

Framework Reclamation Plan for Construction Activities Gateway West Transmission Line Project

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1.0 INTRODUCTION

Idaho Power and Rocky Mountain Power (the Companies) are proposing to construct and operate approximately 1,188 miles of new 230-kilovolt (kV) and 500kV electric transmission system consisting of 10 segments between the Windstar Substation at Glenrock, Wyoming, and the Hemingway Substation approximately 30 miles southwest of Boise, Idaho (hereafter referred to as Gateway West or Project). The Project includes ground disturbing activities associated with construction of above-ground single and double circuit transmission lines involving towers, access roads, staging areas, fly yards, pulling sites as well as associated substations, communication sites and electrical supply distribution lines. The Project crosses private land and public lands administered by the Bureau of Land Management (BLM), US Forest Service (USFS) and the states of Idaho and Wyoming.

1.1 Reclamation Plan Purpose

This reclamation plan (framework) describes the framework for development of the final Reclamation, Revegetation, and Noxious and Invasive Weed Control Plan (final Reclamation Plan). The focus of this framework and the final Reclamation Plan is to restore areas that have been temporarily impacted by construction activities. The framework and final Reclamation Plan are applicable project wide and will be modified as per agreement with federal land managing agencies, states, counties or individual landowners. The final Reclamation Plan is intended to meet the ten reclamation requirements specified in BLM Instruction Memorandum (IM) No. WY-2009-022 and guidance contained in Chapter 2840 of the Forest Service Manual as applicable. The final Reclamation Plan will be based on the final selected location of all project facilities and will be submitted to the BLM and US Forest Service prior to the issuance of a right-of-way grant.

This framework and the final Reclamation Plan also incorporate by reference the Storm Water Pollution Prevention Plan(s) that will be developed to comply with Clean Water Act requirements and that will include measures to address erosion and sedimentation that could result from ground disturbing activities and the Companies' proposed Environmental Protection Measures (Appendix B of the Plan of Development [POD]).

1.2 Reclamation Goals and Objectives

The primary goal of conducting reclamation activities is to restore temporarily disturbed areas to pre-construction conditions, to the extent practicable. BLM reclamation goals emphasize stabilization and the protection of existing vegetation; minimal disturbance of the environment; soil stabilization; and establishment of vegetation consistent and compatible with adjacent land uses. The goal of this framework is to provide a structure for developing and implementing the reclamation process. The reclamation process is designed to restore temporary impacts to vegetation and resident soils and meet the goals and objectives described below:

- Noxious and invasive weed control,
- Topsoil segregation and stockpiling,
- Right-of-way restoration, and
- Seedbed preparation and re-seeding.

Reclamation goals can be achieved through both short- and long-term objectives. The short-term objectives for reclamation are to stabilize disturbed areas to minimize potential erosion and

sedimentation, establish temporary vegetation cover; prevent or minimize the introduction and spread of noxious and invasive weed species; and conserve suitable topsoil for long-term reclamation activities. The long-term objective of reclamation is to establish permanent vegetation cover that is similar to pre-disturbance conditions, is self-sustaining, and where applicable, resistant to the introduction or spread of noxious and invasive weed species.

Measures to achieve both short- and long-term objectives and reclamation goals include:

- Using proper soil management techniques, including stripping, stockpiling, and re-applying topsoil material at temporarily disturbed areas to restore soil horizons, utilize the existing seedbank(s) and establish surface conditions that would allow for rapid re-establishment of vegetative cover.
- Establishing stable soil surface and drainage conditions and utilizing applicable Best Management Practices (BMPs) which would minimize surface erosion and sedimentation and facilitate plant establishment.
- Conducting pre-construction weed surveys, applying pre-construction weed control measures where appropriate, controlling weed introduction and spread during construction, and conducting post-construction weed monitoring and control activities where needed.
- Re-seeding disturbed areas with plant species adapted to site conditions and compatible with pre-construction conditions and surrounding vegetation in order to establish long-term, productive, self-maintaining plant communities and concurrently minimize the chances for noxious and invasive weeds to establish.
- Re-establishing topography to pre-construction conditions to the extent practicable.
- Annual monitoring (and active corrective action) for three years following construction to measure the achievement of reclamation objectives.
- Develop and implement contingency plan(s) in the event annual monitoring indicates lack of suitable progress towards achieving pre-defined success metrics.

2.0 Noxious and Invasive Weed Control

“Noxious weed” is a legal term, meaning any plant officially designated by a federal, state, or local agency as injurious to public health, agriculture, recreation, wildlife, or property (Sheley and Petroff, 1999). The more general term “invasive species” refers to species that are non-native to the ecosystem under consideration and whose introduction causes, or is likely to cause economic or environmental harm or harm to human health (National Invasive Species Information Center 2008). Invasive plant species include those that are legally designated as noxious, as well as additional species that may be considered noxious in some areas but not others, and other species that are already widespread.

Soil disturbances, such as those caused by construction of the Project could result in the establishment of new populations and spread of existing populations of noxious and invasive weeds. This section of the framework describes the known status of noxious weed species within the Project area, the regulatory agencies responsible for control of noxious and invasive weeds, and steps that the Companies will take in preventing the establishment and spread of noxious and invasive weed species that are the result of the Companies construction activities.

In addition to providing updated information contained within this framework, the final Reclamation Plan will include information on locations of significant weed populations within the Project footprint and proposed treatment methods as applicable.

The focus of the Companies noxious weed control efforts will be to prevent the spread of new infestations resulting from their activities, and to assist adjacent land owners in their weed control responsibilities by reducing/eliminating existing infestations in the Project area. Without concurrent control of weed infestations by land owners on surrounding lands, weed control efforts by the Companies in the Project area will be short lived. Surrounding populations of noxious weeds would continue to spread and infest areas disturbed by construction activities. The Companies are only responsible for control or eradication of noxious weeds and invasive species that are a result of their construction related surface disturbing activities. The Companies are not responsible for noxious weeds and invasive species that occur adjacent to Project areas and are not responsible for eradicating a species that was present prior to the Project. For example, cheatgrass (*Bromus tectorum*) is widespread across large portions of the Project area. Eradication of these infestations is not the responsibility of the Companies and would not be attempted.

The objectives of noxious weed control for the Project are: 1) to inventory the existing occurrence, distribution and abundance of noxious weeds in the Project area prior to construction, 2) to annually inventory the occurrence, distribution and abundance of noxious weeds in the Project area for a period of three (3) years following the completion of construction activities, 3) to reduce/eliminate infestations of noxious weeds caused by Project-related activities and to prevent the spread of new and existing populations within the Project area for a period of three (3) years, 4) to insure any populations of rare plants along the transmission line are not negatively impacted by weed control activities, 5) to coordinate and consult with designated BLM and personnel regarding all noxious weed inventory and control activities conducted by the Companies.

2.1 Existing Conditions

Attachment A is a list of the noxious and invasive weed species that are known or expected to occur within the Project area, based on their recorded presence in the counties in which the Project is located. The BLM and Forest Service use the most current Idaho and Wyoming state noxious weed lists for managing weeds on federal lands, and the BLM in Wyoming also uses county declared species (Wyoming Weed and Pest Council 2008b). The final Reclamation Plan will include the most current noxious weed species lists produced by the two states and Wyoming counties available just prior to construction.

The State of Wyoming has designated 25 plant species as noxious (Wyoming Weed and Pest Council 2008a) and the Idaho State Department of Agriculture (ISDA) has designated 57 plant species as noxious. Idaho's noxious weeds are divided into three categories (ISDA 2008):

- Statewide Early Detection and Rapid Response (EDRR) List: If weeds on this list are identified, they will be reported to ISDA within 10 days, and eradicated in the same growing season as identified.
- Statewide Control List: This list contains species that are known to exist throughout the state. When identified, a control plan will be developed by the county, with active control methods to be employed in no more than 5 years.

- **Statewide Containment List: Weed list:** This list contains species that are known to exist throughout the state. Weed control efforts may be directed at reducing or eliminating new or expanding populations, while known populations may be managed by any approved weed control methodology, as determined by the county.

2.2 Pre-construction Surveys

Pre-construction vegetation surveys will be conducted to document the vegetation species, evaluate the presence or potential habitat for plant species of special concern (state and federally listed), the overall landscape condition relative to plant growth (healthy plants, over-grazed, previously disturbed, recently burned, etc.), and the presence and extent of noxious or invasive weeds. These vegetation surveys will be conducted during the growing season and prior to construction and will provide baseline data to plan for weed control and provide additional information to guide short- and long-term reclamation.

The locations of noxious weeds and invasive species would be documented with a hand-held global positioning system (GPS) instrument and used to develop a pre-construction map. The pre-construction map would be used to define the area(s) infested with noxious weeds before construction and would be used to document the weeds the Companies' are responsible for introducing and/or spreading.

2.3 Pre-construction Treatment

Mapped noxious and invasive weed species locations may be treated prior to transmission line construction. In Idaho, weed species on the EDRR list will be treated prior to the start of ground disturbing activities. For other weed species, the decision to treat prior to the start of construction activities will be based on the nature and extent of the infestation, surrounding conditions (e.g., predominance of weeds outside of project areas), landowner permission, and the construction schedule. The intent is for Project construction activities to not be delayed to facilitate pre-construction treatment of noxious and invasive weeds. If pre-construction treatment is necessary, the following measures would be implemented:

- REC – 1 Company personnel and their contractors will be trained on noxious and invasive weed identification to facilitate avoidance of infestations where possible or identification of new infestations.
- REC – 2 Pre-construction weed treatment would be conducted prior to the start of ground disturbing activities and at the time most appropriate for the target species.
- REC – 3 Pre-construction weed treatment would be limited to the areas that are expected to have surface disturbing activities. The final Reclamation Plan will include a schedule showing the phased in-service dates for different segments. Pre-construction weed treatment will be scheduled accordingly.
- REC – 4 Pre-construction treatment may use mechanical control, hand spraying, grazing, or herbicides. The final Reclamation Plan will discuss those options, as applicable.
- REC – 5 All herbicide applications would comply with label restrictions, federal, state and/or county regulation, and landowner agreements. No spraying would occur prior to notification of the applicable land management agency. On federal or state controlled lands, a herbicide use plan will be submitted prior to any herbicide application as recommended in the BLM herbicide EIS http://www.blm.gov/wo/st/en/prog/more/veg_eis.html. The herbicide use plan will

include the dates and locations of application, target species, herbicide, adjuvants, and application rates and methods (e.g., spot spray vs. boom spray). No herbicide would be applied to any private property without written approval of the landowner. The final Reclamation Plan will contain a list of herbicides that may be used, target species, best time for application, application rates, and if they are approved for use on BLM and FS lands.

- REC – 6 Herbicides may be applied using a broadcast applicator mounted on a truck or all terrain vehicle (ATV), backpack sprayers, or with hand sprayers as conditions dictate. Herbicide applications would be conducted only by licensed operators or under the supervision of a licensed operator. Where allowed, a broadcast applicator would likely be used. In areas where noxious weeds are more isolated and interspersed with desirable vegetation, noxious and invasive weeds would be targeted, thereby avoiding other plants. Pre-construction herbicide applications would not occur adjacent to known special status species or near water bodies.
- REC – 7 All areas treated would be documented using GPS technologies and included in the annual report.

2.4 Weed Prevention and Control

The Companies will implement BMPs to eliminate or minimize the introduction and spread of noxious weeds and invasive species during construction. These include:

- REC – 8 Areas of existing noxious weeds and invasive species will be avoided where possible.
- REC – 9 Project vehicles will arrive at the job site clean of all soil and herbaceous material.
- REC – 10 When the contractors demobilize from the job site where identified infestations of noxious weeds are present, they will use appropriate decontamination measures as defined in the final Reclamation Plan.
- REC – 11 Soil stockpiles from areas that did not have noxious weeds or invasive species present, will not be placed adjacent to populations of noxious weeds or invasive species, where practicable.
- REC – 12 Areas disturbed by Project activities are susceptible to the establishment and spread of noxious weeds. Erosion control measures identified in the SWPPP(s) would also assist in preventing the establishment of weeds on exposed soils.
- REC – 13 Project-related storage and staging yards, fly yards, and other areas that are subject to regular long-term disturbance will be kept weed-free through regular site inspections and herbicide applications, subject to the consent of the land owner.
- REC – 14 Where pre-construction surveys have identified noxious or invasive weed species infestations, topsoil and other soils will be placed next to the infested area and clearly identified as coming from an infested area. Topsoil would be returned to the area it was taken from and will not be spread in adjacent areas. If the topsoil is not suitable for backfill, then it will be spread in another previously disturbed area and clearly identified for future weed treatments as applicable.

REC -15 Straw or hay that may be used as a BMP to control erosion and sedimentation must be certified weed free. If certified weed-free materials are not available, then alternative BMPs will be used. The use of alternative BMPs will be coordinated with the construction storm water inspector.

2.5 Post-Construction Weed Control and Monitoring

Annual spraying will most likely occur during the months of May to June, however the potential for fall treatments, depending on the weed species, does exist. Following annual spraying, a monitoring survey will be conducted to verify locations of noxious weeds in the Project vicinity. These monitoring surveys are expected to occur in the fall (August-September) and will be conducted following the same methods as the pre-construction survey. The relative abundance (refer to Attachment B for abundance ratings) of each noxious weed will be recorded for the following three zones: 1) immediate area of disturbance (roadbed, lay-down yard, or pulling and tensioning site); 2) within 30 feet of the immediate area of disturbance; and 3) in the area greater than 30 feet from the immediate area of disturbance. Pedestrian surveys will be conducted in zones 1 and 2. Zone 3 will be surveyed at a reconnaissance level based on what is visible adjacent to the 30-foot buffer. Abundance will be recorded using the following eight abundance categories: rare, locally rare, occasional, locally occasional, frequent, locally frequent, abundant, and locally abundant.

Using prior years' survey information, annual spraying will be planned by the Companies and coordinated with the BLM to insure spraying will be conducted at the proper growing period, during favorable environmental conditions, and will use the appropriate chemicals to control targeted species. The chemicals used on federal lands must be approved by the appropriate federal agency.

Spraying will be conducted by the Companies or a licensed qualified contractor. The intent of applying herbicide will be to treat only the areas that need treatment, rather than broad application. It is anticipated that most spraying will be conducted using ATV mounted spray equipment, supported by a one or more four wheel drive pickups equipped with water tanks. Pickups will carry necessary chemicals, dyes, fluid pumps, tools and water to provide a base station for refilling of ATV spray tanks. Spraying weed infestations within the weed control area will be conducted by ATV, using hand held spray guns with 25 to 50-foot hoses attached to spray tanks or by using 8 to 12-foot spray booms. The spray booms will be utilized for treating larger areas on roadbeds and gentle to moderately steep terrain.

The final Reclamation Plan will provide site-specific information on noxious and invasive weed species, relative abundance, and treatment methods.

3.0 TOPSOIL AND SPOIL TREATMENT

The Companies and/or their contractor will minimize ground disturbance where practicable; however, there will still be extensive areas of soil disturbance due to the nature of the work and existing topography. The final Reclamation Plan will identify locations where management of topsoil is warranted, such as areas where topsoil supports native plant species or is important to a private landowner (e.g., agricultural soils). Generally, topsoil is considered the upper 6 to 12 inches, but this can vary by soil type. To protect topsoil, the following measures will be implemented where applicable:

- REC – 16 The entire topsoil layer will be removed, taking care not to mix it with the underlying sub-soil. Where topsoil separation is employed, topsoil will be stored in a separate stockpile.
- REC – 17 Certified weed-free BMPs will be used as appropriate and as described in the SWPPP to stabilize the stockpile and limit erosion and standing water, control dust, and control the establishment of noxious or invasive weeds in stockpiled soils.
- REC – 18 Topsoil and sub-surface soils will be replaced in the proper order during reclamation.

The timing of topsoil replacement will be dependent upon project constraints, season, weather, and landowner/manager requirements.

During various construction activities, soil spoils will be generated along the Project route. The following measure will be implemented when soil spoils must be disposed of:

- REC – 19 Where it is necessary to spread spoils (subsurface soils or waste rock resulting from excavations or foundation drilling), it will be done where practicable and in close proximity to where the disturbance occurred (within the ROW). Material will be spread uniformly to match existing contours and covered with topsoil when available and re-seeded.

4.0 RIGHT-OF-WAY RECLAMATION

Reclamation of temporarily disturbed areas will involve replacing stockpiled subsoil and topsoil (where applicable), restoring pre-existing contours, installing permanent erosion control structures (i.e., water bars), and re-establishing vegetation. These methods are further discussed below.

- REC – 20 Re-contouring: All temporarily disturbed lands within the ROW will be re-contoured to blend with the surrounding landscape. Re-contouring will emphasize restoration of the existing drainage patterns and landform to pre-construction conditions, to the extent practicable.
- REC – 21 De-compaction: Areas within the ROW, laydown or staging yards, and other areas of extensive vehicle travel will typically contain compacted soils. These soils will be de-compacted on a case-by-case basis through negotiation with the landowner or land management agency.
- REC – 22 Final Cleanup: Final cleanup will ensure that all construction areas are free of any construction debris including but not limited to; assembly scrap metals, oil or other petroleum based liquids, construction wood debris and worker generated litter. Permanent erosion control devices will be left in place.

Some areas may not have extensive vegetation before Project construction, such as areas of shallow bedrock, shallow topsoil, steep slopes, or dry desert soils. These areas will be identified during pre-construction surveys and will not be reseeded. Where appropriate, other reclamation activities (e.g., restoring pre-construction contours) will be conducted.

4.1 Seedbed Preparation

As part of the reclamation process, the Companies will prepare the seedbed to facilitate the restoration of vegetation to pre-construction conditions. General measures are discussed below and habitat-specific seedbed measures will be provided in the final Reclamation Plan.

Soil amendments are intended to minimize soil erosion and subsequent sedimentation, conserve soil moisture, provide cover, and moderate temperatures to facilitate the germination of seeds.

REC – 23 The Companies will utilize soil amendments (e.g., fertilizer, wood or straw mulches, tackifying agents, or soil stabilizing emulsions) on a case-by-case basis and with landowner approval. Specific soil amendments would be identified in the final Reclamation Plan and be consistent with the SWPPP.

4.1.1 Seeding Methods

Unless otherwise directed, following seedbed preparation, seed will be applied using a broadcast spreader, drill, and/or hydroseeder. The method used will depend on site conditions and seed mix. Seeding will be done as soon after ground disturbing activities are complete and at the appropriate time of year; preferably in the fall or in the spring if fall is not an option. If there is a lag-time between the end of ground disturbing activities and seeding, BMPs from the SWPPP will be implemented. Measures regarding seeding methods are as follows:

REC – 24 Broadcast seeding will apply the seed directly on the ground surface. The type of broadcast spreader will depend on the size of the area to be seeded, and the terrain. Seed will be placed in direct contact with the soil, ideally at a depth of approximately 0.5 to 1-inch deep. It will then be covered by raking or dragging a chain or harrow over the seed bed; to remove air pockets.

REC – 25 Drill seeding would be used on areas of sufficient size with moderate or favorable terrain to accommodate mechanical equipment. Drill seeding provides the advantage of planting the seed at a uniform depth.

REC – 26 Hydroseeding, which is the spraying of seeds and water onto the ground surface, or hydroseeding/hydromulching, which is the spraying of seeds, mulch and water, may be implemented on steeper slopes. Tacifier may be added to facilitate adherence of hydromulch to slopes greater than 25%.

4.1.2 Seed Mixes

The choice of seed mixtures will be dependent upon the existing vegetation types, the availability of commercial, weed-free live seed at the time of seeding, and landowner approval. The final Reclamation Plan will identify proposed seed mixes based on specific vegetation communities (e.g., Wyoming sagebrush, grassland, etc.); this will include the species, cultivar (if applicable), percent seed mix, pure live seeds per acre, and application rate. Proposed mixes will not be applied prior to landowner/

The Companies will reseed some permanently disturbed areas as well. Roads that are created for this project and that are necessary for the long-term operation and maintenance of the transmission line are considered a permanent impact; however, the Companies will reseed these areas as an environmental protection measure. The intent of this reseeding differs from the long-term objective of establishing plant communities and habitat. Therefore, the final

Reclamation Plan will also include one or more seed mixes that will be used as a BMP for permanently disturbed areas.

5.0 POST-CONSTRUCTION MONITORING and REPORTING

The Companies will conduct annual post construction surveys for a three year period following the conclusion of ground disturbing activities. Surveys will be conducted as described in Section 2.5 and would assess the effectiveness of weed control and seeding measures. Species, relative density, and location will be surveyed and compared to pre-construction and previous years' data. This information will also be used to develop the weed control treatment plan for the following year.

5.1 Monitoring Activities

Successful re-vegetation will be determined by monitoring reclaimed areas and comparing them to pre-construction and adjacent existing conditions. Species and relative density will be assessed annually and will be compared to baseline data collected prior to the start of ground disturbing activities. Reclamation will be determined successful if the seeded areas have germinated and are demonstrating that they will, over time, achieve a distribution and diversity similar to pre-construction conditions. If, after a second growing season, problem areas have been identified (e.g., seed germination is lower than expected; prevalence of noxious weed species), the area will be treated and re-seeded. Treatment may include additional seedbed preparation, control of noxious weeds, use of soil amendments, and/or use of another appropriate seed mix. Monitoring of reclamation activities and remedial measures on private lands will be up to the landowner and agreements they negotiate with the Companies.

5.2 Reporting

The Companies will document pre-construction observations, construction reclamation activities, and post-construction monitoring on federally and state managed lands in an annual report. Monitoring on private lands will be as agreed with the landowner. Annual reports would be prepared for submittal to federal or state entities that administer public lands in the Project area. The reports will provide a summary of project reclamation activities and observations, and include recommendations for additional corrective actions, if necessary.

6.0 STORMWATER POLLUTION PREVENTION PLANS

SWPPPs will be completed for the project in accordance with federal and state construction stormwater requirements. The SWPPPs will include erosion and sediment control BMPs that are also relevant to reclamation. The SWPPPs will be prepared as standalone documents and are incorporated by reference to this document and the final Reclamation Plan.

7.0 PLAN UPDATES

Once the proposed route is selected and final engineering is completed a final Reclamation Plan will be prepared. The final Reclamation Plan will be updated prior to the start of construction on each of the proposed 10 segments. As the Companies better define the

construction order for segments and the segment-specific construction schedule, the final Reclamation Plan will be updated to include the schedule for baseline vegetation and weed surveys, results of previous baseline surveys, identification of any areas for pre-construction noxious weed treatment, and a more detailed reclamation schedule and plan.

8.0 LITERATURE CITED

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**ATTACHMENT A
INVASIVE AND NOXIOUS
PLANTS IN PROJECT AREA**

Attachment A. Invasive and Noxious Plant Species Potentially Present in the Gateway West Project Analysis Area

Common Name	Scientific Name	Invasive exotic species ¹	Listed as Noxious ²			Segments in Which Known or Likely to Occur ^{2,3}	
			State of Wyoming (Designated)	Wyoming Counties (Declared)	State of Idaho ⁴	Wyoming	Idaho
Species on Wyoming or Idaho Noxious Weed List							
Black henbane	<i>Hyoscyamus niger</i>	Yes	--	Albany, Converse, Lincoln, Natrona, Sweetwater	Control	All	All
Buffalobur	<i>Solanum rostratum</i>	Yes	--	Converse, Natrona	Control	All	8, 9
Canada thistle	<i>Cirsium arvense</i>	Yes	X		Containment	All	All
Common burdock	<i>Arctium minus</i>	Yes	X	--	--	1E, 1W, 2, 4	All
Common St. Johnswort	<i>Hypericum perforatum</i>	Yes	X	--	--	4	8
Common Tansy	<i>Tanacetum vulgare</i>	Yes	X	--	--	All	5, 7
Dalmatian toadflax	<i>Linaria dalmatica</i>	Yes	X	--	Containment	All	All
Diffuse knapweed	<i>Centaurea diffusa</i>	Yes	X	--	Containment	All	All
Dyer's woad	<i>Isatis tinctoria</i>	Yes	X	--	Control	All	All
Eurasian watermilfoil	<i>Myriophyllum spicatum</i>	Yes	--	--	Control	--	8
Field bindweed	<i>Convolvulus arvensis</i>	Yes	X	--	Containment	All	All
Hairy whitetop, Hoary cress	<i>Cardaria pubescens</i>	Yes	X	--	--	All	All
Houndstongue	<i>Cynoglossum officinale</i>	Yes	X	--	Containment	1E, 1W, 2, 4	4, 5, 7

Attachment A. Invasive and Noxious Plant Species Potentially Present in the Gateway West Project Analysis Area (continued)

Common Name	Scientific Name	Invasive exotic species ¹	Listed as Noxious ²			Segments in Which Known or Likely to Occur ^{2,3}	
			State of Wyoming (Designated)	Wyoming Counties (Declared)	State of Idaho ⁴	Wyoming	Idaho
Johnsongrass	<i>Sorghum halepense</i>	Yes	--	--	Control	--	5, 7, 8
Jointed goatgrass	<i>Aegilops cylindrica</i>	Yes	--	Converse	Containment	1E, 1W	All
Leafy spurge	<i>Euphorbia esula</i>	Yes	X	--	Containment	All	All
Matgrass	<i>Nardus stricta</i>	Yes	--	--	Control	--	5
Musk thistle	<i>Carduus nutans</i>	Yes	X	--	Control	All	All
Orange hawkweed	<i>Hieracium aurantiacum</i>	Yes	--	Converse	Control	--	5, 7, 8
Oxeye daisy	<i>Chrysanthemum leucanthemum</i>	Yes	X	--	Containment	1E, 1W, 2, 4	4, 7
Perennial pepperweed	<i>Lepidium lapathifolium</i>	Yes	X	--	Containment	All	All
Perennial sowthistle	<i>Sonchus arvensis</i>	Yes	X	--	Control	All	All
Meadow hawkweed, yellow hawkweed	<i>Hieracium pretense, H. caespitosum</i>	Yes	--	--	Control	--	7
Plumeless thistle	<i>Carduus acanthoides</i>	Yes	X	--	Control	1E, 1W	--
Poison hemlock	<i>Conium maculatum</i>	Yes	--	--	Containment	1E, 1W, 2, 3	All
Puncture vine	<i>Tribulus terrestris</i>	Yes	--	Natrona	Containment	1E, 1W, 2	All
Purple loosestrife	<i>Lythrum salicaria</i>	Yes	X	--	Containment	--	All
Quackgrass	<i>Agropyron repens</i>	Yes	X	--	--	All	All

Attachment A. Invasive and Noxious Plant Species Potentially Present in the Gateway West Project Analysis Area (continued)

Common Name	Scientific Name	Invasive exotic species ¹	Listed as Noxious ²			Segments in Which Known or Likely to Occur ^{2,3}	
			State of Wyoming (Designated)	Wyoming Counties (Declared)	State of Idaho ⁴	Wyoming	Idaho
Rush skeletonweed	<i>Chondrilla juncea</i>	Yes	--	Converse	Containment	--	5, 7, 8, 9, 10
Russian knapweed	<i>Acroptilon repens</i>	Yes	X	--	Control	All	All
Russian olive	<i>Elaeagnus angustifolia</i>	Yes	X	--	--	1E, 1W	All
Salt cedar, tamarisk	<i>Tamarix spp.</i>	Yes	X	--	Containment	All	All
Scotch broom	<i>Cytisus scoparius</i>	Yes	--	Converse	Control	--	5, 9
Scotch thistle	<i>Onopordum acanthium</i>	Yes	X	--	Containment	1E, 1W, 4	All
Skeletonleaf bursage	<i>Artemisia tomentosa</i>	Yes	X	--	Control	All	5, 7, 8, 10
Spotted knapweed	<i>Centaurea maculosa</i>	Yes	X	--	Containment	All	All
Silverleaf nightshade	<i>Solanum Elaeagnifolium</i>	Yes	--	--	Control	--	8, 10
Syrian beancaper	<i>Zygophyllum zabago</i>	Yes	--	Converse	EDRR	--	5
Tansy ragwort	<i>Senecio jacobaea</i>	Yes	--	Converse	Containment	--	5
Vipers bugloss	<i>Echium vulgare</i>	Yes	--	--	Control	--	8
Whitetop, hoary cress	<i>Cardaria draba</i>	Yes	X	--	Containment	1E, 1W, 2, 4	All
Yellow starthistle	<i>Centaurea solstitialis</i>	Yes	--	--	Containment	--	All
Yellow toadflax	<i>Linaria vulgaris</i>	Yes	X	--	Containment	1E, 1W, 2, 4	All

Attachment A. Invasive and Noxious Plant Species Potentially Present in the Gateway West Project Analysis Area (continued)

Common Name	Scientific Name	Invasive exotic species ¹	Listed as Noxious ²			Segments in Which Known or Likely to Occur ^{2,3}	
			State of Wyoming (Designated)	Wyoming Counties (Declared)	State of Idaho ⁴	Wyoming	Idaho
Other Species							
Absinth wormwood	<i>Artemisia absinthium</i>	Yes	--	Converse	--	1E, 1W	8
Baby's breath	<i>Gypsophila paniculata</i>	Yes	--	Converse	--	--	--
Bull thistle	<i>Cirsium vulgare</i>	Yes	--	Converse, Lincoln	--	All	All
Bur buttercup	<i>Ranunculus testiculatus</i>	Yes	--	Converse	--	All	All
Cheatgrass/downy brome	<i>Bromus tectorum</i>	Yes	--	Albany, Natrona	--	All	All
Chicory	<i>Cichorium intybus</i>	Yes	--	Converse	--	1E, 1W	All
Common cocklebur	<i>Xanthium strumarium</i>	Yes	--	Converse	--	All	All
Common crupina	<i>Crupina vulgaris</i>	Yes	--	Converse	--	--	--
Common mullein	<i>Verbascum thapsus</i>	Yes	--	Converse	--	All	All
Common sunflower	<i>Helianthus annuus</i>	Native	--	Converse	--	1E, 1W	--
Curlycup gumweed	<i>Grindelia squarrosa</i>	Native	--	Natrona	--	1W	--
Curly dock	<i>Rumex crispus</i>	Yes	--	Converse	--	All	All
Dames rocket	<i>Hesperis matronalis</i>	Yes	--	Converse	--	1E, 1W, 2, 4	4, 5, 7, 9
Foxtail barley	<i>Hordium jubatum</i>	Native	--	Sweetwater	--	3, 4	--
Geyer larkspur	<i>Delphinium geyeri</i>	Native	--	Albany, Carbon	--	1E, 1W, 2, 3	--

Attachment A. Invasive and Noxious Plant Species Potentially Present in the Gateway West Project Analysis Area (continued)

Common Name	Scientific Name	Invasive exotic species ¹	Listed as Noxious ²			Segments in Which Known or Likely to Occur ^{2,3}	
			State of Wyoming (Designated)	Wyoming Counties (Declared)	State of Idaho ⁴	Wyoming	Idaho
Goatsrue	<i>Galega officinalis</i>	Yes	--	Converse	--	--	--
Gorse	<i>Ulex europaeus</i>	Yes	--	Converse	--	--	--
Halogeton	<i>Halogeton glomeratus</i>	Yes	--	Carbon, Converse, Natrona,	--	All	5, 7, 8, 9
Iberian starthistle	<i>Centaurea iberica</i>	Yes	--	Converse	--	1E, 1W	--
Italian thistle	<i>Carduus pycnocephalus</i>	Yes	--	Converse	--	--	--
Japanese brome	<i>Bromus japonicus</i>	Yes	--	--	--	All	All
Lady's bedstraw	<i>Galium verum</i>	Yes	--	Converse	--	2, 3, 4	7
Locoweed	<i>Oxytropis spp.</i>	Native	--	Albany	--	1E	--
Meadow knapweed	<i>Centaurea nigrescens</i>	Yes	--	Converse	--	--	--
Medusahead	<i>Taeniatherum caput-medusae</i>	Yes	--	Converse	--	--	8
Mountain thermopsis	<i>Thermopsis montana</i>	Native	--	Sweetwater	--	3, 4	--
Musk mustard, blue mustard	<i>Chorispora tenella</i>	Yes	--	Converse	--	All	All
Plains pricklypear	<i>Opuntia polyacantha</i>	Native	--	Carbon	--	1E, 1W, 2, 3	--
Redstem filaree	<i>Erodium cicutarium</i>	Yes	--	--	--	1E	All
Russian thistle	<i>Salsola iberica</i>	Yes	--	--	--	All	All

Attachment A. Invasive and Noxious Plant Species Potentially Present in the Gateway West Project Analysis Area (continued)

Common Name	Scientific Name	Invasive exotic species ¹	Listed as Noxious ²			Segments in Which Known or Likely to Occur ^{2,3}	
			State of Wyoming (Designated)	Wyoming Counties (Declared)	State of Idaho ⁴	Wyoming	Idaho
Sandbur	<i>Cenchrus incertus</i>	Native	--	Converse	--	--	--
Scentless chamomile	<i>Tripleurospermum inodorum</i>	Yes	--	Converse	--	All	8, 9
Showy milkweed	<i>Asclepias speciosa</i>	Native	--	Converse	--	1E, 1W	--
Squarrose knapweed	<i>Centaurea virgata</i>	Yes	--	Converse	--	--	--
Sulfur cinquefoil	<i>Potentilla recta</i>	Yes	--	Converse	--	--	5, 7
Teasel	<i>Dipsacus fullonum</i>	Yes	--	Converse	--	--	All
Wild licorice	<i>Glycyrrhiza lepidota</i>	Native	--	Converse, Natrona	--	1E, 1W	--
Wild oats	<i>Avena fatua</i>	Yes	--	Lincoln	--	All	All
Wyeth's lupine	<i>Lupinus wyethii</i>	Native	--	Converse	--	1E, 1W	--

¹ Included in Invaders database (University of Montana-Missoula 2009).

² Source for status: ISDA 2008, Wyoming Weed and Pest 2008. "--" means not listed.

³ Distribution based on Invaders database (University of Montana-Missoula 2009), Plants database (NRCS 2009), and Idaho State Department of Agriculture (2008). Distribution of native species is only shown for Wyoming counties where listed as noxious.

⁴ Idaho listing categories are explained in text.

**ATTACHMENT B
SPECIES ABUNDANCE RATINGS**

ABUNDANCE RATINGS:

Rare:

Difficult to find; limited to one or very few individuals or colonies; < 1% of the total sample unit area; found in more than one place along the sample unit.

Locally Rare:

Difficult to find; limited to one or very few individuals or colonies; < 1% of the total sample unit area; found at only one site within the sample unit.

Occasional:

Widely scattered individuals or colonies, but not difficult to find; 1–5% of the total sample unit area; found in more than two sites within the sample unit.

Locally Occasional:

Scattered individuals or colonies, but not difficult to find; 1–5% of the total sample unit area; found in only one or two sites within the sample unit.

Frequent:

Easily found, but not dominant in any one place; 5–25% of the total sample unit area; a moderate number of occurrences over a good portion of the sample unit.

Locally Frequent:

Easily found, but not dominant in any one place; 5–25% of the total sample unit area; a moderate number of occurrences over a small portion of the sample unit.

Abundant:

Easily found; dominant or codominant in one or more areas; > 25% of the total sample unit; a high number of occurrences over most of the sample unit.

Locally Abundant:

Easily found; dominant or codominant in one or more areas; > 25% of the total sample unit; a high number of occurrences over a small portion of the sample unit.