Appendix A
Design Features of the Project for Environmental Protection and Selective Mitigation Measures

TABLE A-1
DESIGN FEATURES OF THE PROJECT FOR ENVIRONMENTAL PROTECTION

		Application Phase[1]			Effectiveness[2]										
	Design Feature	Design and Engineering	Construction	Operation and Maintenance	Earth Resources	Paleontological Resources	Water Resources	Vegetation	Special Status Plants	Wildlife	Special Status Wildlife	Fish and Aquatic Resources	Land Use[3]	Visual Resources[4]	Cultural Resources
1.	In construction areas where recontouring is not required, vegetation will be left in place wherever possible, and original contour will be maintained to avoid excessive root damage and allow for resprouting in accordance with the reclamation plan. Vegetation not consistent with minimum clearance distances between trees and transmission lines must be removed to ensure line safety and reliability (required by North American Electric Reliability Council Transmission Vegetation Management Program).	✓	✓		●	○	●	●	●	○	○	○		●	○
2.	In construction areas (e.g., multipurpose construction yards, tower-site work areas, spur roads from existing access roads) where there is ground disturbance or where recontouring is required, surface reclamation will occur as required by the landowner or land-management agency. The method of reclamation normally will consist of, but not limited to, returning disturbed areas to their natural contour, reseeding, installing cross drains for erosion control, placing water bars in the road, and filling ditches. All areas on lands administered by federal agencies disturbed as a part of the construction and/or maintenance of the proposed transmission line will be seeded with a seed mixture appropriate for those areas. The federal land-management agency will approve a seed mixture that fits each range type. Seeding methods typically will include drill seeding, where practicable; however, the federal land-management agency may recommend broadcast seeding as an alternative method in some cases.	✓	✓		●		●	●	●	○	○	○	○	●	

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	A Reclamation, Revegetation, and Monitoring Framework Plan identifying reclamation stipulations (e.g., topsoil stripping and storage, alleviation of soil compaction in construction areas, timing of reclamation activities, species lists, monitoring methods, standards for reclamation success, bond-release criteria, etc.) will be developed and incorporated into the Plan of Development (POD), which will be approved by the affected federal land-management agency prior to the issuance of a right-of-way grant, special-use authorization, etc.														
3.	Special status species, threatened and endangered species, or other species of particular concern will be considered in accordance with management policies set forth by appropriate land-management or wildlife-management agencies (e.g., Bureau of Land Management [BLM], U.S. Fish and Wildlife Service [FWS], state wildlife agencies, etc.). This will entail conducting surveys for plant and wildlife species of concern along the transmission line route selected for construction and associated facilities (e.g., access and spur roads, staging areas, etc.) as agreed on by the agencies. Survey protocols must be accepted or recommended by the affected federal land-management agency, FWS, and state wildlife agencies, as appropriate. In cases for which such species are identified, appropriate action will be taken to avoid adverse impacts on the species and its habitat, which may include altering the placement of roads or towers, where practicable, as approved by the landowner and compliance inspection contractor (CIC), as well as monitoring activities.	✓	✓						●		●	●			

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	Design Feature	Application Phase[1]			Effectiveness[2]										
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4.	The Applicant will design and construct all new or rebuilt transmission facilities to its raptor-safe design standards, including *Suggested Practices for Avian Protection on Power Lines; The State of the Art in 2006* (Avian Power Line Interaction Committee [APLIC] 2006); *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012); PacifiCorp's Avian Protection Plan, updated June 2011 (PacifiCorp 2011); and PacifiCorp's substation guidelines. Series compensation stations must incorporate animal protections in accordance with the Applicant's standards.	✓	✓	✓						●	●				
5.	To prevent the spread of noxious weeds, a Noxious Weed Management Plan will be developed and incorporated into the POD, which will be approved by the affected federal land-management agencies prior to the issuance of a right-of-way grant or special-use authorization, respectively. This plan will be based on the principles and procedures outlined in the BLM Integrated Weed Management Manual 9015 and Forest Service Noxious Weed Management Manual 2080. On private land, the Plan will be approved by a county weed-management officer.		✓	✓				●	●	○	○	○			
6.	Avoid vegetation clearing and other construction and maintenance activities when possible during the migratory bird nesting season, between February 1 and August 31; however, dates may vary depending on species, current environmental conditions, results of preconstruction surveys, and approval by agency biologists or agency-approved environmental inspectors in coordination with agency biologists.		✓	✓						●	●				

TABLE A-1
DESIGN FEATURES OF THE PROJECT FOR ENVIRONMENTAL PROTECTION

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		Design and Engineering	Construction	Operation and Maintenance	Earth Resources	Paleontological Resources	Water Resources	Vegetation	Special Status Plants	Wildlife	Special Status Wildlife	Fish and Aquatic Resources	Land Use[3]	Visual Resources[4]	Cultural Resources
7.	If vegetation clearing and other construction and maintenance activities could not be avoided during the migratory bird nesting season (between February 1 and August 31), migratory bird and nest surveys will be required within 7 days of any ground-disturbing activities. A spatial nest buffer will be placed around each active nest detected during the surveys until such time as the nest is determined through monitoring to be no longer occupied. Appropriate spatial nest buffers (by species or guild) and nest monitoring requirements will be identified using the best available scientific information through coordination with the FWS and other appropriate agencies and will be provided in a nest management plan incorporated into the POD.		✓	✓						●	●				
8.	Agency guidelines for raptor protection during the breeding season will be followed.	✓	✓	✓						●	●				
9.	Based on preconstruction surveys and results of Section 7 consultation, state and federally designated sensitive plants, habitat, wetlands, riparian areas, springs, wells, water courses, or rare/slow regenerating vegetation communities will be flagged and structures will be placed to allow spanning of these features, where feasible, within the limits of standard structure design.	✓	✓		○		●	●	●	○	○	○	○	○	
10.	In consultation with appropriate land-management agencies and the State Historic Preservation Officers and in accordance with the Programmatic Agreement (to comply with Section 106 of the National Historic Preservation Act) entered into among the BLM; U.S. Forest Service (USFS); Bureau of Indian Affairs; the states of Wyoming, Colorado, and Utah;	✓	✓											○	●

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	consulting parties; and tribes, specific mitigation measures for cultural resources will be developed and implemented to mitigate any identified adverse impacts. These may include Project modifications to avoid adverse impacts, cultural resources, monitoring of construction activities, and data recovery studies.														
11.	The Applicant will continue to monitor studies performed on electric magnetic field research. The Applicant relies on the findings of public health specialists and international scientific organizations for guidelines regarding electric magnetic fields.	✓	✓	✓									○		
12.	Transmission-line materials that have been designed and tested to minimize corona will be used. A bundle configuration and larger conductors will be used to limit audible noise, radio interference, and television interference due to corona. Tension will be maintained on all insulator assemblies to ensure positive contact between insulators, thereby avoiding sparking. Caution will be exercised during construction to avoid scratching or nicking the conductor surface, which may provide points for corona to occur.	✓	✓										○		
13.	The Applicant will apply grounding or other methods where possible to eliminate problems of induced currents and voltages onto conductive objects sharing the same right-of-way, to meet the appropriate codes.	✓	✓	✓									●		
14.	A Fire Protection Plan will be developed and incorporated into the POD, which will be approved by the BLM and USFS prior to the issuance of a right-of-way grant or special-use authorization, respectively.		✓	✓				●							

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	All internal and external combustion engines on federally managed lands will be operated per 36 Code of Federal Regulations 261.52, which requires all such engines to be equipped with a qualified spark arrester that is maintained and not modified.														
15.	The transmission line will be patrolled regularly and properly maintained in compliance with applicable safety codes.			✓									○		
16.	During and after construction of the transmission line, the right-of-way will be free of non-biodegradable debris. Slash will be left in place or disposed of in accordance with requirements of the land-management agency or landowner.		✓	✓	○		○	○							
17.	In disturbed temporary work areas, the topsoil will be salvaged/segregated and distributed and contoured evenly over the surface of the disturbed area after construction completion. The soil surface will be seeded with an agency-approved seed mix and left rough to help reduce the potential for weeds and erosion.	✓	✓	✓	●		○	●		○	○	○		●	
18.	Grading will be minimized by driving overland in areas approved in advance by the land-management agency in predesignated work areas whenever possible.	✓	✓	✓	●	○	●	○		○	○	○		●	○
19.	In consultation with appropriate land-management agencies, specific mitigation measures for and/or treatment of paleontological resources will be developed and implemented to mitigate any identified adverse impacts. These measures will include ■ preparation of a Paleontological Resources Treatment Plan;	✓	✓			●									

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		Design and Engineering	Construction	Operation and Maintenance	Earth Resources	Paleontological Resources	Water Resources	Vegetation	Special Status Plants	Wildlife	Special Status Wildlife	Fish and Aquatic Resources	Land Use[3]	Visual Resources[4]	Cultural Resources
	■ paleontological surveys; ■ education of construction personnel; ■ monitoring ground disturbance; ■ deposition in a paleontological repository; and ■ curation.														
20.	On agricultural land, the right-of-way will be aligned, insofar as is practicable, to reduce the impact on farm operations and agricultural production.	✓			○								●		
21.	The Applicant will respond to complaints of line-generated radio or television interference by investigating the complaints and implementing appropriate mitigation measures where possible. The transmission lines will be patrolled by air or inspected on the ground on a periodic basis, in compliance with the Applicant's standards, so damaged insulators or other line materials that could cause interference are repaired or replaced.			✓									○		
22.	Fences, gates, and walls will be replaced, repaired, or reclaimed to their original condition as required by the landowner or the land-management agency in the event they are removed, damaged, or destroyed by construction activities. Fences will be braced before cutting. Temporary gates or enclosures will be installed only with the permission of the landowner or the land-management agency and will be removed/reclaimed following construction. Cattle guards or permanent access gates will be installed where new permanent access roads cut through fences on land administered by an affected federal agency or other grazing lands.		✓	✓									●		

TABLE A-1 DESIGN FEATURES OF THE PROJECT FOR ENVIRONMENTAL PROTECTION																
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	Temporary gates across breached fences may be required when livestock are actively grazing an area in which the breached fence is located when construction activities have halted for a time. Should construction activities prevent use of a facility, such as a corral when that corral is needed to facilitate movement of livestock, then the Applicant will provide a temporary corral to facilitate movement of livestock. This temporary gate will prevent livestock on one side of the fence from going to the other side through the breach. Calving, lambing, and trailing areas will be avoided in the Project right-of-way and ancillary facilities. Calving season generally occurs between December and February. Lambing season generally occurs between March and June. Trailing areas (areas where livestock producers move livestock across lands to facilitate proper grazing management) can occur throughout the Project area and timing may vary throughout the year. Prior to construction, the Applicant will coordinate with the applicable land-management agency or private landowner to avoid areas used for calving, lambing, and trailing during construction.														
23.	In cultivated agricultural areas, soil compacted by construction and maintenance activities will be decompacted. Construction and maintenance activities will occur as practical to minimize impacts on agricultural operations.		✓	✓	●								●		
24.	Where work will occur on hazardous and contaminated sites, the Applicant must seek approval from the U.S. Environmental Protection Agency. Work on contaminated sites must avoid	✓	✓										○		

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	remedial structures (e.g., capped areas, treatment, or monitoring wells, etc.) and workers must use adequate worker protection measures for working in contaminated areas.														
25.	Towers and/or conductors and/or shield wires will be marked with high-visibility devices (i.e., marker balls or other marking devices) where required by governmental agencies with jurisdiction (i.e., Federal Aviation Administration). Tower heights will be less than 200 feet to avoid the need for aircraft obstruction lighting.	✓	✓	✓									●		
26.	All vehicle movement outside the right-of-way will be restricted to predesignated access, contractor-acquired access, public roads, or overland travel approved in advance by the applicable land-management agency, unless authorized by the CIC (during construction).	✓	✓	✓	●	○	●	●	●	●	●	●	●	●	●
27.	The spatial limits of construction activities, including vehicle movement, will be predetermined with activity restricted to and confined within those limits. No paint or permanent discoloring agents indicating survey or construction limits will be applied to rocks, vegetation, structures, fences, etc.		✓		●	○	●	●	●	●	●	●	●	●	●
28.	Prior to construction, the compliance inspection contractor will instruct all personnel on the protection of cultural, paleontological, ecological, and other natural resources, such as (a) federal and state laws regarding antiquities, paleontological resources, and plants and wildlife, including collection and removal; (b) the importance of these resources; (c) the purpose and necessity of protecting them; and (d) reporting and procedures for stop work.		✓		○	●	○		●	●	●	●			●

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29.	All requirements of those entities having jurisdiction over air-quality matters will be adhered to. Any necessary dust-control plans will be developed and permits for construction activities will be obtained. Open burning of construction trash will not be allowed unless permitted by the appropriate authorities.		✓		○								○	●	
30.	Hazardous material will not be discharged onto the ground or into streams or drainage areas. Enclosed containment will be provided for all waste. All construction waste (i.e., trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials) will be removed to a disposal facility authorized to accept such materials within 1 week of Project completion. A Spill Pollution Prevention, Containment, and Countermeasures Plan Framework, will be developed as part of the POD. Refueling and storing potentially hazardous materials will not occur within a 328-foot (100-meter) radius of a water body in Utah and Colorado (500-foot [153-meter] radius in Wyoming), a 200-foot radius of all identified private water wells, and a 400-foot radius of all identified municipal or community water wells. Spill prevention and containment measures will be incorporated as needed.		✓	✓	○		●	○	●	●	●	●			

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31.	Dull-galvanized steel for lattice towers, nonspecular conductor and gray insulators, will be used to reduce visual impacts. Other permanent structures and fencing associated with the Project will be painted a color from the BLM's standard environmental colors. This color selection will be based on the landscape setting (e.g., sagebrush, pinyon-juniper, etc.) and through consultation with the BLM and the Applicant.	✓	✓											●	●
32.	Watering facilities (tanks, natural springs and/or developed springs, water lines, wells, etc.) will be repaired or replaced if they are damaged or destroyed by construction and/or maintenance activities to their predisturbed condition as required by the landowner or land-management agency. Should construction and/or maintenance activities prevent use of a watering facility while livestock are grazing in that area, then the Applicant will provide alternate sources of water and/or alternate sources of forage where water is available.		✓	✓			○			○	○	○	●		
33.	Consistent with BLM Riparian Management Policy, surface-disturbing activities within 328 feet (100 meters) of a riparian areas (defined as areas of land directly influenced by permanent surface or subsurface water having visible vegetation or physical characteristics reflective of permanent water influence, including wetlands, stream banks, and shores of ponds or lakes) in Utah and Colorado will be required to meet exception criteria defined by the BLM, such as acceptable measures to protect riparian resources and habitats by avoiding or minimizing stormwater runoff, sedimentation, and disturbance of riparian vegetation, habitats, and wildlife species. In Wyoming, surface-disturbing activities within 500		✓	✓	○		●	●		○	○	●			

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	feet of all perennial waters and/or wetland and riparian areas and 100 feet of all ephemeral channels also will be required to meet exception criteria in association with the BLM Rawlins Field Office Resource Management Plan (BLM 2008). Mitigation measures will be developed on a site-specific basis, in consultation with the affected federal land-management agency, and incorporated into the final POD. If any disturbance was anticipated within 20 feet of the edge of a riparian area or other wetland habitat, a silt fence or certified weed-free wattle will be installed along the travel route on the wetland side unless the wetland is up-gradient.															
34.	Interagency-developed methods of avoidance, inspection, and sanitization as described in the *Operational Guidelines for Aquatic Invasive Species Prevention and Equipment Cleaning* (USFS 2009b) will be adhered to. If control of fugitive dust near sensitive water bodies is necessary, water will be obtained from treated municipal sources or drafted from sources known to contain no aquatic invasive species. Support vehicles, drill rigs, water trucks and drafting equipment will be inspected and sanitized, as needed, following interagency-approved operational guidelines.		✓	✓			●					●				
35.	State standards for abandoning drill holes will be adhered to where groundwater is encountered.		✓				○									
36.	Crossings of dry washes will be made during dry conditions, when possible. Repeated crossings will be limited to the extent possible but made at the same locations, if possible.		✓	✓	●		●									

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37.	If a riparian crossing were required during wet periods with saturated soil conditions, vehicles will not be allowed to travel when soils are moist enough for deep rutting (4 or more inches deep) to occur unless prefabricated equipment pads were installed over the saturated areas or other measures were implemented to prevent rutting. Equipment with low-ground-pressure tires, wide tracks, or balloon tires will be used when possible.		✓	✓	●		●								
38.	Canal and/or ditch crossings will require placement of temporary bridges or improvement of existing crossings.		✓	✓			○						●		
39.	To minimize vehicle collisions with wildlife or livestock, a speed limit of 15 miles per hour will be employed on overland access routes.		✓	✓						●	●		○		

NOTE:
[1]Design features of the Project are measures or procedures that are part of the Project and implemented as standard practice, including measures or procedures that could reduce or avoid adverse impacts. Because these features are built into the Proposed Action, design features are considered mitigation. These three columns refer to the phase and/or phases of the Project during which design features are relevant (i.e., during design and engineering, construction, and/or operation and maintenance)
[2] Resources for which the design features of the Project produce a desired result. The "●" denotes a resource that benefits substantively from execution of the design feature. The "○" denotes a resource that also may benefit from the design feature, but not to the same substantive extent as "●."
[3]The category, Land Use, includes the land use subcategories as discussed in Chapter 3 (i.e., existing land use; authorized land use; future land use; parks, preservation, and recreation; transportation and access; congressional designations, special designations and other management areas; wilderness areas, wilderness study areas, and non-wilderness study area lands with wilderness characteristics; and inventoried roadless areas and unroaded/undeveloped areas.
[4] Includes the identification of applicable design features for both visual resources and national trail systems.

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TABLE A-2
SELECTIVE MITIGATION MEASURES

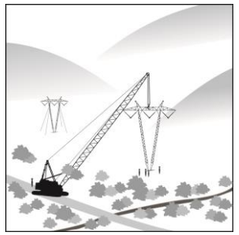
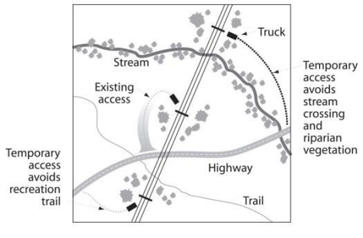
Mitigation Measure	Mitigation Examples	Application Phase[1]			Mitigation Effectiveness[2]										
		Design and Engineering	Construction	Operation And Maintenance	Earth Resources	Paleontological Resources[3]	Water Resources	Vegetation	Special Status Plants	Wildlife	Special Status Wildlife	Fish and Aquatic Resources	Land Use[4]	Visual Resources[5]	Cultural Resources[6]
1. Minimize/Avoid Disturbance to Sensitive Soils and Vegetation In areas where soils and vegetation are particularly sensitive to disturbance, existing roads/two-tracks to be used for construction and maintenance would not be widened or otherwise upgraded to the extent practicable. To allow construction equipment access to work areas where the equipment would extend beyond the width of the existing roads, the construction equipment would straddle the road traveling on the road's shoulder only where terrain and soil conditions would allow for safe operation/transport of the equipment (cranes, cement trucks, etc.). Land-management agencies would work with the Applicant to determine the extent these existing roads could be modified versus fully upgraded to ensure the roads/two-tracks are passable and safe for the equipment and construction and maintenance personnel. This selective mitigation measure would be applied in the following areas: ■ On soils moderately to highly susceptible to accelerated wind or water erosion and on Prime or Unique Farmland where existing access would be improved ■ Within 328 feet (100 meters) (Utah and Colorado) or 500 feet (153 meters) (Wyoming) of streams, wetlands, water, and riparian vegetation communities ■ Occupied habitat for federally listed threatened, endangered, proposed threatened, or petitioned plant species ■ In other locations, where required to comply with law, regulation, or BLM or other agency policy based on the results of preconstruction biological resource surveys.		✓	✓	✓	●	○	●	●	○	○			○	○	○
															Avoiding unnecessary access road upgrades would limit the amount of habitat disturbed or removed. Visual contrast introduced through the widening of roads would increase the visibility of landscape modifications. Avoiding road upgrades would not increase vehicular traffic significantly; reducing the potential for indirect effects such as damage or loss of vegetation, spread of noxious weeds, harassment of wildlife, vandalism of cultural resources, and disturbance to sensitive land uses (e.g., parks, preservation, and recreation areas). Limiting ground disturbance would reduce exposure of soils highly or moderately susceptible to wind or water erosion and in proximity to specially designated waters. The potential for increased erosion and sedimentation as a result of soil compaction/decompaction would be reduced as well as the loss of soil-stabilizing vegetation.
2. Sensitive Resources Avoidance No blading of new access roads would occur in proximity to certain sensitive resources during Project construction or maintenance. Existing crossings and/or overland access routes would be used for construction and maintenance in these areas. Methods such as "matting" could be used to stabilize access to work areas in these sensitive areas. To minimize ground disturbance, overland routes must be flagged with easily seen markers, and the route must be approved in advance. This selective mitigation measure would be applied in the following areas: ■ Within 328 feet (100 meters) (Utah and Colorado) or 500 feet (153 meters) (Wyoming) of streams, wetlands, water, and riparian vegetation communities ■ Occupied habitat for federally listed threatened, endangered, proposed threatened, or petitioned plant species including Level 1 and Level 2 *Sclerocactus* core habitat ■ Designated critical habitat for Colorado River fish species (bonytail, Colorado pikeminnow, humpback chub, and razorback sucker) ■ Occupied least chub habitat ■ Occupied nesting habitat for southwestern willow flycatcher, Mexican spotted owl, and yellow-billed cuckoo ■ Occupied pygmy rabbit habitat ■ Occupied boreal toad habitat ■ Where flat terrain and vegetation would allow for cross-country access to avoid crossing riparian corridors ■ In other locations, where required to comply with law, regulation, or BLM or other agency policy based on the results of preconstruction biological resource surveys		✓	✓	✓			●	●	●	○	●	●	○	●	●
															Selective Mitigation Measure 2 is effective for the same reasons as Selective Mitigation Measure 1. Minimizing ground-disturbing construction and clearing activities in areas of sensitive resources would limit the amount of habitat disturbed, removed, or fragmented. This would reduce the risk of isolation affecting the viability of special status wildlife subpopulations in these habitat areas. Visual contrast would be reduced by locating and constructing access routes, including associated vegetation clearing in riparian vegetation communities, where they would be less visible from viewing locations. Minimizing ground-disturbing construction activities in the vicinity of specially designated waters would limit soil disturbance, thereby minimizing the potential for increased erosion and sedimentation. In addition, limiting crossing of trails and other linear land uses would decrease direct conflicts with their use and function.

TABLE A-2
SELECTIVE MITIGATION MEASURES

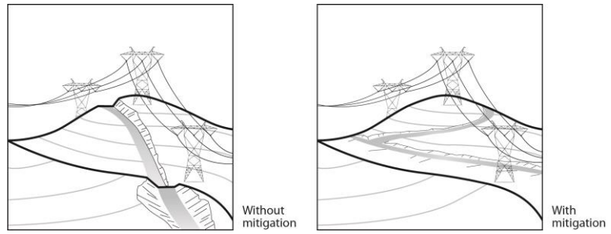
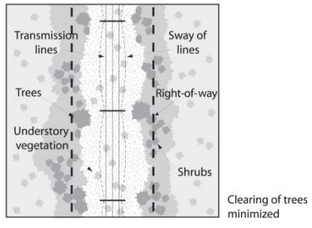
Mitigation Measure	Mitigation Examples	Application Phase[1]			Mitigation Effectiveness[2]										
		Design and Engineering	Construction	Operation And Maintenance	Earth Resources	Paleontological Resources[3]	Water Resources	Vegetation	Special Status Plants	Wildlife	Special Status Wildlife	Fish and Aquatic Resources	Land Use[4]	Visual Resources[5]	Cultural Resources[6]
3. Minimize Slope Cut and Fill The alignment of any new access roads or cross-country routes in designated areas would follow the landform contours where practicable to minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, providing that such alignment does not impact other resource values. In addition to reducing ground disturbance associated with the construction of new access roads, modification to the size and/or configuration of the structure work areas facilitated by minor structure design adjustments (e.g., altering leg length) would allow cut and fill slopes to be minimized and contoured to blend with existing topography to the extent practicable. This selective mitigation measure would be applied in the following areas: ■ On soils highly susceptible to accelerated wind or water erosion (access levels 3, 4, 5, and 6) or moderately susceptible to accelerated wind or water erosion (access levels 5 and 6) and on Prime or Unique Farmland (access level 3) ■ Areas with high landslide potential and slopes greater than 30 percent ■ Clay phacelia habitat ■ Where access roads and structure pads would be constructed on steep slopes (access levels 2, 4, 5, and 6) with landscape character and views that would be modified by extensive earthwork ■ In other locations, where required to comply with law, regulation, or BLM or other agency policy based on the results of preconstruction biological resource surveys.		✓		✓	●	●	○		●				○	●	○
4. Minimize Tree Clearing Removal of trees in the right-of-way would be minimized to limit disturbance to timber resources, reduce visual contrast, and protect sensitive habitat to the extent practicable to satisfy conductor-clearance requirements (i.e., PacifiCorp Vegetation Management Standards). Trees and other vegetation would be removed selectively (e.g., edge feathering) to blend the edge of the right-of-way into adjacent vegetation patterns, as practicable and appropriate. To protect biological resources, only trees over 5 feet tall would be selectively removed in riparian habitats prior to initial construction. In contrast, all vegetation with the potential to grow greater than 5 feet tall would be removed in the wire zone of the right-of-way prior to construction in other vegetation communities. This Selective Mitigation Measure would be applied to the following areas: ■ Occupied nesting habitat for southwestern willow flycatcher, Mexican spotted owl, and yellow-billed cuckoo ■ Trees that contain active raptor nests and winter roosts ■ Riparian vegetation communities ■ Overstory vegetation (deciduous forest, mixed conifer forest, pinyon-juniper, or oak stand) where landscape character and views would be modified by geometric right-of-way vegetation clearing ■ In other locations, where required to comply with law, regulation, or BLM or other agency policy based on the results of preconstruction biological resource surveys. ■ Where crossing recreation sites and non-motorized trails to reduce impacting recreation experience.			✓	✓			○	●		○	●		●	●	○

TABLE A-2
SELECTIVE MITIGATION MEASURES

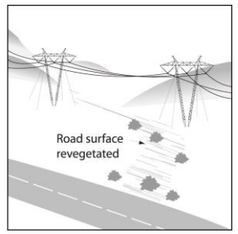
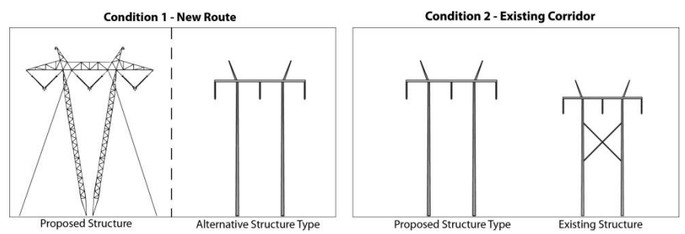
Mitigation Measure	Mitigation Examples	Application Phase[1]			Mitigation Effectiveness[2]										
		Design and Engineering	Construction	Operation And Maintenance	Earth Resources	Paleontological Resources[3]	Water Resources	Vegetation	Special Status Plants	Wildlife	Special Status Wildlife	Fish and Aquatic Resources	Land Use[4]	Visual Resources[5]	Cultural Resources[6]
							○		●	○	●	●	●	●	●
5. Minimize New or Improved Accessibility To limit new or improved access into the Project area, as well as earthwork associated with the construction of tower pads in extremely steep terrain, all new or improved access (e.g., blading, widening existing access) and structure work areas not required for maintenance would be closed or rehabilitated using the most effective and least environmentally damaging methods appropriate to that area and developed through consultation with the landowner or land-management agency. Methods for road closure or management include installing and locking gates, obstructing the path (e.g., earthen berms, boulders, redistribution of woody debris), revegetating and mulching the surface of the roadbed to make it less apparent, restoring the road to its natural contour and vegetation, or constructing waterbars to ensure proper drainage. Tower pads would be contoured to blend with existing grade and revegetated to the extent practicable to reduce their visual dominance in steep terrain. This selective mitigation measure would be applied to the following areas: ■ Potential habitat for San Rafael cactus, Pariette cactus, Uinta Basin hookless cactus, and Levels 1 and 2 *Sclerocactus* core areas ■ Greater sage-grouse core areas or priority habitat, and habitat within 4 miles of leks inside and outside core areas or priority habitat ■ Occupied nesting habitat for southwestern willow flycatcher, yellow-billed cuckoo, and Mexican spotted owl ■ Occupied pygmy rabbit habitat ■ Occupied black-footed ferret habitat ■ In proximity to active raptor nests and winter roosts ■ Occupied habitat for boreal toad ■ In other locations, where required to comply with law, regulation, or BLM or other agency policy based on the results of preconstruction biological resource surveys. ■ Where crossing an existing, zoned, or planned recreation site, campground, or trails ■ Where crossing lands assigned a non-motorized recreation opportunity spectrum classification ■ Steep terrain where earthwork associated with the construction of the structure pads would highly modify landscape character and views	 			✓											Closing access roads where they are not needed after construction protects the area resources from further disturbance for the reasons described in Selective Mitigation Measure 1. The closing of these access roads would restore existing natural features as well as limit public access to wildlife populations, anthropogenic disturbance, and traffic; consequently reducing erosive attributes (e.g., soil compaction, decompaction, and rutting). Additionally, visual contrast would be reduced through restoring existing features in naturally intact and highly visible areas.
6. Tower Design Modification The tower design may be modified or an alternative tower type (or finish materials) may be used to minimize visual contrast or to address site-specific constraints (e.g., terrain, airports, raptor perching, etc.), if practical and consistent with Avian Power Line Interaction Committee and the Applicant's standards. This selective mitigation measure would be applied to the following areas: ■ Where structure type or finish materials would substantially decrease visual contrast through matching adjacent existing structures or minimizing visibility of the proposed structures ■ Adjacent to air facilities where the proposed structures may not meet Federal Aviation Administration height restrictions ■ In other locations, where required to comply with law, regulation, or BLM or other agency policy.				✓											Flexibility in designing the tower or use of different tower types would allow tower structures to be more adapted to specific site situations (i.e., Condition 1 – New Route, Condition 2 – Existing Corridor). For example, in areas where there are sensitive views and an existing corridor, the proposed line would parallel an existing line and match the type of tower used along the existing line, minimizing visual contrast. In situations where an alternative structure may be shorter in height, there would be opportunities to screen or backdrop the structures against topography, resulting in reduced visual contrast. Additionally, tower design modification could be used to minimize perching opportunities for aerial predators where sensitive prey species occur (e.g., sage-grouse).
											○		●	●	●

TABLE A-2
SELECTIVE MITIGATION MEASURES

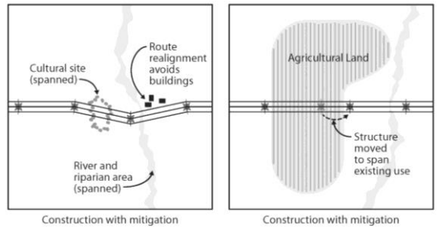
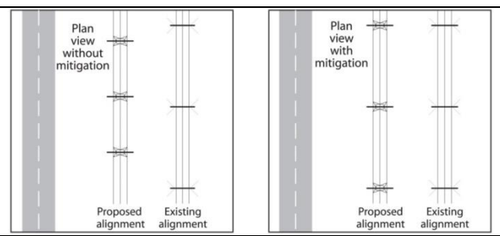
Mitigation Measure	Mitigation Examples	Application Phase[1]			Mitigation Effectiveness[2]										
		Design and Engineering	Construction	Operation And Maintenance	Earth Resources	Paleontological Resources[3]	Water Resources	Vegetation	Special Status Plants	Wildlife	Special Status Wildlife	Fish and Aquatic Resources	Land Use[4]	Visual Resources[5]	Cultural Resources[6]
7. Span and/or Avoid Sensitive Features Within the limits of standard tower design and in conformance with engineering and the Applicant's requirements, structures would be located to allow conductors to clearly span identified sensitive features. Structures would be placed so as to avoid sensitive features, including, but not limited to, wetlands, riparian areas, water courses, hazardous substance remediation, and cultural sites, to the extent possible. Avoidance measures may include selective tower placement, spanning sensitive features, or realigning access routes. This selective mitigation measure would be applied to the following areas: ■ On soils moderately susceptible to accelerated wind or water erosion (access levels 2, 5, and 6) or highly susceptible to accelerated wind or water erosion (access levels 2, 3, 4, 5, and 6) and on Prime or Unique Farmland (access levels 2, 3, 4, 5, and 6) ■ Active mines and producing oil and gas or geothermal wells ■ Permitted mines, coal leases, oil and gas leases, geothermal leases, and active mining claims ■ Occupied habitat for federally listed threatened, endangered, proposed threatened, or petitioned plant species including Level 1 and Level 2 *Sclerocactus* core habitat ■ Wetland, water, and riparian vegetation communities ■ Occupied nesting habitat for southwestern willow flycatcher, yellow-billed cuckoo, and Mexican spotted owl ■ Designated critical habitat for Colorado River fish species (bonytail, Colorado pikeminnow, humpback chub, and razorback sucker) and least chub ■ Occupied white-tailed prairie dog colonies ■ In other locations, where required to comply with law, regulation, or BLM or other agency policy based on the results of preconstruction biological resource surveys. ■ Steep terrain where structures would be skylined, or extensive earthwork would be required, without necessitating a significant realignment ■ Where increasing distance from highly sensitive viewing locations would reduce visual contrast ■ Where land uses including residences, commercial buildings, oil/gas well pads, cemeteries, flood control facilities, pipelines, wastewater treatment plants and communication facilities could be spanned/avoided ■ Where existing utilities and center-pivot irrigated fields could be spanned/avoided ■ Where placing structures adjacent to existing roads, trails, or other recreation areas could avoid limiting existing uses		✓			●	●	●	●	●	○	●	●	●	●	●
					Flexibility in the placement of towers allows sensitive features to be avoided. Realigning the towers along an alternative route or realigning the alternative route, to the extent practicable, itself can result in avoiding or minimizing direct and indirect impacts on resources (e.g., cultural, biological, water, and visual), as well as land uses (e.g., agriculture, parks, preservation, hazardous substance remediation, and recreation areas). This mitigation measure would reduce potential loss, degradation, and fragmentation of wildlife habitat (including riparian areas); decreasing the risk of isolation between habitat areas and subpopulations. Additionally, the transmission line or associated facilities could be realigned, to the extent practicable, in areas with high concern viewsheds to locate structures to result in reduced visual contrast and visibility.										
8. Match Transmission Line Spans Standard tower design would be modified to correspond with spacing of existing transmission line structures of similar voltage and/or span lengths, where feasible and within limits of standard tower design, to reduce visual contrast and/or potential operational conflicts. The normal span would be modified to correspond with existing towers, but not necessarily at every location. This selective mitigation measure would be applied to the following areas: ■ Adjacent to existing transmission lines, with similar span lengths to the Project, to consolidate the area seen as modified from viewing locations		✓											●	○
					Matching tower spacing with existing parallel lines reduces the visual space occupied by the towers and minimizes the amount of contrast between the man-made structures and the landscape.										

TABLE A-2
SELECTIVE MITIGATION MEASURES

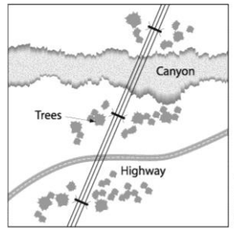
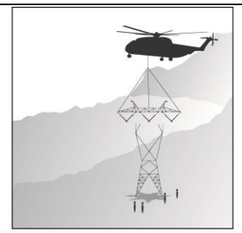
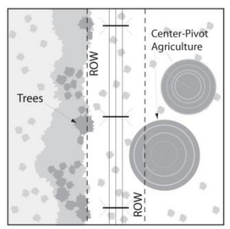
Mitigation Measure	Mitigation Examples	Application Phase[1]			Mitigation Effectiveness[2]										
		Design and Engineering	Construction	Operation And Maintenance	Earth Resources	Paleontological Resources[3]	Water Resources	Vegetation	Special Status Plants	Wildlife	Special Status Wildlife	Fish and Aquatic Resources	Land Use[4]	Visual Resources[5]	Cultural Resources[6]
9. Maximize Span at Crossings At highway, canyon, and trail crossings, towers would be placed at the maximum feasible distance from the crossing within limits of standard tower design and in conformance with engineering and Applicant requirements to reduce visual impacts and potential impacts on recreation values and to increase safety at these locations. This selective mitigation measure would be applied to the following areas: ■ Scenic roads, national scenic or historic trails, and rivers crossed in areas where locating structures as far as possible from these features would reduce visual contrast ■ Planned roads, railroads, trails, and recreation sites ■ In other locations, where required to comply with law, regulation, or BLM or other agency policy based on the results of preconstruction biological resource surveys.	 Towers placed maximum distance from canyon and highway crossings	✓											●	●	●
					Placing towers at a maximum distance from major or sensitive crossings (e.g., roads and trails) would reduce the dominance of views resulting from locating structures directly adjacent to these features and potential safety hazards (i.e., vehicle collision with tower).										
10. Helicopter-assisted Construction Helicopter-assisted placement of towers during construction and helicopter patrol and maintenance may be used where practicable to reduce surface impacts in environmental constraint areas (e.g., inventoried roadless areas) or steep terrain locations (e.g., Baxter Pass). This selective mitigation measure would be applied to the following area: ■ Inventoried Roadless Area that necessitates construction methods without constructing access roads			✓	✓	○		○	○	○	○			●	○	●
					Using helicopters to place towers in steep terrain or otherwise sensitive areas reduces land use and natural resource impacts as a result of construction activities. Limiting ground disturbance would reduce the loss of vegetation, accelerated soil erosion, potential damage to cultural resources, and visual impacts. This mitigation was applied only in specially designated areas requiring construction methods without the construction of access roads to meet management prescriptions.										
11. Minimize Right-of-way Clearing Clearing of the right-of-way would be minimized to avoid sensitive resources and reduce visual contrast. In select areas, the width of vegetation clearing in the right-of-way may be modified (within the limits of PacifiCorp Vegetation Management Standards and standard tower design), and/or current land uses would be allowed to continue unabated, provided the use meets applicable standards. This selective mitigation measure would be applied to the following areas: ■ Existing agricultural lands ■ Future and proposed parks ■ Wetland, water, and riparian vegetation communities ■ Areas where clearing could lead to erosion and subsequent sedimentation (e.g., forested wetlands, mature riparian areas, scrub-shrub wetlands, and perennial and intermittent streams) ■ Occupied nesting habitat for southwestern willow flycatcher, yellow-billed cuckoo, and Mexican spotted owl ■ Occupied pygmy rabbit habitat ■ In other locations, where required to comply with law, regulation, or BLM or other agency policy based on the results of preconstruction biological resource surveys.		✓	✓	✓			●	○		○	○	●	●	○	○
					Limiting the width of the area cleared in the right-of-way reduces the amount of vegetation (i.e., trees) removed at the edges of and in the right-of-way. This minimizes habitat loss and reduces visual contrast between the cleared areas and the surrounding environment. It also allows compatible land uses to continue.										

TABLE A-2
SELECTIVE MITIGATION MEASURES

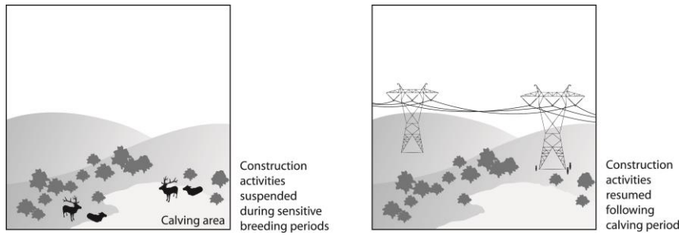
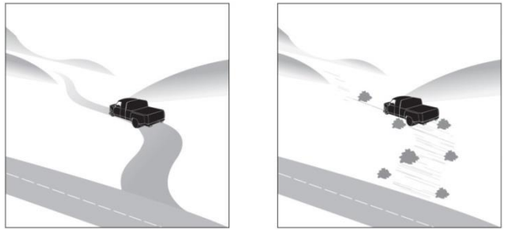
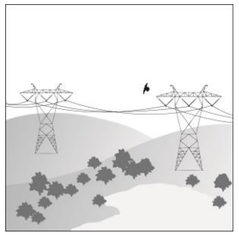
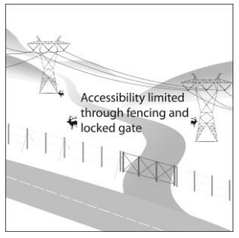
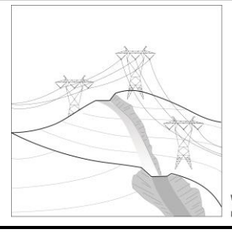
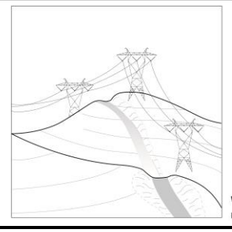
Mitigation Measure	Mitigation Examples	Application Phase[1]			Mitigation Effectiveness[2]										
		Design and Engineering	Construction	Operation And Maintenance	Earth Resources	Paleontological Resources[3]	Water Resources	Vegetation	Special Status Plants	Wildlife	Special Status Wildlife	Fish and Aquatic Resources	Land Use[4]	Visual Resources[5]	Cultural Resources[6]
12. Seasonal and Spatial Plant and Wildlife Restrictions To minimize disturbance to identified plant and wildlife species during sensitive periods, construction, operation, and maintenance activities would be restricted in designated areas unless exceptions are granted by the Authorized Officer or his/her designated representative and other applicable regulatory agencies (e.g., U.S. Fish and Wildlife Service, state wildlife agencies). A list of seasonal wildlife restrictions are presented in Appendix J, Table J-12 of the Final Environmental Impact Statement (EIS). This selective mitigation measure would be applied to the following areas (refer to Appendix J, Table J-12 of the EIS for species-specific seasonal restrictions): ■ Level 1 *Sclerocactus* core areas ■ Bighorn sheep crucial seasonal habitats and lambing areas ■ Elk crucial seasonal habitats, migration corridors, and calving grounds ■ Moose crucial seasonal habitats and calving grounds ■ Mule deer crucial seasonal habitats, migration corridors, and fawning areas ■ Pronghorn crucial seasonal habitats, migration corridors, and fawning areas ■ Occupied nesting habitat for southwestern willow flycatcher, Mexican spotted owl, yellow-billed cuckoo, and mountain plover ■ Greater sage-grouse core areas, priority habitat, general habitat, transmission line corridors designated in Wyoming Executive Order 2011-5, and habitat within 4 miles of leks inside and outside core areas or priority habitat ■ In proximity to active raptor nests and winter roosts ■ In other locations, where required to comply with law, regulation, or BLM or other agency policy based on the results of preconstruction biological resource surveys.			✓	✓				●	●	●					Restricting construction activities or maintenance during identified sensitive periods would eliminate potential disturbance of plants or wildlife during critical periods of their life cycles.
13. Overland Access The Construction Contractor would use overland access to the greatest extent possible in areas where no grading would be needed to access work areas. Overland access would consist of drive-and-crush (i.e., vehicular travel to access a site without significantly modifying the landscape, cropping vegetation, or removing soil) and/or clear-and-cut travel (removal of all vegetation while leaving the root crown intact to improve or provide suitable access for equipment). Prior to commencement of work activities, overland access routes would be staked to a minimum width of 14 feet. Routes would be specified in the Construction Plan of Development. Use of overland access routes would be restricted based on dry or frozen soil conditions, seasonal weather conditions, and relatively flat terrain. This selective mitigation measure would be applied to the following areas: ■ Soils highly susceptible to accelerated wind or water erosion (access level 3) ■ Prime or Unique Farmland (access level 3) ■ Greater sage-grouse core areas, priority habitat, and habitat within 4 miles of leks inside and outside core areas or priority habitat			✓	✓	●		○	○		○	●		○	○	○	Overland access would avoid or minimize the removal of surface soil and vegetation where soils are susceptible to wind and water erosion, reducing the potential for erosion and loss of habitat. Avoiding constructing a new road would reduce the potential for increased traffic and the associated indirect effects, including the introduction of invasive weeds and special status wildlife habitat fragmentation.

TABLE A-2
SELECTIVE MITIGATION MEASURES

Mitigation Measure	Mitigation Examples	Application Phase[1]			Mitigation Effectiveness[2]										
		Design and Engineering	Construction	Operation And Maintenance	Earth Resources	Paleontological Resources[3]	Water Resources	Vegetation	Special Status Plants	Wildlife	Special Status Wildlife	Fish and Aquatic Resources	Land Use[4]	Visual Resources[5]	Cultural Resources[6]
14. Flight Diverters and Perch Deterrents Shield wires, guy wires, and overhead optical ground wire along portions of the transmission line with a high potential for avian collisions would be marked with flight diverters or other Bureau of Land Management or U.S. Forest Service approved devices in accordance with agency requirements and *Reducing Avian Collisions with Power Lines, The State of the Art in 2012* (Avian Power Line International Committee 2012). Portions of the transmission line that are adjacent to or that cross through waterfowl and general migratory pathways or habitat for high priority species may be marked to reduce the risk of avian collisions. This measure also may include use of devices to deter raptors from perching on transmission line structures in habitat for high priority prey species (e.g., sage-grouse). The specific segments where these devices would be used would be determined in consultation with the appropriate agencies.			✓	✓					○	○					Marking guy wires and overhead optical ground wires on segments of the transmission lines that are adjacent to or that cross through high priority avian habitat or where risk of avian collisions are elevated would minimize the risk of avian collision. Installation of perch deterrents on tower structures would reduce potential for increased raptor predation on sensitive prey species.
15. Limit Accessibility in Sensitive Habitats Where feasible, access roads that traverse sensitive habitats would be gated or otherwise blocked in cooperation with the appropriate land-management agencies to limit public access. This selective mitigation measure would be applied to the following areas: ■ Bighorn sheep crucial seasonal habitats and lambing areas ■ Elk crucial seasonal habitats; migration corridors; and calving grounds ■ Moose crucial seasonal habitats and calving grounds ■ Mule deer crucial seasonal habitats, migration corridors, and fawning areas ■ Pronghorn crucial seasonal habitats, migration corridors, and fawning areas ■ Occupied black-footed ferret habitat ■ Areas in proximity to active raptor nests and winter roosts ■ Occupied habitat for federally listed threatened, endangered, proposed threatened, or petitioned plant species ■ In other locations, where required to comply with law, regulation, or BLM or other agency policy based on the results of preconstruction biological resource surveys			✓	✓					○	●	●		○		○
															Selective Mitigation Measure 15 is effective for the same reasons as Selective Mitigation Measure 12. This mitigation measure would limit public access, reducing stress and disturbance to wildlife and special status wildlife and their habitats during critical life-cycle periods.
16. Blend Road Cuts or Grading Soil amendments, mineral emulsions, or asphalt emulsions (i.e., Permeon™ or approved equal) would be applied, or grading techniques, such as slope rounding and slope scarification, would be used to blend road and structure work area cuts into the landscape in areas of steep terrain where grading is necessary, in rocky areas, or where soil color would create strong landscape contrasts. This selective mitigation measure would be applied to the following area: ■ Exposed rock where blasting may be required exposing lighter-colored rock contrasting with the darker, weathered rock	 	✓	✓	✓										●	○	
															Similar to Selective Mitigation Measure 3, the implementation of grading techniques (i.e., slope rounding and slope scarification) and soil/rock coloring would reduce the visual contrast between exposed ground and the surrounding environment. The application of this mitigation would be determined in the field, during or after construction, by the Compliance Inspection Contractor and Bureau of Land Management or U.S. Forest Service Authorized Officers.

NOTES:
[1]These three columns refer to the phase and/or phases of the Project during which selective mitigation measures are relevant (i.e., during design and engineering, construction, and/or operation and maintenance).
[2] Resources for which the selective mitigation measures produce a desired result. The "●" denotes a resource that benefits substantively from execution of the selective mitigation. The "○" denotes a resource that also may benefit from the selective mitigation, but not to the same substantive extent as "●."
[3]Selective mitigation measures applied for paleontology are based on the results of preconstruction surveys.
[4]The category "Land Use" includes the land use subcategories as discussed in Chapter 3 (i.e., existing land use; authorized land use; future land use; parks, preservation, and recreation; transportation and access; congressional designations, special designations and other management areas; wilderness areas, wilderness study areas, and non-wilderness study area lands with wilderness characteristics; and inventoried roadless areas and unroaded/undeveloped areas.
[5]Includes the identification of applicable design features for both visual resources and national trail systems.
[6]Selective mitigation measures applied for cultural resources are based on the results of preconstruction surveys.