

## 4.1 Introduction and Approach

This chapter describes mitigation measures that could be imposed to avoid, minimize, or compensate for potential adverse environmental impacts resulting from construction and operation of the proposed rail line. If the Board decides to grant the Coalition's request for construction and operation authority, the proposed mitigation measures set out in this chapter could become conditions to the Board's decision. The regulations implementing NEPA require that agencies consider mitigation to reduce environmental impacts of a project. The Coalition has proposed a number of voluntary mitigation measures, which include regulatory-related requirements and associated BMPs (Section 4.3, *Coalition's Voluntary Mitigation Measures*). OEA is recommending additional preliminary mitigation measures based on the results of OEA's environmental analysis and public and agency consultation (Section 4.4, *OEA's Recommended Mitigation Measures*). The preliminary mitigation measures developed by OEA described in this chapter are not final and could be modified based on the comments received on this Draft EIS.

## 4.2 Limits of the Surface Transportation Board's Conditioning Power

The Board has the authority to impose conditions to mitigate environmental impacts that relate directly to the transaction before the Board, are reasonable, and are supported by the record before the Board. The Board's consistent practice has been to mitigate only those impacts that result directly from the proposed action. The Board typically does not require mitigation for pre-existing environmental conditions.

### 4.2.1 Cooperating Agency Mitigation Matters

Agencies participating as cooperating agencies (Chapter 1, Section 1.3.2, *Cooperating Agencies*) may issue individual decisions concerning the proposed rail line and use information in this Draft EIS for decision-making purposes. They could require additional mitigation measures in their decision documents and permits. Agencies in addition to cooperating agencies are mentioned in OEA's preliminary recommended mitigation, where applicable, because certain mitigation measures would require the Coalition to consult with, apply for a permit from, or obtain approval from these agencies.

### 4.2.2 Voluntary Mitigation and Negotiated Agreements

The Board encourages railroad applicants to propose voluntary mitigation. In some situations, voluntary mitigation could replace, supplement, or reach farther than mitigation measures the Board might otherwise impose. Because applicants gain a substantial amount of knowledge about

the issues associated with a proposed rail line during project planning, and because they consult with regulatory agencies during the permitting process, they are often in a position to offer relevant voluntary mitigation. On August 7, 2020, the Coalition submitted its proposed voluntary mitigation measures to OEA.

The Board encourages applicants to negotiate mutually acceptable agreements with affected communities and other government entities to address potential environmental impacts, if appropriate. Negotiated agreements could be with neighborhoods, communities, counties, cities, regional coalitions, states, and other entities. If the Coalition submits to the Board any such negotiated agreements, the Board would require compliance with the terms of such agreements as environmental conditions in any final decision authorizing construction and operation of the proposed rail line. Any potential negotiated agreement would supersede environmental conditions for that particular community or other entity that the Board might otherwise impose.

### 4.2.3 Preliminary Nature of Mitigation

OEA requests that commenters review the preliminary mitigation measures in this Draft EIS and submit comments to modify, add, or delete mitigation measures. OEA will make its final recommendations on mitigation to the Board in the Final EIS after considering all comments on this Draft EIS. The Board will then make its final decision on whether to approve the proposed rail line and any conditions it might impose, including mitigation conditions. These conditions would include the Coalition's voluntary mitigation. In making its decision, the Board will consider this Draft EIS, the Final EIS, public and agency comments, and OEA's final mitigation recommendations.

The measures listed in the following sections would apply to any Action Alternative authorized for construction by the Board unless otherwise specified in the mitigation measure. OEA does not address the No-Action Alternative in this chapter, because the Board would not be taking an action, and this alternative would result in no change in impacts from those already occurring in the existing environment.

Each mitigation measure listed in the following sections has a unique identifier that consists of a prefix and a number. The Coalition's voluntary mitigation measures follow the format VM-1, VM-2, etc. OEA's recommended mitigation measures include a unique prefix for each resource topic. For example, mitigation measures for biological resources follow the format BIO-MM-1, and mitigation measures for land use and recreation follow the format LUR-MM-1. OEA uses these unique identifiers to refer to specific mitigation measures where applicable throughout this EIS.

## 4.3 Coalition's Voluntary Mitigation Measures

### 4.3.1 Construction and Rail Operations Safety

**VM-1.** The Coalition will follow all applicable federal Occupational Safety and Health Administration, Federal Railroad Administration (FRA), tribal, and state construction and operational safety regulations to minimize the potential for accidents and incidents during construction and operation of the rail line.

### 4.3.2 Grade Crossing Safety

**VM-2.** The Coalition will consult with appropriate federal, tribal, state, and local transportation agencies to determine the final design of the at-grade crossing warning devices. Implementation of all grade-crossing warning devices on public roadways will be subject to review and approval, depending on location, by the Ute Indian Tribe, Utah Department of Transportation (UDOT), U.S. Forest Service (Forest Service), or Carbon, Duchesne, or Uintah Counties. The Coalition will follow standard safety designs for each at-grade crossing for proposed warning devices and signs. These designs will follow the Federal Highway Administration *Manual on Uniform Traffic Control Devices for Streets and Highways* as implemented by UDOT and the American Railway Engineering and Maintenance-of-Way Association standards for railroad warning devices. They will also comply with applicable UDOT, tribal, city, and county requirements.

**VM-3.** For construction of road crossings, when reasonably practical, the Coalition will consult with tribal and local transportation officials regarding detours and associated signs, as appropriate, or maintain at least one open lane of traffic at all times to allow the quick passage of emergency and other vehicles.

**VM-4.** The Coalition will develop a plan to consult with private landowners to determine the final details and reasonable signage for grade crossings on private roads.

**VM-5.** Where practical, at-grade crossings for minor roads and private roads will be combined and consolidated into right-angle, at-grade crossings for safety, and in order to reduce the total the number of highway-rail at-grade crossings.

**VM-6.** The Coalition will consult with affected communities regarding ways to improve visibility at highway-rail at-grade crossings, including by clearing vegetation or installing lights at the crossing during construction.

### 4.3.3 Hazardous Materials Handling and Spills during Construction

**VM-7.** Prior to initiating any project-related construction activities, the Coalition will develop a spill prevention, control, and countermeasures plan in consultation with federal, tribal, state and local governments. The plan will specify measures to prevent the release of petroleum products or other hazardous materials during construction activities and contain such discharges if they occur.

**VM-8.** In the event of a spill over the applicable reportable quantity, the Coalition will comply with its spill prevention, control, and countermeasures plan and applicable federal, state, local and tribal regulations pertaining to spill containment, appropriate clean-up, and notifications.

**VM-9.** The Coalition will require its construction contractor(s) to implement measures to protect workers' health and safety and the environment in the event that undocumented hazardous materials are encountered during construction. The Coalition will document all activities associated with hazardous material spill sites and hazardous waste sites and will notify the appropriate state, local, and tribal agencies according to applicable regulations. The goal of the measures is to ensure the proper handling and disposal of contaminated materials including contaminated soil, groundwater, and stormwater, if such materials are encountered. The Coalition will use disposal methods that comply with applicable solid and hazardous waste regulations.

**VM-10.** The Coalition will ensure that gasoline, diesel fuel, oil, lubricants, and other petroleum products are handled and stored to reduce the risk of spills contaminating soils or surface waters. If a petroleum spill occurs in the project area as a result of rail construction, operation, or maintenance and exceeds specific quantities or enters a water body, the Coalition (or its agents) will be responsible for promptly cleaning up the spill and notifying responsible agencies in accordance with federal, state, and tribal regulations.

#### **4.3.4 Hazardous Materials Transport and Emergency Response**

**VM-11.** The Coalition will prepare a hazardous materials emergency response plan to address potential derailments or spills. This plan will address the requirements of the Pipeline and Hazardous Materials Safety Administration and FRA requirements for comprehensive oil spill response plans. The Coalition will distribute the plan to federal, state, local, and tribal emergency response agencies. This plan shall include a roster of agencies and people to be contacted for specific types of emergencies during rail construction, operation and maintenance activities, procedures to be followed by particular rail employees, emergency routes for vehicles, and the location of emergency equipment.

**VM-12.** The Coalition will work with the affected communities to facilitate the development of cooperative agreements with other emergency service providers to share service areas and emergency call response.

**VM-13.** After construction is completed, the Coalition will implement a desktop simulation of its emergency response drill procedures with the voluntary participation of local emergency response organizations. If necessary, the Coalition will update the hazardous materials emergency response plan based on the findings and observations of the simulated emergency response.

**VM-14.** In the event of a reportable hazardous materials release, the Coalition will notify appropriate federal, state, and tribal environmental agencies as required under federal, state, and tribal law.

**VM-15.** The Coalition will comply with FRA, Pipeline and Hazardous Materials Safety Administration, Transportation Security Administration regulations and tribal ordinances or plans applicable to the safe and secure transportation of hazardous materials.

#### **4.3.5 Topography, Geology, and Soils**

**VM-16.** The Coalition will limit ground disturbance to only the areas necessary for project-related construction activities.

**VM-17.** During project-related earth-moving activities, the Coalition will require the contractor to remove topsoil and segregate it from subsurface soils. Where practical, the contractor will also stockpile topsoil to be applied later during reclamation activities in disturbed areas along the right-of-way.

**VM-18.** The Coalition will place the topsoil and other excavated soil stockpiles in areas away from environmentally or culturally sensitive areas and will use appropriate erosion control measures on and around stockpiles to prevent or contain erosion.

**VM-19.** The Coalition will submit a notice of intent to request permit coverage under Utah Pollutant Discharge Elimination System Construction General Permit UTRC00000 for construction stormwater management.

**VM-20.** The Coalition will submit an application for coverage under the National Pollutant Discharge Elimination System stormwater construction permits pursuant to Section 402 of the Clean Water Act for construction stormwater management on tribal land.

**VM-21.** The Coalition will develop a stormwater pollution prevention plan, which will include construction BMPs to control erosion and reduce the amount of sediment and pollutants entering surface waters, groundwater, and waters of the United States. The Coalition will require its construction contractor(s) to follow all water quality control conditions identified in all permits, including the Section 404 permit from the U.S. Army Corps of Engineers (Corps) and the Section 401 Water Quality Certification from the Utah Department of Environmental Quality and the U.S. Environmental Protection Agency.

**VM-22.** The Coalition will revegetate disturbed areas, where practical and in consultation with the Ute Indian Tribe as applicable, when construction is completed. The goal of reclamation will be the rapid and permanent re-establishment of native groundcover on disturbed areas to prevent soil erosion, where feasible. If weather or seasonal conditions prevent vegetation from being quickly re-established, the Coalition will use measures such as mulching, erosion-control blankets, or dust-control palliatives to prevent erosion until vegetative cover is established. The Coalition will monitor reclaimed areas for 3 years. For areas where efforts to establish vegetative cover have been unsuccessful after 1 year, the Coalition will reseed annually for up to 3 years as needed.

### 4.3.6 Air Quality

**VM-23.** Where practical and in consultation with the Ute Indian Tribe as applicable, the Coalition will implement appropriate fugitive-dust controls such as spraying water or other dust treatments in order to reduce fugitive-dust emissions created during project-related construction activities. The Coalition will require its construction contractor(s) to regularly operate water trucks on haul roads to reduce dust generation.

**VM-24.** The Coalition will work with its contractor(s) to make sure that construction equipment is properly maintained and that mufflers and other required pollution-control devices are in working condition in order to limit construction-related air pollutant emissions.

### 4.3.7 Water Resources

**VM-25.** The Coalition will obtain a permit from the Corps under Section 404 of the Clean Water Act before initiating project-related construction activities in wetlands and other jurisdictional waters of the United States. The Coalition will comply with all conditions of the Section 404 permit.

**VM-26.** The Coalition will obtain a Section 401 Water Quality Certification from the State of Utah and Environmental Protection Agency. The Coalition will incorporate the conditions of the Section 401 Water Quality Certification into its construction contract specifications and will monitor the project for compliance.

**VM-27.** The Coalition will minimize impacts on wetlands to the extent practicable in the final design of the selected alternative. After all practicable steps have been taken to minimize impacts on

wetlands, the Coalition agrees to prepare a compensatory mitigation plan for any remaining wetland impacts in consultation with the Ute Indian Tribe where applicable. Compensatory mitigation may include any one or a combination of the following five methods: restoring a previously existing wetland or other aquatic site, enhancing an existing aquatic site's functions, establishing (that is, creating) a new aquatic site, preserving an existing aquatic site, and/or purchasing credits from an authorized wetland mitigation bank.

**VM-28.** Bridges at perennial streams will be designed to maintain a natural substrate.

**VM-29.** The Coalition will obtain stream alteration permits from the Utah Division of Water Rights for crossing waters of the state, and any applicable tribal permits, and will comply with all conditions of the permits.

**VM-30.** The Coalition will construct stream crossings during low-flow periods, when practical.

**VM-31.** When practical and in consultation with the Ute Indian Tribe where applicable, the Coalition will relocate natural streams using bioengineering methods, where relocation is needed and is unavoidable.

**VM-32.** For streams and rivers with a floodplain regulated by the Federal Emergency Management Agency or the Ute Indian Tribe, the Coalition will design the stream crossing with the goal of not impeding floodwaters and not raising water surface elevations to levels that would change the regulated floodplain boundary. If flood elevations change, the Coalition will coordinate with Federal Emergency Management Agency and/or tribal or local floodplain managers to obtain a Letter of Map Revision where construction of bridges, culverts, or embankments results in an unavoidable increase greater than 1 foot to the 100-year water surface elevations.

### 4.3.8 Biological Resources

**VM-33.** The Coalition will comply with any conditions and mitigation commitments contained in a biological opinion for sensitive species that could potentially be impacted by the project.

**VM-34.** The Coalition will require its contractor(s) to comply with the requirements of the Migratory Bird Treaty Act in consultation with the Ute Indian Tribe as applicable. The following measures will be conducted by the Coalition and/or its contractor(s).

- a. Where practical, any ground-disturbing, ground-clearing activities or vegetation treatments will be performed before migratory birds begin nesting or after all young have fledged.
- b. If activities must be scheduled to start during the migratory bird breeding season, the Coalition will take steps to prevent migratory birds from establishing nests in the potential impact area. Birds can be hazed to prevent them from nesting until egg(s) are present in the nest. The Coalition or its agents will not haze or exclude nest access for migratory birds and other sensitive avian species.
- c. If activities must be scheduled during the migratory bird breeding season, a qualified biologist will perform a site-specific survey for nesting birds starting no more than 7 days prior to ground-disturbing activities or vegetation treatments. Birds with eggs or young will not be hazed, and nests with eggs or young will not be moved until the young are no longer dependent on the nest. A qualified biologist will confirm that all young have fledged.

- d. If nesting birds are found during the survey, the Coalition will establish appropriate seasonal or spatial buffers around nests. Vegetation treatments or ground-disturbing activities within the buffer areas will be postponed, where feasible, until the birds have left the nest. A qualified biologist will confirm that all young have fledged.

**VM-35.** The Coalition will execute a Mitigation Agreement with the Utah Division of Wildlife Resources (UDWR) to address impacts within the Carbon Sage-grouse Management Area (CSGMA). The Coalition has discussed several potential mitigation strategies with UDWR and other local, state, tribal and federal stakeholders during the EIS process. The final CSGMA Mitigation Agreement will define the appropriate mitigation ratio for the project type and its impacts and the final mitigation approach.

**VM-36.** The Coalition shall comply with the Ute Indian Tribe's Greater Sage-Grouse Conservation Ordinance as applicable.

**VM-37.** If the selected alternative impacts U.S. Bureau of Land Management (BLM) lands, the Coalition will request that BLM join as a signatory to the CSGMA Mitigation Agreement.

**VM-38.** The Coalition will prepare a noxious and invasive weed control plan in consultation with the Ute Indian Tribe as applicable. Where practical, the Coalition will include the policies and strategies in Utah's Strategic Plan for Managing Noxious and Invasive Weeds when designing response strategies for noxious and invasive weeds.

**VM-39.** The Coalition will comply with any conditions and mitigation commitments contained in a biological opinion for sensitive plant species that could potentially be impacted by the project.

**VM-40.** The Coalition will work with UDWR, the Ute Indian Tribe, and adjacent landowners to define areas of the right-of-way that can be left without fences to maintain big game migration corridors.

**VM-41.** Where practical and necessary, the Coalition will install wildlife-safe fences to confine livestock within grazing allotments.

### 4.3.9 Cultural Resources

**VM-42.** The Coalition will work with the Ute Indian Tribe and others to develop training materials to educate construction supervisors about the importance of protecting cultural resources and the procedures for handling undocumented discoveries. The Coalition will make reasonable efforts to include the Ute Indian Tribe in the presentation of these materials.

**VM-43.** The Coalition will comply with the requirements of the Programmatic Agreement being developed by OEA, the Advisory Council on Historic Preservation, Utah State Historic Preservation Office, Ute Indian Tribe, and other federal and state agencies in consultation with federally recognized tribes and other consulting parties.

### 4.3.10 Land Use

**VM-44.** If temporary construction easements on private property are needed, the Coalition will document the preconstruction conditions and, to the extent practical, will restore the land to its preconstruction condition after construction is complete.

**VM-45.** The Coalition will consult with landowners regarding grazing allotments and will install temporary fences during construction to allow continued grazing, where practicable. Once construction is complete, the Coalition will replace all permanent fences removed during construction.

**VM-46.** Where practical, the Coalition will maintain livestock access to water sources or will relocate water sources, maintain vehicle and livestock access to grazing allotments, and install safety fences and signs for grazing allotment entrances and exits to enable continuance of livestock operations within grazing allotments.

**VM-47.** The Coalition will secure agreements with utilities to establish responsibility for protecting or relocating existing utilities, if impacted by construction.

**VM-48.** The Coalition will coordinate with water districts to develop irrigation infrastructure protection or relocation plans, if irrigation infrastructure will be impacted by construction.

### **4.3.11 Community Outreach**

**VM-49.** The Coalition will appoint a community liaison to consult with affected communities, businesses, and agencies and seek to develop cooperative solutions to local concerns regarding construction activities.

**VM-50.** The Coalition will appoint a tribal community liaison to address the needs and concerns of Ute Indian Tribe members and communities and seek to develop cooperative solutions to concerns regarding construction activities and rail operations.

**VM-51.** The Coalition will maintain a project website throughout the duration of construction to provide regular updates regarding construction progress and schedule.

**VM-52.** The Coalition will install construction warning and detour signs throughout the corridor and at recreation sites around the project area as needed.

### **4.3.12 Noise and Vibration**

**VM-53.** The Coalition, in consultation with the Ute Indian Tribe, will comply with FRA regulations (49 Code of Federal Regulations [C.F.R.] Part 210) establishing decibel limits for train operation.

**VM-54.** The Coalition will work with its contractor(s) to make sure that project-related construction and maintenance vehicles are maintained in good working order with properly functioning mufflers to control noise.

### **4.3.13 Recreation**

**VM-55.** If needed for the selected alternative, the Coalition will obtain approval from the Forest Service and will follow the conditions of the permit regarding access to, or temporary closure of, recreational features during construction.

**VM-56.** The Coalition will work with its construction contractor to maintain access to Forest Service roads during construction, where feasible.

## 4.4 OEA's Recommended Mitigation Measures

In addition to the Coalition's voluntary mitigation measures, OEA is preliminarily recommending an additional 73 mitigation measures. OEA will make its final recommendations on mitigation to the Board in the Final EIS after considering all public comments on this Draft EIS.

### 4.4.1 Vehicle Safety and Delay

**VSD-MM-1.** The Coalition shall design and construct any new temporary or permanent access roads and road realignments to comply with the reasonable requirements of the UDOT Roadway Design Manual (UDOT 2020), other applicable road construction guidance (e.g., county road right-of-way encroachment standards), and land management agency or landowner requirements (e.g., BLM H-9113-1 Road Design Handbook) regarding the establishment of safe roadway conditions.

**VSD-MM-2.** During project-related construction activities, the Coalition and its contractors shall comply with speed limits and applicable laws and regulations when operating vehicles and equipment on public roadways.

**VSD-MM-3.** The Coalition shall obtain and abide by the reasonable requirements of applicable permits and approvals for any project-related construction activities within UDOT rights-of way or state highways where UDOT has jurisdiction and off-system roads are maintained by UDOT.

**VSD-MM-4.** For each of the public at-grade crossings on the proposed rail line, the Coalition shall provide and maintain permanent signs prominently displaying both a toll-free telephone number and a unique grade-crossing identification number in compliance with Federal Highway Administration regulations (23 C.F.R. Part 655). The toll-free number would enable drivers to report promptly any accidents, malfunctioning warning devices, stalled vehicles, or other dangerous conditions.

**VSD-MM-5.** The Coalition shall make Operation Lifesaver educational programs available to communities, schools, and other organizations located along the proposed the rail line. Operation Lifesaver is a nationwide, nonprofit organization that provides public education programs to help prevent collisions, injuries, and fatalities at highway/rail grade crossings.

### 4.4.2 Water Resources

**WAT-MM-1.** To the extent practicable, the Coalition shall design culverts and bridges to maintain existing surface water drainage patterns, including hydrology for wetland areas, and not cause or exacerbate flooding. Project-related supporting structures (e.g., bridge piers) shall be designed to minimize scour (sediment removal) and increased flow velocity, to the extent practicable. The Coalition shall consider use of multi-stage culvert designs in flood-prone areas, as appropriate.

**WAT-MM-2.** The Coalition shall design culverts and bridges on land managed by federal, state, or tribal agencies to comply with reasonable applicable agency requirements.

**WAT-MM-3.** The Coalition shall design all stream realignments in consultation with the Corps and Utah Division of Water Rights as part of the Section 404 permit mitigation plan development and Utah Stream Alternation Program, respectively, to ensure effects on stream functions are taken into

account and minimized. To the extent practicable, the Coalition shall design realigned streams to maintain existing planform, geomorphology, bed material and flows.

**WAT-MM-4.** The Coalition shall design, construct, and operate the proposed rail line and associated facilities to maintain existing water patterns and flow conditions and provide long-term hydrologic stability by conforming to natural stream gradients and stream channel alignment and avoiding altered subsurface flow (i.e., shallow aquifer subsurface flow) to the extent practicable.

**WAT-MM-5.** During project-related construction, the Coalition shall minimize, to the extent practicable, soil compaction and related effects (e.g., increase runoff and erosion), provide surface treatments to minimize soil compaction (e.g., break up compacted soils during reclamation to promote infiltration), and take actions to promote vegetation regrowth after the facilities (e.g., temporary staging areas) are no longer needed to support construction.

**WAT-MM-6.** During project-related construction, the Coalition shall implement erosion prevention, sediment control, and runoff control and conveyance best management practices (BMPs) to limit the movement of soils and sediment-laden runoff. On lands managed by federal, state, or tribal agencies, the Coalition shall design and implement these BMPs in consultation with the applicable agency; BMPs may include, but are not limited to, seed mixes, silt fences, sediment traps, and ditch checks. The Coalition shall coordinate with the appropriate land management agency, private landowner, or the Ute Indian Tribe to select seed mixes for use in restoration and reclamation activities. This may require consultation with range and ecology specialists to determine seed mixes appropriate to the ecological site.

**WAT-MM-7.** During project-related construction, the Coalition shall use temporary barricades, fencing, and/or flagging around sensitive habitats (e.g., wetlands, streams) to contain project-related impacts on the construction area. The Coalition shall locate staging areas in previously disturbed sites to the extent practicable, avoiding sensitive habitat areas whenever possible.

**WAT-MM-8.** The Coalition shall remove all project-related construction debris (including construction materials and soils) from surface waters and wetlands as soon as practicable following construction.

**WAT-MM-9.** The Coalition shall implement stormwater BMPs to convey, filter, and dissipate runoff from the proposed rail line during rail operations. These could include, but would not be limited to, vegetated swales, vegetated filter strips, streambank stabilization, and channelized flow dissipation, as appropriate. On lands managed by federal, state, or tribal agencies, the Coalition shall design and implement stormwater BMPs in consultation with the applicable agency.

**WAT-MM-10.** During rail operations, the Coalition shall ensure that all project-related culverts and bridges are clear of debris to avoid flow blockages, flow alteration, and increased flooding. The Coalition shall inspect all project-related bridges and culverts semi-annually (or more frequently, as seasonal flows dictate) for debris accumulation and shall remove and properly dispose of debris promptly.

**WAT-MM-11.** To address the closing of active groundwater wells and permanent impacts on springs, the Coalition shall consult with the owner to attempt to replace each active well closed with a new well and to mitigate the water rights associated with springs, as practicable.

### 4.4.3 Biological Resources

**BIO-MM-1.** The Coalition shall implement appropriate measures to reduce collision risks for birds resulting from project-related power communications towers. The Coalition shall incorporate the design recommendations in the U.S. Fish and Wildlife Service (USFWS) *Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning* (USFWS 2018) to avoid or minimize the risk of bird mortality at communications towers.

**BIO-MM-2.** During project-related construction, the Coalition shall comply with any federal, state, or local in-water work windows and timing restrictions for the protection of fish species, and other reasonable requirements of in-water work permits issued by UDWR and the Corps.

**BIO-MM-3.** During project-related construction, the Coalition shall use a bubble curtain or other noise-attenuation method (e.g., wood or nylon pile caps) when installing or proofing pilings below the ordinary high water line of a fish-bearing stream to minimize underwater sound impacts on fish.

**BIO-MM-4.** During project-related construction, the Coalition shall use a block-net to remove and exclude fish from in-water work areas. The Coalition shall deploy the block-net toward the water from land, with the two ends of the net maintained on shore and the middle portion of the net deployed in the water. Any fish handling, exclusion, and removal operation shall be consistent with any reasonable requirements of in-water permits from UDWR and the Corps.

**BIO-MM-5.** The Coalition shall minimize, to the extent practicable, the area and duration of construction activities within riparian areas and along streambanks. Where construction activities within riparian areas or along streambanks are unavoidable, the Coalition shall implement appropriate erosion control materials to stabilize soil and reduce erosion. Following the completion of project-related construction on a segment of rail line, the Coalition shall promptly restore and revegetate riparian areas using native vegetation.

**BIO-MM-6.** The Coalition shall design culverts and bridges to allow aquatic organisms to pass relatively unhindered, to the extent practicable.

**BIO-MM-7.** The Coalition shall develop and implement a wildfire management plan in consultation with appropriate state and local agencies, including local fire departments. The plan shall incorporate specific information about operation, equipment, and personnel on the proposed rail line that might be of use in case a fire occurs and shall evaluate and include as appropriate site-specific techniques for fire prevention and suppression.

**BIO-MM-8:** The Coalition shall protect bald and golden eagles by adhering to the Bald and Golden Eagle Protection Act. In addition, the Coalition shall follow the USFWS *National Bald Eagle Management Guidelines* (USFWS 2007), as applicable.

**BIO-MM-9.** The Coalition shall comply with the terms and conditions of the USFWS Biological Opinion for the protection of federally listed threatened and endangered plants and animals that could be affected by the proposed rail line, and to ensure compliance with Endangered Species Act Section 7.

**BIO-MM-10.** If the Board authorizes construction and operation of the Indian Canyon Alternative or Whitmore Park Alternative, the Coalition shall implement the reasonable requirements of the Ute Indian Tribe for minimizing impacts on wildlife, fish, and vegetation on Tribal trust lands.

**BIO-MM-11.** Prior to construction, the Coalition shall acquire and abide by the reasonable requirements of all appropriate federal and state permits to possess, relocate, or disassemble a bald or golden eagle nest, and/or work within 0.5 mile of a bald or golden eagle nest, regardless of whether the nest is active or inactive. The Coalition shall also follow the guidelines for avoiding and minimizing impacts set out in the *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances* for the protection of bald and golden eagles, as applicable.

**BIO-MM-12.** Rail employees engaged in routine rail line inspections that observe carcasses along the rail line shall remove carcasses away from the rail line to minimize potential eagle strikes.

**BIO-MM-13.** The Coalition shall abide by the BLM *Utah Greater Sage-Grouse Approved Resource Management Plan Amendment* for Action Alternatives that affect BLM land, and will follow the reasonable requirements of the *Utah Conservation Plan for Greater Sage-Grouse*.

**BIO-MM-14.** During project-related construction, the Coalition shall remove all cleared vegetation and green debris from construction areas, including trees from woodland and timber clearing.

#### 4.4.4 Geology, Soils, Seismic Hazards, and Hazardous Waste Sites

**GEO-MM-1.** The Coalition shall design and construct the proposed rail line to balance cut and fill earthwork quantities, to the extent practicable, in order to minimize the quantities of materials required to be excavated, transported, or placed off site.

**GEO-MM-2.** The Coalition shall conduct geotechnical investigations to identify soils and bedrock in cut areas with potential for mass movement or slumping. The geologic hazard investigations shall be conducted in accordance with Utah Geological Survey Circular 122. Where appropriate, the Coalition shall implement engineering controls to avoid mass movement or slumping. If mass movement or slumping of soils or bedrock occurs during construction, the Coalition shall promptly institute appropriate remedial actions.

**GEO-MM-3.** The Coalition shall conduct geotechnical investigations to identify areas within the rail right-of-way where soils with high corrosivity to concrete or steel could affect the rail line. The Coalition shall implement appropriate site-specific measures to address the soil corrosivity in areas identified during the geotechnical investigations, potentially including replacing soils with high corrosivity with non-corrosive engineered soils, as applicable.

**GEO-MM-4.** The Coalition shall conduct geotechnical studies to identify unmapped abandoned mines that could affect the proposed rail line and shall take actions to appropriately stabilize areas where unmapped mines are identified.

**GEO-MM-5.** The Coalition shall conduct geotechnical investigations to identify areas within the proposed rail right-of-way that are at risk of seismically induced liquefaction. The geologic hazard investigations shall be conducted in general accordance with *Utah Geological Survey Circular 122*. The Coalition shall implement appropriate site-specific measures to minimize the risk of liquefaction in areas identified during the geotechnical investigations, including replacing soils subject to liquefaction with engineered soils that are not prone to liquefaction, as applicable.

**GEO-MM-6.** The Coalition shall design and construct any tunnels in accordance with applicable U.S. Occupational Safety and Health Administration guidelines for underground construction (OSHA 2003). Conformance shall include ventilation, air monitoring, and emergency procedures.

## 4.4.5 Noise and Vibration

**NV-MM-1.** Before undertaking any project-related construction activities, the Coalition shall develop, submit to OEA for review and approval, and implement a construction noise and vibration control plan to minimize project-related construction noise and vibration affecting residences along the proposed rail line, including noise and vibration from general construction equipment, specialized equipment, and tunnel construction. For tunnel construction in particular, the plan shall include estimates of construction noise and vibration levels and identify measures that shall be taken if predicted construction noise or vibration levels exceed Federal Transit Administration (FTA) criteria. The Coalition shall also conduct noise and vibration monitoring for receptors that would exceed FTA criteria. The Coalition shall designate a noise control officer to develop the construction noise and vibration plan, whose qualifications shall include at least 5 years of experience with major construction noise projects, and board certification from the Institute of Noise Control Engineering or registration as a Professional Engineer in Mechanical Engineering or Civil Engineering.

**NV-MM-2.** The Coalition shall minimize, to the extent practicable, construction-related noise disturbances in residential areas. The Coalition shall avoid nighttime construction and pile-driving near residential areas and employ quieter vibratory pile-driving or noise curtains for project-related construction where FTA construction noise criteria are exceeded.

**NV-MM-3.** The Coalition shall employ reasonable and feasible noise mitigation where OEA-identified receptors would experience noise impacts at or greater than the regulatory analytical threshold of 65 day-night average sound level (DNL) and an increase of 3 A-weighted decibels (dBA). The design goal for noise mitigation shall be a 10 dBA noise reduction. Using industry standard loudspeaker testing, the building sound insulation performance shall be determined in accordance with ASTM 966-90, Standard Guide for Field Measurements of Airborne Sound Insulation of Building Facades and Façade Elements. The calculated noise reduction shall be at least 5 dBA. Should the calculated noise reduction be less than 5 dBA then no mitigation is warranted as the receptor has sufficient sound insulation. Wayside noise mitigation would be warranted if train traffic reaches 10.5 trains per day. The Coalition shall certify to the Board whether or not traffic volumes reach this level.

**NV-MM-4.** The Coalition shall install and properly maintain rail and rail beds on the proposed rail line according to American Railway Engineering and Maintenance of Way Association standards and regularly maintain locomotives, keeping mufflers in good working order to control noise. The Coalition shall install rail lubrication systems at curves along the proposed rail line where doing so would reduce noise associated with wheel squeal for residential or other noise-sensitive receptors. The Coalition shall regularly inspect and maintain rail car wheels on trains that operate on the proposed rail line in good working order and minimize the development of wheel flats (where a round wheel is flattened, leading to a clanking sound when a rail car passes).

## 4.4.6 Air Quality

**AQ-MM-1.** During project-related construction, the Coalition shall ensure that construction contractors offer workers daily transportation to the work site from a central location to minimize vehicular traffic on unpaved roads in the area and thereby reduce exhaust emissions and fugitive dust.

**AQ-MM-2.** The Coalition shall ensure that all engine-powered equipment and vehicles used in construction, operation, and maintenance of the proposed rail line are subject to a regular inspection and maintenance schedule in order to minimize air pollutant emissions, greenhouse gas emissions, and fuel consumption. Preventive maintenance activities shall include, but shall not be limited to, the following actions:

- Replacing oil and oil filters as recommended by manufacturer instructions.
- Maintaining proper tire pressure in on-road vehicles.
- Replacing worn or end-of-life parts.
- Scheduling routine equipment service checks.

**AQ-MM-3.** The Coalition shall develop and implement an anti-idling policy for both rail construction and operations and ensure that equipment operators receive training on best practices for reducing fuel consumption to reduce project-related air emissions. The anti-idling policy shall include required warm-up periods for equipment and prohibit idling beyond these periods. The policy shall define any exceptions where idling is permitted for safety or operational reasons, such as when ambient temperatures are below levels required for reliable operation. In addition, the policy shall include provisions addressing the use of technologies such as idle management systems or automatic shutdown features, as appropriate.

**AQ-MM-4.** The Coalition shall require its contractors to use diesel fuel that contains a minimum biodiesel content of 5 percent (B5 blend). If B5 is not available from local fuel suppliers, the Coalition shall use fuel with the highest biodiesel content that is available to reduce greenhouse gas emissions.

**AQ-MM-5.** The Coalition shall consider procuring alternative engine and fuel technologies, e.g., hybrid-electric diesel equipment, for construction and operation of the rail line to reduce greenhouse gas emissions.

**AQ-MM-6.** The Coalition shall evaluate the feasibility of installing solar and wind microgeneration technologies on site offices, lodgings, and other project-related facilities to reduce the use of grid or privately generated electricity to reduce greenhouse gas emissions. As part of its evaluation, the Coalition shall consider the suitability of site conditions and location of solar and wind generation and the technical and economic feasibility of supplementing site electricity demands with renewable power.

**AQ-MM-7.** The Coalition shall post signage and/or fencing during construction, including tunnel construction, to ensure that members of the public would be unable to enter areas within the construction easement that could experience temporary adverse air quality impacts.

### 4.4.7 Energy

**ENGY-MM-1.** The Coalition shall design any project-related road realignments to allow continued vehicle access to existing fixed energy facilities, such as oil pads, during and following construction of the rail line. The Coalition shall work with the owners of the energy facilities to coordinate continued access during construction and rail operations.

**ENGY-MM-2.** The Coalition shall ensure that any oil and gas-producing wells within the rail right-of-way are plugged and abandoned in accordance with Utah Administrative Code Rule R649-3-24, Plugging and Abandonment of Wells. The Coalition shall consult with the Utah Division of Oil, Gas, and Mining prior to undertaking any construction activities that could affect existing wells and shall follow that agency's reasonable recommendations regarding appropriate safety procedures for the abandonment of wells.

**ENGY-MM-3.** The Coalition shall design any crossings or relocations of pipelines or electrical transmission lines in accordance with applicable Utah Division of Public Utilities' regulations and guidelines. The Coalition shall consult with appropriate utility providers to develop a plan to ensure that construction activities that could affect existing electrical transmission lines or energy pipelines avoid any interruption of utility service to customers to the extent possible.

### 4.4.8 Paleontological Resources

**PALEO-MM-1.** The Coalition shall contract with a qualified paleontologist to develop and implement a paleontological resources monitoring and treatment plan to mitigate potential impacts on paleontological resources on lands classified as Potential Fossil Yield Classification 3, 4 or 5. The plan shall include the following requirements:

- A preconstruction survey where appropriate to describe and recover paleontological resources found on the surface.
- Monitoring of ground-disturbing activities during construction to recover paleontological resources, including inspection of spoils piles created by tunnel construction.
- Identification, preparation, and documentation of fossils collected during surveys or monitoring.
- Curation and deposition of significant paleontological resources into a federally approved repository.
- Increasing public awareness about the scientific importance of paleontological resources by developing web-based education material, interpretive displays, or other means.

### 4.4.9 Land Use and Recreation

**LUR-MM-1.** The Coalition shall consult with the Ute Indian Tribe during the final engineering and design phase of the proposed rail line and prior to undertaking any project-related construction to ensure that construction and operation of the proposed rail line would not significantly impact land uses on land under the tribe's jurisdiction.

**LUR-MM-2.** If the Board authorizes the Indian Canyon Alternative or the Whitmore Park Alternative, the Coalition shall implement the reasonable mitigation measures imposed by the Ute Indian Tribe during negotiations for the consent of the tribe for a right-of-way across Tribal trust land.

**LUR-MM-3.** If the Indian Canyon Alternative or the Wells Draw Alternative is authorized by the Board, the Coalition shall adhere to the reasonable mitigation conditions imposed by BLM in any right-of-way granted by BLM allowing the Coalition to cross BLM lands and shall ensure that construction and operation of the rail line is in compliance with applicable Resource Management Plans, including any potential amendments to those plans, for BLM lands that the rail line would cross.

**LUR-MM-4.** If the Indian Canyon Alternative or the Whitmore Park Alternative is authorized by the Board, the Coalition shall adhere to the reasonable mitigation conditions imposed by the Forest Service in any special use permit allowing the Coalition to cross National Forest System Lands. The Coalition shall consult with the Forest Service to ensure that construction and operation of the rail line complies with *Ashley Forest Land and Resource Management Plan*, including any existing or potential amendments to that plan, and with the Forest Service 2001 Roadless Rule.

**LUR-MM-5.** The Coalition shall adhere to the reasonable mitigation conditions imposed by the State of Utah School and Institutional Trust Lands Administration (SITLA) in any right-of-way grant allowing the Coalition to cross SITLA lands.

**LUR-MM-6.** If the Indian Canyon Alternative or the Whitmore Park Alternative is authorized by the Board, the Coalition shall obtain a right-of-way from the U.S. Bureau of Indian Affairs (BIA) to cross Tribal trust lands and shall implement the reasonable terms and conditions imposed by BIA in any decision granting a right-of-way on Tribal trust lands.

**LUR-MM-7.** Prior to project-related construction, the Coalition shall consult with BLM, the Forest Service, the Ute Indian Tribe, and SITLA, as appropriate, to develop a plan to limit, to the extent practicable, impacts on recreational resources under those agencies' management or jurisdiction. The Coalition shall develop the plan prior to completing the final engineering plans for the proposed rail line and following the above-mentioned consultation to determine the location of all public roads used as access points to a recreation area that would be crossed by the proposed rail line. The plan shall designate temporary access points if main access routes must be obstructed during project-related construction. The plan shall also include the number and location of access points as decided during consultation with the applicable agencies.

**LUR-MM-8.** The Coalition shall coordinate with owners of properties used for recreation during project-related right-of-way acquisition negotiations to provide adequate private road at-grade crossings to ensure that recreationists maintain access to and movement within recreational properties and areas.

**LUR-MM-9.** The Coalition shall consult with appropriate land management agencies to develop appropriate measures to mitigate impacts of construction and operation of the rail line on grazing allotments on public lands. These measures could include requiring vegetation treatments within affected allotments to improve remaining forage, as appropriate.

**LUR-MM-10.** The Coalition shall install cattle guards, livestock exclusion fencing, or other design features, as appropriate, within grazing areas along the rail line to prevent livestock from entering rail tunnels or congregating at tunnel entrances or in other areas in the rail right-of-way that could be hazardous to livestock. The Coalition shall work with landowners and land management agencies, as applicable, to identify appropriate locations for cattle guards, fencing, and other design features and to plan for ongoing maintenance of any of these features.

**LUR-MM-11.** The Coalition shall consider installing cattle underpasses along the right-of-way, as appropriate and practical. These underpasses could also be used by wildlife. The Coalition shall work with landowners to identify appropriate locations for cattle passes.

#### 4.4.10 Visual Resources

**VIS-MM-1.** The Coalition shall install visual barriers, as appropriate, to obstruct views of project-related construction activities and to maintain the privacy of adjacent landowners.

**VIS-MM-2.** The Coalition shall direct nighttime lighting, if used during construction, onto the immediate construction area during project-related construction to minimize impacts from shining lights on sensitive viewers, sensitive natural resource areas, recreational areas, and roadway or trail corridors.

**VIS-MM-3.** During project-related construction, the Coalition shall grade contours to create slopes with undulations and topographical variations that mimic natural terrain, where possible. If this grading practice results in larger areas of cut or fill that would further degrade natural features of scenic value, the Coalition shall not implement this measure at those locations. For example, a steeper cut slope may be more desirable than removing many trees to create more rounded terrain. The Coalition shall grade and restore roadbeds that are abandoned because of roadway relocation due to project-related construction to mimic the adjacent natural landscape and revegetate the roadway surface.

**VIS-MM-4.** The Coalition shall design bridges, communications towers, and other project-related features to complement the natural landscape and minimize visual impacts on the landscape. To the extent practicable, the Coalition shall use paint colors that are similar to colors in the surrounding landscape and shall implement design features that mimic natural materials (e.g., stone or rock surfacing) and colors to reduce visibility and to blend better with the landscape.

**VIS-MM-5.** If the Board authorizes construction and operation of the Indian Canyon Alternative or Whitmore Park Alternative, the Coalition shall implement the reasonable requirements of any Forest Service decision permitting the proposed rail line within Ashley National Forest and shall ensure that construction and operation on National Forest System lands complies with the requirements for visual resources management in *Ashley National Forest Land and Resource Management Plan*, including any potential amendments to that plan.

**VIS-MM-6.** If the Board authorizes the Indian Canyon Alternative or the Wells Draw Alternative, the Coalition shall consult with BLM during all phases of project design to ensure that construction and operation of the proposed rail line on BLM lands would be in compliance with all applicable BLM Visual Resource Management requirements and procedures. The Coalition shall incorporate visual design considerations into the design of the proposed rail line on BLM lands; undertake additional visual impact analyses on BLM lands, as appropriate, in consultation with BLM and considering applicable BLM Visual Resources Inventories; and implement appropriate measures to mitigate visual impacts on BLM lands, as requested by BLM.

**VIS-MM-7.** If the Board authorizes the Indian Canyon Alternative or the Wells Draw Alternative, the Coalition shall, in consultation with BLM, implement appropriate additional measures to minimize light pollution on BLM lands, potentially including limiting the height of light poles, limiting times of lighting operations, limiting wattage intensity for lighting, and constructing light shields, as applicable.

**VIS-MM-8.** If the Board authorizes construction and operation of the Indian Canyon Alternative or Whitmore Park Alternative, the Coalition shall implement the reasonable requirements of the Ute Indian Tribe regarding the design of the proposed rail line on Tribal trust lands for minimizing visual disturbances to Tribal trust lands.

#### 4.4.11 Socioeconomics

**SOCIO-MM-1.** The Coalition shall negotiate compensation—for direct loss of agricultural land in the right-of-way and the indirect loss of agricultural land from severance—with each landowner whose property would be affected by construction and operation of the proposed rail line. The Coalition shall assist landowners in developing alternative agricultural uses for severed land, where appropriate. The Coalition shall apply a combination of alternative land use assistance and compensation as agreed upon during right-of-way negotiations. Where capital improvements are displaced by construction or operation of the proposed rail line, the Coalition shall relocate or replace these improvements or provide appropriate compensation based on the fair market value of the capital improvements being displaced.

**SOCIO-MM-2.** The Coalition shall consult with landowners to limit the loss of access to properties during rail construction. The Coalition also shall consult with landowners to determine the location of property access roads that would be crossed by the proposed rail line. The Coalition shall install temporary property access points for landowner use if main access routes must be obstructed during project-related construction. The Coalition shall coordinate with landowners while negotiating the railroad right-of-way easement to identify key access points that would be affected by construction and operation of the proposed rail line. The Coalition shall install at-grade crossings and relocate roads to maintain adequate access to and movement within properties after rail operations begin.

#### 4.4.12 Environmental Justice

**EJ-MM-1.** The Coalition shall consult with the Ute Indian Tribe regarding potential impacts on the Pariette cactus and Uinta Basin hookless cactus and shall abide by the requirements of the tribe's Sclerocactus Management Plan and the tribe's other reasonable requirements and recommendations for project-related activities on Tribal trust lands, which may include soil assessments, complying with mitigation measures to be developed in consultation with the tribe, and contributing to a conservation mitigation fund, as appropriate.