leafy Spurge	<i>Euphorbia esula</i>	List B	P, X	X	P, X	X
Purple Loosestrife	<i>Lythrum salicaria</i>	List A	X <sup>2</sup>	P, X <sup>2</sup>		X <sup>2</sup>
Volunteer Rye	<i>Secale cereale</i>	--		X <sup>1</sup>		
Tamarisk (Saltcedar)	<i>Tamarix</i> sp	List B	P, X <sup>2</sup>	X <sup>2</sup>		X <sup>2</sup>
Thistle, Canada	<i>Cirsium arvense</i>	List B	P, X	P, X	P, X	P, X
Thistle, Musk	<i>Carduus nutans</i>	List B	P, X	X	X	P, X
Thistle, Scotch	<i>Onopordum acanthium</i>	List B	P, X <sup>3</sup>	P, X <sup>3</sup>	P, X <sup>3</sup>	P, X <sup>3</sup>
Toadflax, Dalmation	<i>Linaria dalmatica</i>	List B	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>
Toadflax, yellow	<i>Linaria vulgaris</i>	List B	P, X <sup>2</sup>	X <sup>2</sup>		X <sup>2</sup>

X = Known to occur in county.  
P = Presence confirmed along the proposed route during July and August 2006, and March 2007 field surveys.

1 – Morgan County Only  
2 – Adams County Only  
3 – Both Adams and Weld Counties

<sup>a</sup> Includes weeds listed as of concern to individual counties along the right-of-way in Colorado, as well as their designation by the state. The State of Colorado lists species according to control recommendations. List A species are targeted for eradication and management plans have been developed for their control. Control of these species is *required* by law. List B species are *recommended* for control, but management plans have not yet been developed for these species and control is not required by law. List C species are generally considered too widespread to effectively control, and control of List C species is not required

<sup>b</sup>Common and scientific names of noxious and invasive plant species were obtained from the State of Colorado, Department of Agriculture Noxious Weed Program and Whitson, T. D., et al 1992.

Table 2					
Weed locations Relative to CIG's High Plains Expansion Project					
Population Number	County	Weed Species	UTM Coordinate <sup>1</sup>		Nearest Milepost
			Easting (feet)	Northing (feet)	
<b>Line No. 250A</b>					
1-250A	Weld	Bindweed, Canada Thistle	1717327	14766480	22.44
2-250A	Weld	Bindweed	1729975	14747553	26.83
		Canada Thistle, Bindweed			
		END	1733021	14743956	27.74
3-250A	Weld	BEGIN	1733392	14743608	27.84
4-250A	Weld	Scotch Thistle	1740463	14738306	29.52
5-250A	Weld	Bindweed	1740729	14738113	29.58
6-250A	Weld	Bindweed	1742416	14736732	29.99
7-250A	Weld	Scotch Thistle- ACCESS ROAD	1741865	14735701	30.05
8-250A	Weld	Scotch Thistle- ACCESS ROAD	1742334	14733159	30.45
9-250A	Weld	Bindweed	1745224	14734009	30.73
10-250A	Weld	Bindweed	1745529	14733746	30.81
11-250A	Weld	Canada Thistle	1749337	14726753	32.41
12-250A	Weld	Canada Thistle	1749378	14726149	32.53
13-250A	Weld	Bindweed, Diffuse Knapweed, Canada Thistle	1750354	14704821	36.57
14-250A	Weld	Bindweed, White Top, Canada Thistle	1750365	14704368	36.66
15-250A	Weld	Bindweed- ACCESS ROAD	1750716	14688043	39.75
16-250A	Weld	White Top, Leafy Spurge, Perennial Pepperweed	1751964	14680838	41.21
		White Top, Scotch Thistle, Perennial Pepperweed, Leafy Spurge, Yellow Toadflax, Spotted Knapweed, Tamarisk			
		BEGIN	1751986	14680415	41.29
17-250A	Weld	END	1751460	14678032	41.77
		Scotch Thistle, Canada Thistle, Perennial Pepperweed, Leafy Spurge, White Top-			
18-250A	Weld	ACCESS ROAD	1753621	14679374	41.33

**Table 2  
Weed locations Relative to CIG's High Plains Expansion Project**

Population Number	County	Weed Species	UTM Coordinate <sup>1</sup>		Nearest Milepost
			Easting (feet)	Northing (feet)	
19-250A	Weld	Scotch Thistle, Musk Thistle	1751293	14677282	41.80
20-250A	Weld	Canada Thistle, Perennial Pepperweed	1751579	14677745	41.83
21-250A	Weld	Scotch Thistle	1751659	14677319	41.91
22-250A	Weld	Musk Thistle	1751517	14676813	42.0
23-250A	Weld	Bindweed, Canada Thistle, Scotch Thistle, Perennial Pepperweed- ACCESS ROAD	1753748	14675018	42.36
24-250A	Weld	Bindweed	1749817	14667108	43.91
25-250A	Weld	Bindweed, Canada Thistle	1749993	14664454	44.42
26-250A	Weld	Canada Thistle	1750050	14664083	44.49
27-250A	Weld	Bindweed	1749397	14648086	47.54
28-250A	Weld	Bindweed- ACCESS ROAD	1750611	14635681	49.91
29-250A	Weld	Bindweed	1750355	14635576	49.93
30-250A	Weld	Bindweed	1750368	14633171	50.38
31-250A	Weld	Scotch Thistle- ACCESS ROAD	1751260	14576097	61.19
32-250A	Weld	Scotch Thistle BEGIN	1750170	14573830	61.64
33-250A	Weld	END	1750216	14572609	61.87
34-250A	Weld	Musk Thistle	1749773	14570181	62.35
35-250A	Weld	Diffuse Knapweed	1749839	14569466	62.49
36-250A	Weld	Diffuse Knapweed	1750075	14569466	62.54
37-250A	Weld	Canada Thistle	1750636	14569463	62.65
38-250A	Weld	Canada Thistle	1751368	14568780	62.83
39-250A	Weld	Canada Thistle, Bindweed	1752470	14566848	63.26
40-250A	Weld	Scotch Thistle, Bindweed	1752595	14566622	63.31
41-250A	Weld	Bindweed, Canada Thistle	1753484	14559259	64.79
42-250A	Weld	Scotch Thistle	1753510	14559141	64.80
43-250A	Weld	Canada Thistle, Bindweed	1758159	14555568	65.92
44-250A	Weld	Bindweed	1761788	14548268	67.54

Table 2					
Weed locations Relative to CIG's High Plains Expansion Project					
Population Number	County	Weed Species	UTM Coordinate <sup>1</sup>		Nearest Milepost
			Easting (feet)	Northing (feet)	
44-250A	Weld	Bindweed	1769550	14532474	70.89
45-250A	Weld	Bindweed- ACCESS ROAD	1772690	14531998	71.30
46-250A	Adams	Canada Thistle	1774852	14524787	72.66
47-250A	Adams	Scotch Thistle	1780705	14516365	74.60
48-250A	Adams	Bindweed	1798782	14502461	79.02
<b>Line No. 251A</b>					
1-251A	Adams	Scotch Thistle, Canada Thistle	1744175	14447632	4.50
2-251A	Adams	Canada Thistle	1744624	14447976	4.61
3-251A	Adams	Bindweed	1757423	14455919	7.47
4-251A	Adams	Canada Thistle, Russian Knapweed	1758758	14456782	7.78
5-251A	Adams	Canada Thistle	1779415	14470354	12.46
6-251A	Adams	Canada Thistle	1814691	14484799	19.94
7-251A	Adams	Bindweed, Purple Loosestrife	1819251	14484927	20.81
8-251A	Morgan	Scotch Thistle	1921226	14568379	47.10
9-251A	Adams	Canada Thistle, Bindweed	1799033	14438556	Bennett Pipeyard
10-251A	Adams	Canada Thistle	1796737	14438431	Bennett Pipeyard
<b>Line No. 252A</b>					
1-252A	Weld	Scotch Thistle	1714428	14567613	6.80
2-252A	Weld	Jointed Goat Grass	1708667	14563371	8.27
3-252A	Weld	Bindweed	1701352	14564612	9.71
4-252A	Weld	Canada Thistle- OFF ROW	1700258	14564581	9.91
5-252A	Weld	Scotch Thistle	1699963	14563873	9.90
6-252A	Weld	Canada Thistle	1699195	14565103	10.13
7-252A	Weld	Scotch Thistle	1694031	14564171	11.13
8-252A	Weld	Canada Thistle, Scotch Thistle	1691993	14563833	11.53
9-252A	Weld	Scotch Thistle, Canada Thistle, Leafy Spurge, Perennial Pepperweed, White Top	1691570	14563663	11.61

**Table 2  
Weed locations Relative to CIG's High Plains Expansion Project**

Population Number	County	Weed Species	UTM Coordinate <sup>1</sup>		Nearest Milepost
			Easting (feet)	Northing (feet)	
10-252A	Weld	Canada Thistle, Scotch Thistle, Perennial Pepperweed- ACCESS ROAD	1689713	14561153	11.97
11-252A	Weld	Perennial Pepperweed, Canada Thistle	1687942	14563692	12.30
12-252A	Weld	Canada Thistle, Scotch Thistle, Bindweed- ACCESS ROAD	1686327	14569099	12.67
13-252A	Weld	Bindweed, Canada Thistle, Scotch Thistle- OFF ROW	1684028	14564778	13.45
14-252A	Weld	Scotch Thistle- OFF ROW	1683936	14564942	13.46
15-252A	Weld	Scotch Thistle	1681032	14564158	13.65
16-252A	Weld	Scotch Thistle	1682846	14564555	13.67
17-252A	Weld	Scotch Thistle	1682079	14564713	13.81
18-252A	Weld	Scotch Thistle- ACCESS ROAD	1681715	14566005	13.85
19-252A	Weld	Canada Thistle, Perennial Pepperweed- ACCESS ROAD	1681501	14565937	13.89
20-252A	Weld	Scotch Thistle	1681541	14564326	13.92
21-252A	Weld	Scotch Thistle- ACCESS ROAD	1680960	14563446	14.05
22-252A	Weld	Scotch Thistle	1680770	14563896	14.08
23-252A	Weld	Scotch Thistle	1680274	14563925	14.17
24-252A	Weld	Scotch Thistle, Bindweed	1680058	14563804	14.22
25-252A	Weld	Scotch Thistle- ACCESS ROAD	1680071	14561842	14.25
26-252A	Weld	Bindweed	1679392	14563719	14.35
27-252A	Weld	Scotch Thistle, Bindweed	1677640	14563781	14.68
28-252A	Weld	Bindweed	1674982	14563942	15.23
<b>Line No. 253A</b>					
1-253A	Adams	Bindweed, Jointed Goat Grass, Canada Thistle	1711812	14436215	2.56
2-253A	Adams	Bindweed, Scotch Thistle	1702977	14437688	4.26

Table 2					
Weed locations Relative to CIG's High Plains Expansion Project					
Population Number	County	Weed Species	UTM Coordinate <sup>1</sup>		Nearest Milepost
			Easting (feet)	Northing (feet)	
3-253A	Adams	Bindweed	1699184	14438150	4.99
		Bindweed, Scotch Thistle, Musk Thistle, Canada Thistle			
		END	1699020	14438160	5.02
4-253A	Adams	BEGIN	1694194	14439348	5.97
5-253A	Adams	Bindweed	1695227	14439062	5.76
		Scotch Thistle			
6-253A	Adams	STAGING AREA	1698711	14438301	5.10

<sup>1</sup> UTM NAD83 Zone 13; units are feet

## 3.0 NOXIOUS WEED MANAGEMENT

Regulatory agencies along the pipeline right-of-way and at the proposed facilities have requirements for weed management. In all cases, these management practices will be followed before, during, and after construction activities. However, implementation of preventive measures to control the spread of noxious weeds is the most cost-effective management approach and provides the greatest protection to agricultural and natural resources. Therefore, CIG will focus on preventative measures to prevent new infestations as well as treatment methods to control existing infestations of noxious weeds.

### 3.1 Identification of Problem Areas

Prior to construction, CIG will provide information and training regarding noxious weed management; identification; and the impacts on agriculture, livestock, and wildlife to the construction contractors and inspection staff as part of the project required environmental training. The importance of preventing the spread of noxious weeds in areas not infested, and controlling the proliferation of weeds already present, will be explained. During construction, areas of concern will be identified and flagged in the field by CIG environmental staff. The flagging will alert construction personnel and prevent access into areas until noxious weed management control measures have been implemented.

### 3.2 Preventive Measures

The following measures will be implemented to prevent the spread of noxious weeds:

1. All Contractor vehicles and equipment will be cleaned prior to arrival at the work site using power or high pressure equipment. The washdown will concentrate on tracks, feet, or tires and on the undercarriage, with special emphasis on axles, frame, cross members, motor mounts, and on underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. The Contractor, with Environmental Inspector (EI) oversight, will ensure that vehicles and equipment are free of soil and debris capable of transporting noxious weed seeds, roots, or rhizomes before the vehicles and equipment leave the contractor's yard and are allowed use of access roads and the right-of-way
2. In areas where noxious weed infestations have been identified or are noted in the field, the Contractor will stockpile cleared vegetation and salvaged topsoil adjacent to the area from which they are stripped to eliminate the transport of soil-borne noxious weed seeds, roots, or rhizomes. These stockpiled materials will be treated as contaminated and no construction equipment will be allowed to work in or on them. During reclamation, the Contractor will return topsoil and vegetative material from infestation sites to the areas from which they were stripped.
3. The Contractor will use water or compressed air and hand tools, if needed, to remove seeds, roots, and rhizomes from clearing and reclamation equipment used to move vegetation and topsoil before the equipment is moved out of the noxious weed area. Cleaning sites will be recorded using GPS equipment and this information will be reported to the local contact person or agency.

4. The Contractor will ensure that all straw or hay bales used for sediment barrier installations or mulch distribution are obtained from state-cleared sources that are free of primary noxious weeds.
5. The Contractor will implement the reclamation of disturbed lands immediately following construction as outlined in the Reclamation Plan (Resource Report 3, Appendix 3C). Continuing revegetation efforts will ensure adequate vegetative cover to prevent the invasion of noxious weeds.
6. The Contractor will apply fertilizer to reclaimed areas only according to the Reclamation Plan, and as directed by the jurisdictional land management agency, property owner, or EI.

### **3.3 Treatment Methods**

CIG will implement noxious weed control measures that will be in accordance with existing regulations and jurisdictional land management agency or landowner agreements. Before construction, appropriate action, which may include application of herbicides, will be taken on identified weed infestations to reduce the spread or proliferation of weeds. Post-construction control measures may include one or more of the following methods:

1. Mechanical methods rely on equipment that is used to mow or disc weed populations. If such a method is used, subsequent seeding will be conducted to re-establish a desirable vegetative cover that will stabilize the soils and slow the potential re-invasion of noxious weeds. Seed selection will be based on site-specific conditions and the appropriate seed mix identified for those conditions, as presented in the Reclamation Plan.
2. Discing or other mechanical treatments that would disturb the soil surface within native habitats or occupied prairie dog towns will be avoided.
3. Herbicide application is an effective means of reducing the size of noxious weed populations and noxious weed seed banks. Applications will be controlled, as described in Section 5.1, to minimize the impacts on the surrounding vegetation. In areas of dense infestation, a broader application will be used and a follow-up seeding program implemented. Supplemental seeding will be based on the criteria in the Reclamation Plan. The timing of subsequent revegetation efforts will be based on the residual effects of the selected herbicide.
4. Treatment methods will be based on species-specific and area-specific conditions (e.g., proximity to water or riparian areas, or agricultural areas, and time of year) and will be coordinated with the local regulatory offices; and
5. If areas are not seeded until the following spring because of weather or scheduling constraints, all annuals and undesirable vegetation that have become established will be controlled before seeding.

## **4.0 MONITORING**

Monitoring of noxious weeds will be conducted during reclamation monitoring, on an ongoing basis, as well as on an annual basis in areas of known infestations.

### **4.1 Reclamation Monitoring**

CIG intends to begin monitoring during the first growing season following construction. Reclamation and the associated noxious weed monitoring of the pipeline right-of-way will begin in the summer of 2009 following 2008 construction. Noxious weed monitoring will occur annually for approximately three years (until control is achieved). Noxious weed conditions will be included in the primary second growing season evaluations of revegetation success (2009). CIG will implement this schedule on federal and state-owned lands, as well as private lands. After the initial three years of monitoring of the right-of-way, control measures and monitoring will be continued in problem areas of infestation. This monitoring will continue as long as it takes to control any infestation.

CIG will document its observations following the above-noted field inspections and make these monitoring reports available to the state of Colorado, counties, and the FERC as required.

Any areas where a spread of noxious weed infestation is noted, particularly in previously unaffected areas, will be further evaluated to determine if they require remedial action and additional treatment. CIG will identify such areas to the agencies by state, county, and milepost, and will record any additional noxious weed control treatments. A report summarizing right-of-way stability, revegetation progress, percent cover, and weed infestation will be provided to the landowners every two years.

### **4.2 Ongoing Monitoring**

CIG will communicate with individual land owners, counties, and land management agencies if they have a concern pertaining to noxious weeds within their jurisdiction. These parties may also contact CIG to report on the presence of noxious weeds. CIG will control the weeds on a case-by-case basis and include a summary of actions taken in the next Reclamation Monitoring Report. Furthermore, CIG's operations personnel will be trained in the identification of predominant noxious weed populations and will report spreads of noxious weeds during the normal course of maintenance.

### **4.3 Monitoring of Known Infestation Areas**

In addition to annual and ongoing noxious weed monitoring (as noted by counties/landowners or CIG's pipeline maintenance and operations team), CIG will conduct annual site visits to monitor known infestation areas (Table 2). These areas will be evaluated and controlled. CIG will continue to visit these infestation areas on an ongoing basis or until noxious weeds in the area are controlled.

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

### 5.1 Herbicide Application and Handling

Herbicide application will be based on information gathered from the Colorado Department of Agriculture, Division of Plant Industry; and local Weed Districts. Before application, CIG or its Contractor will obtain any required permits from the local authorities. A licensed contractor will perform the application in accordance with applicable laws and regulations. Spraying is scheduled to occur in the spring of 2009, with landowner permission. If needed, individual populations will be sprayed prior to the first entry by any construction equipment associated with the project.

All herbicide applications will follow Environmental Protection Agency label instructions. Application of herbicides will be suspended when any of the following conditions exists:

1. Wind velocity exceeds six miles per hour during application of liquids or 15 mph during application of granular herbicides;
2. Snow or ice covers the foliage of noxious weeds; or
3. Precipitation is occurring or is imminent.

Vehicle-mounted sprayers (e.g., handgun, boom, and injector) will be used mainly 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 or scattered weed populations in rough terrain. Calibration checks of equipment will be conducted at the beginning of spraying and periodically to ensure that proper application rates are achieved.

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

1. Only the quantity needed for that day's work will be transported;
2. Concentrate will be transported in approved containers only and in a manner that will prevent tipping or spilling, and in a compartment that is isolated from food, clothing, and safety equipment;
3. Mixing will be done off site and at a distance greater than 200 feet from open or flowing water, wetlands, or other sensitive resources. No herbicides will be applied at these areas unless authorized by appropriate regulatory agencies; and
4. All herbicide equipment and containers will be inspected for leaks daily.

## 5.2 Herbicide Spills and Cleanup

All reasonable precautions will be taken to avoid herbicide spills. In the event of a spill, cleanup will be immediate. Contractors will keep spill kits in their vehicles and in herbicide storage areas to allow for quick and effective response to spills. Items to be included in the spill kit are:

1. Protective clothing and gloves,
2. Adsorptive clay, "kitty litter," or other commercial adsorbent,
3. Plastic bags and bucket,
4. Shovel,
5. Fiber brush and screw-in handle,
6. Dust pan,
7. Caution tape,
8. Highway flares (use on established roads only), and
9. Detergent.

Response to an herbicide spill will vary with the size and location of the spill, but general procedures include:

1. Traffic control;
2. Dressing the clean-up team in protective clothing;
3. Stopping the leaks;
4. Containing the spilled material;
5. Cleaning up and removing the spilled herbicide and contaminated adsorptive material and soil; and
6. Transporting the spilled pesticide and contaminated material to an authorized disposal site.

### **5.3 Worker Safety and Spill Reporting**

All herbicide contractors will obtain and have readily available copies of the appropriate material safety data sheets for the herbicides used. All herbicide spills will be reported in accordance with applicable laws and requirements.

## **6.0 REFERENCES**

- Bio-Resources, Inc. 2006. Preconstruction Noxious Weed Survey for the High Plains Expansion.
- Colorado Department of Agriculture. 2003. Noxious Weed Management Program. Colorado Division of Plant Industry. URL: <http://www.ag.state.co.us/dpi/weeds/Weed.html>.
- Colorado Natural Areas Program. 2000. Creating an Integrated Weed Management Plan: A Handbook for Owners and Managers of Lands with Natural Values. Colorado Natural Areas Program, Colorado State Parks, Colorado Department of Natural Resources; and Division of Plant Industry, Colorado Department of Agriculture. Denver, Colorado. 349 pages.