Attachment D

Federal and State Permitting Agency Coordination

Background:

The DDCT process and review of project compliance with Executive Order 2011-5 (SGEO) will be coordinated through the DDCT web application (ddct.wygisc.org).

The proponent should provide the most complete and comprehensive description of a project as possible. Splitting a project into smaller components can cause delay in review and could risk denial of a permit necessary for the entire project. It is recommended that proponents thoughtfully consider and include for review potential future development(s) and/or infrastructure associated with or that may be needed to support the current proposed project.

If the proponent has a concern that a project will not comply with the SGEO, the proponent should contact the WGFD and appropriate land management and/or permitting agencies as soon as possible. Noncompliance with the SGEO is not an automatic permit denial and all projects will be reviewed and potential impacts to local sage-grouse populations and habitat will be assessed. Advanced planning with the permitting agencies and WGFD is the recommended way to resolve issues.

If the proponent submits a DDCT that is not in compliance, the agencies involved will need to discuss all options and potential impacts to local sage-grouse populations and habitat. Initiating these discussions in advance of the final DDCT submittal may yield timelier review/decision results.

1. If, on federal surface/mineral, the proponent works with the appropriate federal land management agency on the DDCT process and disturbance delineations, then:
   • The federal agency submits the DDCT (and worksheet) for technical review to the DDCT Data Steward. The DDCT Data Steward will work with the federal agency in completing the technical review process (Note: the federal agency may use a contractor to make the corrections). When completed, the federal agency also submits the DDCT worksheet to the DDCT Data Steward.
   • Once technical review is completed, The DDCT Data Steward submits the DDCT final results and DDCT worksheet to WGFD HPP for policy review.
   • HPP coordinates with state agencies and the federal agency if there are issues with SGEO exceedances or compliance.
   • HPP sends a letter regarding SGEO compliance and recommendations to the federal agency and cc's the proponent and permitting agencies that may also be involved in the project.
   • If agencies have questions about the recommendations, they should contact HPP.

2. If federal surface or mineral is not involved, the project proponent (Note: could be a consultant) completes the DDCT process, then:
   • Submits the DDCT to the DDCT Data Steward for technical review. The DDCT Data Steward will work with the proponent to complete the technical review process. When completed, the proponent submits the DDCT worksheet to the DDCT Data Steward.
   • The DDCT Data Steward submits the DDCT final results and DDCT worksheet to WGFD HPP for policy review.
   • HPP coordinates with state agencies if there are issues with SGEO exceedances or compliance.
• HPP sends a letter regarding SGEO compliance and recommendations to the proponent and cc's permitting agencies.
• If agencies have questions about the recommendations, they should contact HPP.

Letters from WGFD:

Letters from WGFD will determine whether or not the project complies with the process and stipulations outlined in the SGEO and may provide recommendations on whether the permit should be issued and/or recommendations on how impacts to the bird may be minimized. The State agencies will be the point of contact for conducting a DDCT for locatables. These recommendations may or may not be accepted by the permitting agency and incorporated in the conditions of the permit. If there are changes to the project, the proponent should complete the DDCT review process again.

The permitting agency should document whether or not these recommendations have been accepted and if not, why they have not been accepted or cannot be implemented (EX: not within the agency’s regulatory authority, but the permitting agency passed along WGFD recommendations to the proponent for voluntary compliance; or it was not physically or legally possible to make the recommended changes).
Attachment E
Vegetation Monitoring for Suitability Criteria of Reclaimed Areas

**Goal:** Measurements that should be taken when there is uncertainty concerning the status of reclaimed areas contributing to suitable habitat.

If sagebrush canopy cover is 5+%, as measured by the method described in the Habitat Assessment Framework (HAF), it is considered suitable.

The Greater Sage-Grouse Executive Order (SGEO) requires the below standards + sagebrush for all reclamation (where appropriate as described). When sagebrush canopy cover is less than 5%, but within 60 meters of greater than 5% sagebrush canopy cover measure to determine compliance with the following conditions:

**Measure for 2 (or more) desirable native grasses at least one of which is a bunchgrass in appropriate sites.** The species present in the reclaimed area should be reflected in an appropriate reference site, described in the ecological site description (ESD) for the reclaimed site(s), or be representative of pre-disturbance species data. A reference site will be agreed upon and determined by the land management agency or owner, WGFD and the proponent. It is recognized that reference sites could be numerous for linear features.

The frequency of occurrence of grass is expected to meet or exceed 70% of the frequency of grass as measured on the reference site, or as described in the ESD for the reclaimed sites(s), or as represented in the pre-disturbance species data.

- Grass **canopy cover** measurement is expected to meet or exceed 70% of the grass canopy cover as measured on the reference site, or as described in the ESD for the reclaimed sites(s), or as represented in the pre-disturbance species data.

**Likewise, measure for 2 desirable native forbs.**

- The **frequency** of occurrence of forbs is expected to meet or exceed 70% of the frequency of forbs as measured on the reference site, or as described in the ESD for the reclaimed sites(s), or as represented in the pre-disturbance species data.

- Forbs **canopy cover** is expected to meet or exceed 70% of the forb canopy cover as measured on the reference site, or as described in the ESD for the reclaimed sites(s), or as represented in the pre-disturbance species data.

**Methodology**

**Sampling timing** for grasses, forbs, and shrubs is typically not later than July 1.

**Canopy cover for grasses/forbs:** Line Point Intercept (see HAF). **Frequency for grasses/forbs:** Plot (rectangles, squares or circles) frequency computed as number of quadrats with the species of interest rooted within it divided by the total number of quadrats that are sampled. This value will be multiplied by 100 to yield frequency as a percentage. It is recommended that a minimum of 5 to 10, 30-50-m transects be conducted with a minimum of 10 to 20 quadrats (e.g. Daubenmire frame or quadrat appropriate to the site) placed equidistantly along each transect.

**Canopy cover for sagebrush:** Line Intercept (see HAF).
Sample size: The HAF provides sample size recommendations. Final estimates must include a 90% confidence interval computed around the mean values estimated from vegetation sampling.

Decision-based Flowchart for Vegetation Sampling Methods and Suitability Determination (Source: TRC 2015)
Suitable Greater Sage-Grouse Habitat Definition

Greater Sage-Grouse (sage-grouse) require somewhat different seasonal habitats distributed over large areas to complete their life cycle. All of these habitats consist of, are associated with, or are immediately adjacent to, sagebrush. If sage-grouse seasonal habitat use maps do not exist for the project site the following description of suitable habitat should be used to determine areas of unsuitable sage grouse habitat for development siting purposes. An abbreviated description of a complex system cannot incorporate all aspects of, or exceptions to, what habitats a local sage-grouse population may or may not utilize. Refer to the Bureau of Land Management’s Sage-Grouse Habitat Assessment Framework for further information.

“Suitable” sage-grouse habitat (nesting, breeding, brood-rearing, or winter) is within the mapped occupied range of greater sage-grouse, and:

1) has 5% or greater sagebrush canopy cover (for nesting, brood-rearing and/or winter) as measured by the point intercept method. "Sagebrush" includes all species and sub-species of the genus Artemisia except the mat-forming sub-shrub species: frigida (fringed) and pedatifida (birdfoot); or

2) is riparian, wet meadow (native or introduced) or areas of alfalfa or other suitable forbs (brood rearing habitat) within 275 meters of sagebrush habitat with 5% or greater sagebrush canopy cover (for roosting/loafing); or

3) is reclaimed habitat containing at least 2 native grasses (at least one bunchgrass in appropriate sites) and 2 native forbs (see “reclamation” in Attachment B) and no point within the grass/forb habitat is more than 60 meters from adjacent 5% or greater sagebrush cover; or

“Transitional” sage-grouse habitat which is land that has been treated or burned prior to 2011 resulting in less than 5% sagebrush cover but is actively managed to meet a minimum of 5% sagebrush canopy cover with associated grasses and forbs by 2021 (as determined by analysis of local condition and trend) and may or may not be considered “disturbed”. Land that doesn’t meet the above vegetation criteria by 2021 should be considered disturbed.

Habitat treatments conducted after 2010 must meet the current Wyoming Game And Fish Department Protocols For Treating Sagebrush To Be Consistent With Wyoming Executive Order 2011-5; Greater Sage-Grouse Core Population Area Protection or the habitat treated will be considered disturbed. Following wildfire, lands shall be considered “disturbed” pending an implemented management plan with trend data showing the area returning to functional sage grouse habitat.

- Following wildfire (post 2011), lands that have been burned shall be treated as disturbed pending an implementation management plan with trend data showing the area returning to functional sage grouse habitat”. This is specific only to wildfire. This direction is not intended for other incentive/mitigation/habitat treatment situations.

Questions included:

- What is considered good ‘trend’ data?
- Who decides whether the ‘trend data’ is trending upward?
- What is a ‘good’ plan?
• Who decides when the plan is ‘good’?

Response:

• The goal is to incentivize restoration of wildfire burns to return as much of the affected burned area back to suitable habitat as quickly as possible. This is a landscape effort and is not considered mitigation banking. This process should be used when wildfire is impacting the disturbance percentages.

• A Technical Team comprised of BLM, USFS, WGFD, NRCS, LWG, Division of Forestry, WDA (Weed and Pest), Conservation Districts, OSLI, private landowners would develop the plan and trending data. It would be the responsibility of the project proponent to conduct the monitoring. An upward trend would be determined through

“Unsuitable” sage-grouse habitat¹ is land within the historic range of sage-grouse that did not, does not, nor will not provide sage-grouse habitat due to natural ecological conditions such as badlands, canyons or forests. See “Specific Stipulation” number 4 in Attachment B for conditions under which less restrictive stipulations may be applied to unsuitable habitats.

“Disturbed” suitable sage-grouse habitat¹ is land that has been converted from formerly suitable habitat to grasslands, croplands, mined or otherwise physically disturbed areas. To evaluate the 5% disturbance cap per average 640 acres using the Disturbance/Density Calculation Tool (DDCT), suitable habitat is considered disturbed when it is removed and unavailable for immediate sage-grouse use. These areas may provide habitat at some time in the future through succession or restoration. Disturbed suitable habitats could also include those permanent disturbances such as major reservoirs and cities that once were considered suitable.

The following items are guidelines for determining disturbed habitat for the DDCT process:

a. Long-term removal occurs when habitat is physically removed through activities that replace suitable habitat with long term occupancy of unsuitable habitat such as a road, well pad or active mine.

b. Short-term removal occurs when vegetation is removed in small areas, but restored to suitable habitat within a few years of disturbance, such as a successfully reclaimed pipeline, or successfully reclaimed drill hole or pit.

c. There may be additional suitable habitat considered disturbed between two or more long term (greater than 1 year) anthropogenic disturbance activities if the activities are located such that sage grouse use of the suitable habitat between these activities is significantly reduced due to the close proximity (less than 1.2 miles apart, 0.6 mile from each activity) and resulting cumulative effects of these large scale activities. Exceptions may be provided.

d. Land in northeast Wyoming (Figure 1 of Attachment B) that has had sagebrush removed post-1994 (based on Orthophoto interpretation), and not recovered to suitable habitat will be considered disturbed when using the DDCT.

¹ The BLM Habitat Assessment Framework (HAF) definition of “unsuitable” includes both “disturbed” and “unsuitable” habitats as defined above.
Attachment G

Wyoming Greater Sage-Grouse Adaptive Management Plan TBD
Attachment H

BMPs LWG and Soil

Best Management Practices for Soils on Resource Extraction Sites

1. Get to know the nature of the soil(s) on the site where you are working. Good basic information can be obtained from the NRCS Soil Survey and more detailed information can easily be gathered by digging a few soil pits and testing some soil properties on the site (pH, Electrical Conductivity, Texture, Calcium Carbonate content and gravel content).

2. Topsoil should be removed from the site before resource extraction activities and stored in suitable stockpiles to protect this valuable resource from loss or contamination during resource extraction. Topsoil is important to timely site reclamation. Topsoil should be salvaged while at a low moisture content. Avoid mixing A horizons with B horizons if the B horizons are salty and or clayey.

3. Topsoil stockpiles should be located in an area where it will not be disturbed by resource extraction activities or contaminated by foreign or spilled materials. Movement of stockpiles should be kept to a minimum. Stockpiles should be designed to minimized exposure to erosional forces and bury as little undisturbed soil as possible.

4. Upon completion of resource extraction activities or interim reclamation, topsoil should be respread on the disturbed site to approximate original conditions. Vegetation should be reestablished on the replaced soil as quickly as possible to stabilize the site and prevent erosion. Regular monitoring should be conducted to be sure the revegetation and stabilization of the site proceeds according to expectations and no site degradation occurs.

5. The use of commercial fertilizers is generally not recommended for native rangeland reestablishment due to the possibility of increased annual weeds. Soil testing should be completed prior to reestablishment of native plants on highly disturbed soils and, if necessary, the appropriate amendments should be used.

6. It is important to not over-estimate the amount of vegetation removal (habitat loss) in a given year.

7. In order to minimize impacts to soil resources an alternative to large-scale advanced removal of soil is to skim the surface of the soil with a motor patrol between July 1 and March 14. This may be useful or applicable where operational plans are uncertain or where there is a desire to “livespread” soils at some point in the period of March 14 – July 1.
   - Leave as much root intact as possible.
   - Leave vegetative biomass in windrows to reduce wind and water erosion.

8. If unexpected changes in operational plans require vegetation removal between March 14 and July 1, a nest survey shall be completed by a competent biologist within 1 week prior to any vegetation removal in suitable habitat. Results shall be submitted to the appropriate regulatory
agency with a copy to WYGF. If a nest is discovered, operations will not be allowed to proceed
until after July 1 or otherwise approved by WYGF.

Peter Stahl and Jay Norton, Wyoming Reclamation and Restoration Center, University of
Wyoming
Compensatory Mitigation Criteria

Ensure clear criteria for selecting appropriate compensatory mitigation projects. For a full description of avoid, minimize, compensate, please see Attachment A

When developing criteria that will be used to score proposed offset and debit actions, there should be a biologically-based, system that assigns credits and debits based on the measurable effect of the action on habitat and species conservation while considering:

- Likelihood of the action’s success in achieving the conservation objective and removing or diminishing threats to greater sage-grouse by ensuring that habitat quality can be maintained onsite at a landscape level or through a combination of actions offsite and onsite.

- Standards for translating project impacts into mitigation obligations, such as ratios to address time lags between project impacts and offset benefits, and approaches for addressing potential offset project failures (e.g., bonds).

- The timing and duration of offset project implementation. The duration of the offset project should equal or exceed that of the debit project. In the case of sage grouse, long-term habitat protection is critical to conservation success, thus perpetual conservation should be given priority and we would anticipate the market to value credits generated from permanent actions at a premium.

- Additionally, standards for awarding credits for term or temporary measures should be developed to not undercut the market for permanent conservation approaches (banks, easements, etc.). For example, credits for term or temporary measures should not be used to offset permanent/long-term impacts.

- The proposed mitigation investment is additional to existing or required conservation actions or mandates to ensure a net benefit to the species.

- The size of the compensatory mitigation project should be large enough to either maintain populations of grouse with all seasonal habitat requirements met on site, or demonstrate that seasonal habitat requirements of the population not met onsite are protected offsite. To achieve this goal, landscape or regional-scale mitigation projects, which allow pooling of credits from different impact projects, may be preferable to single or otherwise disconnected mitigation efforts. Regional collections of individual mitigation projects that achieve connection equivalent to single, regional-scale projects may also qualify for this preference over single, disconnected efforts.

- Location of offsets is carefully chosen, with preference given to sites closer to (i.e. within the DDCT project area or core area) and benefiting sage grouse populations impacted.
The relative impact of proposed activities is properly accounted for in the debit system. The size of the predicted impact to a sage grouse population should be an important factor in determining a debit and more compensation should, for example, be required for impacts to sites that are in core areas or within critical habitats, including intact high-quality habitat, or are in an important position in the landscape. Calculation of the project’s impact should include both direct impacts (e.g., the project footprint or amount of habitat removed/affected) and indirect impacts. The latter should be calculated using appropriate buffer distances based on the best available science about how the specific impact causes species’ avoidance of habitat surrounding the impact.

Ensure sufficient financial resources are in place for monitoring and habitat management for the life of the mitigation project. For perpetual or very long-term projects, this implies the necessity to establish a permanent funding mechanism to provide these resources. Funding for such a funding mechanism should be reflected in the pricing of mitigation credits.

Ensure consistency of standards across diverse mechanisms: Consistency in administrative standards for programs and tools designed to support the conservation of sage grouse is critical in ensuring that credits and debits are comparable between programs and projects designed to generate credits, as well as between methods to calculate project impacts. For example, in a compensatory mitigation program, credits from mitigation projects and debits from impact projects should be calculated using the same or comparable methodologies and should be appropriately tracked. Possible mechanisms for delivering compensatory mitigation include:

**Permittee-responsible Mitigation:** the project developer is obligated to perform and verify completion of mitigation projects

**Third Party:**

- **In-Lieu Fee Program:** the project developer pays a fee to compensate for the impact to a third party administrator. This mechanism allows strategic flexibility to direct where, when and what projects are developed across a landscape to meet conservation goals.
- **Mitigation Banking:** the project developer purchases credits from a habitat “bank”, which is an identified property that produces conservation credits.
- **Habitat Credit Trading:** the project developer purchases credits through an exchange; credit sellers provide habitat improvements which may be on multiple properties across the landscape.