

# **Weed Management Plan**

**For**

**Solberg Gravel Pit**

**El Paso County, CO**

**DRMS Permit No. M-1981-044**

*Prepared for*

*Pioneer Landscaping Materials Inc.*

*630 Plaza Drive, Suite 150*

*Highlands Ranch, CO 80129*

*Prepared by Angela M. Bellantoni Ph.D.*

*Pioneer Landscaping Materials Inc.*

*630 Plaza Drive, Suite 150*

*Highlands Ranch, CO 80159*

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# **1. Introduction**

## **A. Context of Noxious Weed Management**

There has been a tremendous expansion of invasive alien plant species across the US, including Colorado. New problem weed species arrive in Colorado every year. Weeds create large economic losses for agriculture in both cropland and rangeland situations. Noxious weeds often provide poorer habitat for wildlife than native vegetation. Proliferation of alien plant species alters ecosystem processes and threatens certain native species with extirpation. Thus, unchecked weeds threaten our economic livelihood and our biological heritage.

In recognition of the economic and ecological impacts of weeds, the General Assembly of the State of Colorado passed the Colorado Weed Management Act, also known as the Colorado Noxious Weed Act, in 1996. The act requires landowners and managers to manage noxious weeds if they are likely to damage neighboring lands. This act provides that each county in Colorado shall adopt a noxious weed management plan for the unincorporated portions of the county. This plan provides framework to control those plant species that are listed as noxious in Jefferson County.

Weeds are rapidly becoming one of the most pressing issues for natural managers. Unfortunately, most natural areas contain many alien plant species. In the vast majority of cases, there is not enough labor and money to control all the species of weeds that occur in a natural area. Thus, managers are forced to choose which weed species they will control and which they will not, at least initially.

## **B. Overview of Approach to Noxious Weed Management**

Weed control is part of property management. This plan is based on the desired plant species and communities, rather than on simply eliminating weeds. Preventive programs are implemented to keep the management area free of species that are not yet established there but which are known to be pests elsewhere in the area. Priorities are set to reduce or eradicate weeds that have already established on the property, according to their actual and potential impacts on the land management goals for the property, and according to the ability to control them now versus later. Actions will be taken only when careful consideration indicates leaving the weed unchecked would result in more damage than controlling it with best available methods.

The plan follows the adaptive management approach. First, weed species are identified through inventory of the property and by gathering information from other sources. Second, land management goals and weed management objectives are established and recorded for the property. Third, priorities are assigned to the weed species and weed patches based on the severity of their impacts, while considering the ability to control them. Fourth, methods are considered for controlling them or otherwise diminishing their impacts and, if necessary, re-order priorities based on likely impacts on target and non-target species. Fifth, Integrated Pest Management (IPM) plans are developed based on this information. Sixth, the IPM plans are implemented. Seventh, the results of management actions are monitored and evaluated in light of weed management objectives for the management area. Finally, this information is used to modify and improve weed management objectives, control priorities and IPM

plans, thereby starting the cycle again. The premise behind this plan is that a structured, logical approach to weed management, based on the best available information, is cheaper and more effective than an ad-hoc approach where one deals with weed problems as they arise.

## **2. Description of the Property**

### **A. Location**

The Solberg Gravel Pit is a construction aggregate and sand mine in the N ½ of Section 21, Township 13 South, Range 64 West of the 6<sup>th</sup> principal Meridian in El Paso County, Colorado. The site is approximately 20 miles east of Colorado Springs, CO along US Highway 24 and Garrett Road near the town of Peyton, CO.

Site boundaries are delineated on DRMS Exhibit F Reclamation Plan.

### **B. Resource Base**

The Solberg Gravel Pit began operating in 1981 with 234 permitted acres. CO DRMS recently approved an amendment to the permit area that increased the acres to 313. The area is developed as rural residential to the north and west. With the exception of development north of Garrett Road, parcels are very large with extensive open space. Rangeland is the proposed post mining land use to be used for cattle grazing.

## **3. Inventory of Noxious Weed Species**

### **A. Inventory of Noxious Weed Species**

The El Paso County Weed Control Plan and Noxious Weeds and Control Methods were obtained from the county website and are incorporated herein by reference. The target area is substantially disturbed by mining with little vegetation.

### **B. Map of Weed Infestations**

The permit boundary is attached as Exhibit C. The area will be vegetated as rangeland and monitored for weed infestation until the bond is released by DRMS.

## **4. Management Goals and Noxious Weed Management Objectives for the Property**

### **A. Land Management Goal**

In order to be released from the DRMS permit, rangeland vegetation will be established in the permit boundary. DRMS requires establishment of approved vegetation for two growing seasons in order to consider releasing financial surety and terminating the mining permit. Noxious weeds compete for natural resources, threatening establishment of rangeland vegetation.

## **B. Weed Management Objectives**

When the site is in final reclamation, site inspections will be performed at least annually. In the event state listed noxious weeds are present, weed control measures will be implemented. The site will be inspected during the growing season to determine weed control effectiveness.

# **5. Priorities for Invasive Species Management**

## **A. Prevention**

The most important weed management action is to prevent weeds from becoming established in the first place. The old adage that “an ounce of prevention is worth a pound of cure” certainly applies to weed management. El Paso County’s noxious weed management plan includes recommendations for eradication, containment and suppression of invasive weed species.

## **B. Weed Species Priorities**

Weed management priorities are based on the actual or potential threat that weeds pose to the management goals for the property. Two factors are used to set priorities, namely the weed species and the locations of weed infestations. Weeds species are important because they vary considerably in the threat they pose to the resource values of the property. In addition, weed species vary greatly in their susceptibility to control measures. Weed species that pose the greatest threat to achieving the management goals for the property and that need to be controlled immediately are the highest priority for management.

# **6. Weed Management Actions**

## **A. Prevention**

El Paso County’s website includes prevention in the IPM that recommends purchasing weed-free hay, seed and revegetation materials as well as cleaning equipment and gear before leaving a site.

## **B. Weed Control**

IPM is a process by which one selects and applies a combination of management techniques (biological, chemical, mechanical and cultural) that, together, will control a particular weed species or infestation efficiently and effectively, with minimal adverse impacts to non-target organisms. IPM seeks to combine two or more control actions which will interact to provide better control than any one of the actions might provide. IPM does not necessarily require the eradication of a weed species or a particular infestation of weeds, although these might be objectives in some cases. IPM is species-specific, tailored to exploit the weaknesses of a particular weed species, site specific and designed to be practical and safe.

## **7. Monitoring**

Monitoring is the repeated collection and analysis of information to evaluate progress in meeting resource management objectives. Periodic observation of the weeds being managed is necessary to evaluate the effectiveness of a weed control program. If management objectives are not being met, weed control actions need to be modified. Without some type of monitoring, there is no way of knowing whether control actions are contributing to the fulfillment of management objectives.

The site will be monitored at least annually while vegetation is being established. In the event weed control technique(s) is (are) applied, a post-treatment visit will occur to evaluate the effectiveness of the control technique(s).

## References

El Paso County Noxious Weed Plan

El Paso County Noxious Weeds and Control Methods