Green River District Reclamation Guidelines

The Green River District Office Guidelines applies to all surface disturbing activities upon BLM administered surface lands. These activities include all actions authorized, conducted, or funded by the BLM, and that disturb the soil resources on the public lands. This policy is intended to be compatible with other BLM program objectives.

A reclamation plan shall be developed for all surface disturbing activities. The level of detail for the reclamation plan shall reflect: the complexity of the project, the environmental concerns generated during project review, and the reclamation potential for the site. These plans shall also incorporate any program or regulatory specific requirements for reclamation. The reclamation plan will address short term stabilization to facilitate long term reclamation. The reclamation plan is considered complete when all the reclamation requirements described below have been addressed, the techniques needed to meet the reclamation standards are described in detail, and the BLM concurs with the reclamation plan.

Compliance with the requirements of this document will be a Surface Use Condition of Approval (COA) and approved mitigation actions for all future BLM authorizations within the jurisdiction of the Green River District Office.

A. RECLAMATION GOAL

1. The long term goal for reclamation is to facilitate eventual ecosystem reconstruction by returning the land to a safe, stable, and proper functioning condition.

2. The short-term reclamation goal is to immediately stabilize disturbed areas and to provide the necessary conditions to achieve the long term goal.

B. RECLAMATION OBJECTIVES

1. Establish a desired self-perpetuating diverse plant community. The objective is to attain **75% basal cover** based on similar undisturbed adjacent native vegetative community, and comprised of desired species and/or seeded species within 5 years of initial reclamation action. Species diversity should approximate the surrounding undisturbed area. For areas that are in poor range condition due to past land management practices, then the species diversity should approximate the site as described in the NRCS Ecological Site description. However if after three (3) growing seasons there is less than **30%** of the basal cover based on similar undisturbed native vegetative community, then the Authorized Officer may require additional reclamation efforts.

2. Establish slope stability and desired topographic diversity.

3. Reconstruct and stabilize altered water courses and drainage features.

4. Ensure the biological, chemical, and physical integrity of the topsoil resource during all phases of construction, operation, and reclamation. BMP's designed to minimize and

prevent erosion, compaction, and contamination of the topsoil resource should be used to maintain the topsoil resource.

5. Re-establish the visual composition and characteristics to blend with the natural surroundings.

6. Control the occurrences of noxious weeds and undesirable invasive species by utilizing principles of integrated weed management including prevention, mechanical, chemical, and biological control methods.

7. Manage all waste materials.

8. Conduct monitoring that is able to assess the attainment or failure of reclamation actions.

C. RECLAMATION ACTIONS

The following Reclamation Actions are intended to facilitate the achievement of the Reclamation Objectives. These actions shall be adhered to during reclamation activities. Changes/alterations to the Reclamation Actions should be detailed in the submitted reclamation plan as to why the changes/alterations are necessary and approved by the Authorized Officer.

Objective 1. Establish a desired self-perpetuating plant community.

Action 1a. Use of non native plant species is allowed, however, selected non native species should be selected that will not displace or offer long-term competition to the native plants.

Action 1b. Drill Seeding is the preferred method of seed application unless site conditions preclude the use of drill seeding equipment. Drill seeds at the rate of 45 Pure Live Seeds (PLS) per linear foot. Seeds should be drilled to a depth of .25.to .50 inches. Some plant seeds should not be drilled and if incorporated the application method should fit the seed type requirements.

Action 1c. Areas in excess of 40% slope or are excessively rocky will be broadcast seeded at 80-90 PLS and covered to a maximum of .25 inches by harrowing, drag bar, or roller.

Action 1d. Seeding efforts must be conducted between August15 and prior to winter freezing of the soil.

Action 1e. All seed utilized will be tested prior to application to ensure BLM specifications for PLS, purity, noxious weeds, etc. have been met. Seed tags will be provided to the Authorized Officer prior to initiation of seeding activities.

Action 1f. As determined in cooperation with the Authorized Officer, fencing may be required to exclude livestock/big game grazing until seeded species have become established. Fencing would be constructed to BLM standards.

Action 1g. As determined in cooperation with the Authorized Officer mulching may be required. Mulch should be applied within 24 hours following completion of seeding. Mulching should consist of crimping certified weed-free straw or certified weed-free native grass hay into the soil. Hydro-mulching may be used in areas where crimping is impracticable, in areas of interim reclamation that were hydro-seeded, and in areas of temporary seeding regardless of seeding method.

Objective 2. Ensure slope stability and topographic diversity

Action 2a. Reconstruct the landscape to approximate the original contour and topographic diversity.

Action 2b. Identify necessary erosion controls designed to prevent sediment transport from the reclaimed areas.

Objective 3. Reconstruct and stabilize altered water courses and drainage features.

Action 3a. Reconstruct drainage basins to have similar features found in nearby properly functioning basins, including: basin relief ratios, valley gradients, sinuosity, and drainage densities for all reclaimed basins.

Action 3b. Reconstruct drainages to have similar hydraulic characteristics found in properly functioning drainages, including: flow depth, water surface top width, cross-section area of flow, water surface slope, mean channel velocity, desired vegetation, and channel roughness.

Objective 4. Ensure the biological, chemical, and physical integrity of the topsoil resource during all phases of construction, operation, and reclamation. BMP's designed to minimize and prevent erosion, compaction, and contamination of the topsoil resource should be used to maintain the topsoil resource.

Action 4a. Segregate topsoil from subsoil without mixing them, based on site specific conditions.

Action 4b. Where possible, integrate stored topsoil into existing production landscape.

Action 4c. Stabilize all stored topsoil from erosion, and seed topsoil stored beyond one growing season with an approved seed mixture.

Action 4d. Identify topsoil storage with appropriate signage, to prevent improper use of the stored topsoil.

Action 4e. Redistribute the topsoil to pre-disturbance depth.

Action 4f. Reduce soil/subsoil compaction to the anticipated root depth of the desired plant species. Compaction relief typically should be designed for 18-24 inches in depth. Compaction relief should be designed to create a cross hatch pattern, and distance between furrows should not be greater than 2 feet.

Action 4g. If the topsoil to be re spread is greater than 6" in depth, then topsoil should be applied and then compaction relief implemented. If the topsoil to be re spread is less than 6" , then compaction relief should be implemented prior to top soil application. Avoid leaving large clumps/clods, if this exists, discing may be necessary.

Objective 5. Re-establish the visual composition and characteristics to blend with the natural surroundings.

Action 5a. Ensure the overall location, landform, scale, shape, color, and orientation of major landscape features blends into the adjacent area and meets the needs of the planned post disturbance land use.

Objective 6. Control the occurrences of noxious weeds and undesirable invasive species by utilizing principles of integrated weed management including prevention, mechanical, chemical, and biological control methods.

Action 6a. Inventory and document noxious and invasive plant infestations before reclamation actions begin.

A pre disturbance noxious weed inventory shall be conducted on all surface disturbing projects to determine the presence of noxious weeds prior to beginning the project, and to determine whether treatment is needed prior to disturbance. If noxious weeds are found a report including:

1) A GPS location recorded in North American Datum 1983
2) Species
3) Canopy cover or number of plants
4) Size of infestation (estimate of square feet or acres)

Information shall be provided to the BLM Weed Coordinator prior to the disturbance occurring, and also documented in the annual reclamation report.

Action 6b. Control and manage Invasive and Noxious weed infestations using principles of integrated weed management including chemical, mechanical, and biological control methods. An approved Pesticide Use Proposal PUP) is required for all planned herbicide applications. Herbicides must be applied by a certified applicator with a current Utah Pesticide Applicators License. A Biological Use Proposal is required for new biocontrol agents in the Field Office area.

Objective 7. **Manage all waste materials.**

Action 7a. Segregate all waste materials from the subsoil and topsoil.

Action 7b. All waste materials transported and disposed of off-site, must be placed in an authorized disposal facility in accordance with all local, State and Federal requirements.

Objective 8. Conduct monitoring that is able to assess the attainment or failure of reclamation actions.

Action 8a. Monitoring methodology should be an approved BLM method designed to monitor basal vegetative cover. Monitoring criteria:

1) Qualitative monitoring data should be collected after the 2nd growing season following reclamation actions. Quantitative data should be collected after the 3rd and 5th growing seasons, and the year that the applicant determines that reclamation meets the long term objective of 75% basal cover as compared to the reference site.

2) Crested wheatgrass species and forage kochia should not account for more than 30% of the total measured basal cover.

3) All ROW's will a monitoring transect per each NRCS ecological site that the ROW passes through that is greater than 0.75 miles.

4) General view photographs of the reclaimed areas should be submitted with the quantitative data. Photographs should be taken at the same photo point each time, and as close to the same time of year as previous photos were taken to reduce differences in plant growth characteristics.

Action 8b. In cooperation with the Authorized Officer, an undisturbed reference site should be selected prior to monitoring. One reference site may be used for multiple reclamation sites as long the site potentials are similar. Reference site criteria:

1) Reference sites shall be permanently marked, and the location recorded by Global Positioning System (GPS) North American Datum 1983.

2) For ROW's a reference site shall be established in each unique NRCS Ecological Site that the ROW passes through.

3) A photograph consisting of a general view of the marked reference site should be submitted with the Reference site data.

Action 8c. Evaluate monitoring data for compliance with the reclamation plan objectives

Action 8d. Document and report monitoring data and recommend revised reclamation strategies, if necessary. Each applicant will submit an annual reclamation report to the Authorized Officer by March 1st. The report will document compliance with all aspects of the reclamation objectives and standards.

Action 8e. Implement revised reclamation strategies as needed.

Action 8f. Repeat the process of monitoring, evaluating, documenting/reporting, and implementing, until reclamation goals are achieved, as determined by the Authorized Officer.

GLOSSARY

Surface Disturbing Activities – An action that alters the mineral soil resource, and/or surface geologic features, beyond natural site conditions and on a scale that affects other Public Land values. Examples of surface disturbing activities may include: operation of heavy equipment to construct well pads, roads, pits and reservoirs; installation of pipelines and power lines; and the conduct of several types of vegetation treatments. Surface disturbing activities may be either authorized or prohibited.

Federal Action - Approval of specific projects, such as construction or management activities located in a defined geographic area. Projects include actions approved by permit or other regulatory decision as well as federal and federally assisted activities.
National Environmental Policy Act (NEPA) [42 U.S.C. 4321 et seq.]

Interim Reclamation Interim reclamation consists of minimizing the footprint of disturbance by reclaiming all portions of the well site not needed for safe production operations. The portions of the well site not needed for operational and safety purposes will be recontoured to a final appearance that blends with the surrounding topography. Topsoil will be spread over these areas. The operator will spread the topsoil over the entire location except where an all-weather surface, access route or turnaround is needed. Production facilities should be clustered or placed offsite to maximize the opportunity for interim reclamation. Any incidental use on interim reclamation may require restoration of damage. This may require recontouring and seeding of the damaged area.

Invasive Species **-** A species that is not native (or is alien) to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health.
Executive Order 13112

Reclamation Plan – A written document that addresses the reconstruction of disturbed ecosystems by returning the land to a condition approximate or equal to that which existed prior to disturbance, or to a stable and productive condition compatible with the land use plan.

Waste materials – Any material that can interfere with successful reclamation, safety, and long term stability of a site (contaminated soil or water, drilling muds, solid waste).
Adapted from various sources

Contamination - The presence of man-made chemicals or other alterations in the natural soil or water environment (pesticides, hazardous substances, petroleum, salts).
Adapted from various sources