

Table 2-2. Applicant-committed Environmental Protection Measures (ACEPMs)

Resource	Protection Measure
Cultural Resources	<p>To prevent direct impacts to cultural resources, Meadow Bay will conduct inventories of cultural resources in areas of potential impact using qualified archaeologists, in consultation with the BLM. Discoveries of previously unidentified cultural sites will be evaluated for significance, or eligibility to the NRHP. Meadow Bay will ensure avoidance of all eligible or unevaluated cultural sites within the project area, with a buffer zone of at least 50 m from the nearest surface impacts. When areas of disturbance are located within 100 m of eligible or unevaluated sites, exploration activities will be monitored by a qualified archaeologist to ensure non-disturbance of cultural resources. As directed by the BLM, all surface disturbance, as shown in Figure 2-1, would avoid all eligible cultural resource. If any eligible or unevaluated cultural site is located within the area of proposed surface disturbance, the identified cultural site(s) would be avoided.</p>
	<p>Meadow Bay would ensure that all activities within 100 meters of a cultural discovery are halted and the discovery is appropriately protected, until the BLM Authorized Officer (AO) issues a Notice to Proceed. A Notice to Proceed may be issued by the BLM under any of the following conditions:</p> <ul style="list-style-type: none"> • Evaluation of potentially eligible resource(s) results in a determination that the resource(s) are not eligible; • The fieldwork phase of the mitigation and treatment has been completed; and • The BLM has accepted a summary description of the fieldwork performed and a reporting schedule for that work.
	<p>Archaeological monitors may be required in special cases as determined by BLM to avoid cultural resources in proximity to where exploratory activities would be carried out. The BLM archaeologist would be informed prior to exploratory activities in proximity to these cultural resources that require monitoring.</p>
	<p>Meadow Bay will inform all persons associated with the project that knowingly disturbing cultural resources (historic or archaeological) or collecting artifacts is illegal.</p>
Paleontological Resources	<p>In the event that paleontological resources of potential scientific interest are encountered (including all vertebrate fossils and deposits of petrified wood) during exploration or reclamation activities, the activities would be stopped within 100 feet of the discovery, and the BLM would be notified. Activity that might impact the identified paleontological find would be suspended until after the discovery has been evaluated, any necessary mitigation measures completed, and the BLM AO has issued a written Notice to Proceed.</p>
Solid and Hazardous Waste	<p>Project-related trash, garbage, debris, and foreign matter would be hauled from the site on a regular basis for disposal at an offsite authorized facility; no refuse would be disposed of onsite. Site would be maintained and left in a clean and safe condition. Burning would not be allowed in the project area.</p>
	<p>Employees would be instructed regarding the types and locations of onsite petroleum products, as well as the health effects, hazards (such as fire and explosion), and environmental impacts associated with the products. In accordance with 29 CFR 1910.1200, a material safety data sheet (MSDS) for every chemical or hazardous material brought onsite would be kept on file at the primary office.</p>
	<p>Fuel would be transferred from the 5,500-gallon aboveground tank (located at the crew quarters) to and from pickup truck tanks by electric transfer pumps. A portable generator would be used at the 5,500-gallon tank location. Pickup trucks would be equipped with pumps that operate off the vehicle's electric supply. Sorbent materials shall be immediately available to control fuel spills up to 50 gallons. The fuel delivery transport operator would be certified and is the individual responsible for loading the fuel tank. Clean-up supplies would be stored on-site in conex containers.</p>
	<p>Meadow Bay would store petroleum products such as gasoline, diesel fuel, and lubricants or any other hazardous materials in approved containers to prevent mixing, drainage, or accidents. Meadow Bay would adequately fence, post, or cover hazardous material storage areas.</p>
	<p>Meadow Bay would not drain oil or lubricants onto the ground surface.</p>
	<p>In the event hazardous or regulated materials, such as diesel fuel, are spilled, Meadow Bay would take immediate measures to control the spill. Meadow Bay would immediately clean up any spills under 25 gallons immediately and would clean up any spills over 25 gallons within 24 hours and report the incident to the BLM AO and Nevada Division of Environmental Protection. After clean up, the oil, toxic fluids, or chemicals and any contaminated material would be removed from the site and disposed of at an approved disposal facility.</p>
<p>Meadow Bay would work with the BLM AO on the containment of drilling fluids and drill hole cuttings.</p>	

Table 2-2. ACEPMs (Continued)

	All construction, operation, and maintenance activities would comply with all applicable Federal, State, and local laws and regulations regarding the use of hazardous substances and the protection of air and water quality.
Air Quality	Meadow Bay would use surface application of water from a water truck before and during surface clearing, and excavation activities to reduce fugitive dust emissions, when necessary. Meadow Bay would use surface application of water and reduced speed limits on dirt access roads or other unpaved, unvegetated surfaces as needed (for example, during high-wind conditions) to reduce fugitive dust emissions. Dragging or grading may be utilized to reduce road wear and dust generation on drill access routes.
	Drill rigs would be equipped with a cyclone to collect/sample dust to the greatest extent practicable. Drilling would be conducted using water as a dust control measure. No dry or air drilling would be conducted during exploration.
	All internal combustion equipment would be kept in good working order.
	Meadow Bay would cover construction materials and stockpiled soils if they are a source of fugitive dust.
Erosion and Sediment Control (Soil and Water Resources)	Meadow Bay would plug all drill holes per Nevada State statute (NDWR <i>Regulations for Water Well and Related Drilling</i>), as waived. If artesian flow is encountered, the drill hole would be plugged immediately. The location, depth, and relative flow rate of any water intercepted would be reported to the BLM AO. Drill cuttings would be returned to the hole if possible, or at a minimum, raked and spread out so as not to impede regrowth of vegetation or to create erosion problems.
	Meadow Bay would use specialized low-surface impact equipment (e.g., balloon tired vehicles) as determined by the BLM AO for activities in off-road areas where it is deemed necessary to protect fragile soils and other resource values.
	During periods of adverse soil moisture conditions caused by climatic factors such as thawing, heavy rains, snow, flooding, or drought, Meadow Bay would suspend activities on existing roads that could create excessive surface rutting. When adverse conditions exist, Meadow Bay would contact the BLM AO for an evaluation and decision based on soil types, soil moisture, slope, vegetation, and cover.
	Meadow Bay would use BMPs for water management measures. These measures would include contour furrowing; terracing; reduction of steep cut and fill slopes; installing water bars in appropriate locations to control runoff and erosion; using sumps to manage drilling fluids; installing silt fences, weed-free hay bales, or other sediment control structures at appropriate locations; having suitable spill control and cleanup equipment and supplies readily available; and implementing concurrent reclamation measures. When drainages must be crossed with a road, BMPs would be followed to minimize the surface disturbance and erosion potential. Temporary culverts could also be installed within the drilling area and as necessary on the access road. Maintenance of the exploration roads would include seasonal regrading when necessary. Meadow Bay would inspect erosion controls in the spring and fall and after exceptional storm events.
	Meadow Bay's restoration requirements include reshaping, recontouring, and/or resurfacing with growth medium, installation of water bars, and seeding on the contour. Removal of structures such as culverts, concrete pads, cattle guards, and signs would usually be required. Additional erosion control measures (e.g., fiber matting and barriers) to discourage road travel may be required as required by BLM.
	Meadow Bay would employ additional protective measures, such as restrictions on surface entry during periods of excessive runoff, avoidance of selected areas, and special reclamation techniques, on lands containing unstable/highly erodible soils, as determined by the BLM AO.
	Soil stockpiles and road berms, if scheduled to be left in place over the growing season, would be seeded with a BLM-approved site-specific interim seed mix to reduce erosion, preserve the biological flora and fauna, and prevent the establishment of noxious weeds and other undesirable plant species.
	To provide for effective rehabilitation of the disturbed area, all available growth media, as practical, would be removed and stockpiled. Any trees removed would be separated from soils and stockpiled separately. Meadow Bay would cover stockpiled soils if needed to minimize wind and water erosion of these stockpiles.
Vegetation Resources	Meadow Bay would keep removal and disturbance of vegetation to a minimum through construction site management (e.g., using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.).
	Meadow Bay would reclaim the disturbed area concurrently or at the earliest feasible time by recontouring to conform to pre-existing topography (including filling of sumps), to the extent possible, followed by redistribution of stockpiled growth media over the reclaimed area. Compacted areas would be ripped to a depth of 12 inches unless in solid rock. Ripped areas may need further work to break up large clods and produce a fine-grained seed bed. Where seeding is required, Meadow Bay would use appropriate seed mixture and seeding techniques approved by the BLM AO. Meadow Bay would generally conduct reclamation with native seeds that are

Table 2-2. ACEPMs (Continued)

	<p>representative of the indigenous species present in the adjacent habitat, unless documenting rationale for potential seeding with selected non-native species. Possible exceptions would include use of non-native species for a temporary cover crop to out-compete weeds. In all cases, seed mixes would be approved by the BLM AO prior to planting. Meadow Bay would generally seed during the 3rd and 4th quarter of the year.</p> <p>Areas would be considered to be satisfactorily reclaimed when all disturbed areas have been recontoured to blend with the natural topography, erosion has been stabilized, and an acceptable vegetative cover has been established. Meadow Bay would use the Nevada Guidelines for Successful Revegetation prepared by the Nevada Division of Environmental Protection, the BLM, and the U.S. Department of Agriculture Forest Service (or most current revision or replacement of this document) to determine if revegetation is successful.</p> <p>Reclamation bond release criteria would consist of the following:</p> <p>The perennial plant cover of the reclaimed area would equal or exceed perennial cover of selected comparison areas (normally adjacent habitat). If the adjacent habitat is severely disturbed, an ecological site description may be used as a cover standard. Cover is normally canopy or foliar cover as estimated by the point intercept method. Selected cover can be determined using a method as described in Sampling Vegetation Attributes, Interagency Technical Reference, 1996, BLM/RS/ST- 96/002+1730. The Reclamation Plan for the project area would identify the site-specific release criteria and associated statistical methods in the Reclamation Plan or permit.</p> <ul style="list-style-type: none"> ○ Meadow Bay would re-spread weed-free vegetation removed from the right-of-way to provide protection, nutrient recycling, and seed source.
Wildlife – general	<p>Project-related traffic would observe prudent speed limits (10 miles per hour [mph] for access routes to drill sites and 25 mph on existing roads in the project area) to protect wild horses, wildlife, and livestock.</p>
Special Status Species	<p>Raptors: Active hawk nests would be protected with a 0.5-mile buffer during the nesting season between April 1 and July 31. Active eagle nests would be protected with a 1.0-mile buffer during the nesting season between March 15 and August 15.</p> <p>Migratory Birds: Where possible, land clearing, surface disturbance and drilling would be timed to prevent destruction or disturbance of active bird nests or young birds during the avian breeding season (April 15 to July 31) to comply with the Migratory Bird Treaty Act (MBTA). If surface-disturbing activities are unavoidable during this period, Meadow Bay would have a qualified biologist survey the areas proposed for immediate disturbance for the presence of active nests.</p> <p>If active nests are located, or if other evidence of nesting is observed (mating pairs, territorial defense, carrying of nesting material, transporting of food), the area would be avoided to prevent destruction or disturbance of nests until the young birds have fledged. Avian surveys would be conducted only during the avian breeding season and immediately prior (within 7 days) to Meadow Bay conducting exploration activities that would result in disturbance. After such surveys are performed and disturbance created (i.e., drill pad construction), Meadow Bay would not conduct any additional disturbance during the avian breeding season without first conducting another avian survey.</p> <p>Sage Grouse: There are three active leks within two miles of the access road to the project site. Sage grouse timing stipulations would be applied to the road within 2 miles of an active lek. The access road would not be used from one hour before sunrise to three hours after sunrise, and the traffic speed limit would be 15 mph during other hours between February 15 and May 1.</p>
Invasive Nonnative Species	<p>To eliminate the transport of vehicle-borne weed seeds, roots, or rhizomes, all vehicles and heavy equipment used for the completion, maintenance, inspection, or monitoring of ground disturbing activities; for emergency fire suppression; or for authorized off-road driving would be free of soil and debris capable of transporting weed propagules. All such vehicles and equipment would be cleaned with power or high pressure equipment at the Primary Office (See Figure 2-2) where vehicles and equipment can be washed off on sterile gravel prior to entering or leaving the work site. Vehicles used for emergency fire suppression would be cleaned as a part of check-in and demobilization procedures. Cleaning efforts would concentrate on tracks, feet and tires, and on the undercarriage. Special emphasis would be applied to axels, frames, cross members, motor mounts, and on underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs would be swept out, and refuse would be disposed of in waste receptacles. Cleaning sites would be recorded using global positioning systems or other mutually acceptable equipment and provided to the BLM AO. Employees and contractors would be educated to identify weeds that could spread further in the project area.</p>

Table 2-2. ACEPMs (Continued)

	<p>To eliminate the transport of soil-borne noxious weed seeds, roots, or rhizomes, infested soils or materials would not be moved and redistributed on weed-free or relatively weed-free areas. In areas where infestations are identified or noted and infested soils, rock, or overburden must be moved, these materials would be salvaged and stockpiled adjacent to the area from which they were stripped. During reclamation, the materials would be returned to the area from which they were stripped. Further, all source sites such as borrow pits, fill sources, or gravel pits used to supply inorganic materials used for construction, maintenance, or reclamation would be inspected and found to be free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Schell FO. Inspections would be conducted by a BLM weed scientist or qualified biologist as needed.</p>
	<p>In areas of known noxious weed infestations, monitoring of noxious weeds would be conducted on an annual basis. Monitoring would be conducted until project release. If the spread of noxious weeds is noted, the infested areas would be further evaluated to determine the appropriate remedial action and appropriate treatment. Appropriate weed control procedures, including target species, timing of control, and method of control, would be determined in consultation with BLM personnel.</p>
	<p>No noxious weeds would be allowed on the site for reclamation release. Any noxious weeds that become established would be controlled. Bonds would be retained for weed control until the site is returned to desired vegetative conditions.</p>
	<p>To eliminate the introduction of noxious weed seeds, roots, or rhizomes, all interim and final seed mixes, hay, straw, or other organic products used for reclamation or stabilization activities, feed, bedding would be certified free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Schell FO.</p>
	<p>Removal and disturbance of vegetation would be kept to a minimum through construction site management (e.g. using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.)</p>
	<p>Reclamation would normally be accomplished with native seeds only. These would be representative of the indigenous species present in the adjacent habitat. Rationale for potential seeding with selected non-native species would be documented. Possible exceptions would include use of non-native species for a temporary cover crop to out-compete weeds. Where large acreages are burned by fires and seeding is required for erosion control, all native species could be cost prohibitive and/or unavailable. In all cases, seed mixes would be approved by the BLM AO prior to planting.</p>
Water Resources	<p>Impacts to groundwater quality could occur if groundwater is encountered during drilling activities. Impacts would effectively be eliminated, reduced, or mitigated through the application of required stipulations and through the Nevada State statute and BLM regulations and conditions of approval. Meadow Bay would use only approved drilling fluids and would plug all drill holes per Nevada State statute (see NDWR's <i>Regulations for Water Well and Related Drilling</i> [NDWR 2010]), as waived. If artesian flow is encountered, the drill hole would be plugged immediately. In all cases, the location, depth, and relative flow rate of any water intercepted would be reported to the Schell FO or the BLM AO.</p> <p>Meadow Bay would obtain a waiver for water use during the proposed drilling operations from the Nevada Division of Water Resources before drilling activities commence.</p>
Visual Resources	<p>During the implementation of vegetation treatments, Meadow Bay would create irregular margins around treatment areas to better maintain and mimic the surrounding visual character of the landscape.</p>
Fire Protection	<p>Mobile equipment would be properly muffled and equipped with suitable fire suppression equipment, such as fire extinguishers, hand tools, and portable water pumps. All applicable state and federal fire laws and regulations would be complied with, and all reasonable measures would be taken to prevent and suppress fires in the project area. Adequate fire protection/suppression equipment prescribed by the National Fire Protection Association (NFPA) Codes 10 and NFPA 30 for the quantity of fuel stored would be on-site whenever work is being conducted.</p> <p>Meadow Bay would report uncontrolled fires immediately to the BLM AO. The BLM Fire Dispatch telephone number is (775) 289-1925 or 1-800-633-6092. After working hours, staff would call 911, or the Lincoln County Sheriff's Office at (775) 962-5151.</p>
Employee Training	<p>Meadow Bay would train employees, contractors, and other related personnel regarding the environmental and safety responsibilities required under the 2012 PoO.</p>
Exploratory Operations	<p>Meadow Bay would notify the BLM AO within 5 days of completion of reclamation work so that timely compliance inspections can be completed.</p>

Table 2-2. ACEPMs (Continued)

	<p>Any change or amendment to the exploratory operations would be brought to the attention of the BLM AO prior to implementation of the change on the ground.</p>
	<p>Existing access would be used whenever possible. Off-road vehicular travel would be restricted to the access routes to drill sites as shown in Figure 2-1 to complete operations. Additional access routes to drill sites, if needed, would be kept to an absolute minimum. The location of all routes would be approved by the BLM AO prior to use.</p>
	<p>All survey monuments claim markers, witness corners, reference monuments, bearing trees, etc., would be protected against destruction, obliteration, or damage. When operations are concluded, Meadow Bay would remove all survey markers, stakes, flagging, etc., for which Meadow Bay has no further need.</p>
	<p>Removal or alteration of existing improvements (fences, cattle guards, etc.) would not be allowed without prior approval of the BLM AO. Existing improvements would be maintained in a serviceable and safe condition. Upon completion of operations, any authorized facility alterations would be restored to the specifications of the BLM AO.</p>
	<p>Meadow Bay would work with the BLM AO on the containment of drilling fluids and drill hole cuttings.</p>
	<p>No more than five drill pads and drill holes would be left open at any time. No sump would be left open or unclaimed for more than one month after drilling operations are completed at the pad.</p>