

Appendix A

Mitigation Measures

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
Air Resources	
<ul style="list-style-type: none"> Overland Pass will implement its <i>Traffic and Transportation Management Plan</i> that includes dust control measures. 	all lands, unless otherwise specified in the plan
<ul style="list-style-type: none"> Overland Pass will employ dust suppression techniques, such as watering construction areas as necessary in construction zones near residential and commercial areas and along major highways and interstates. 	all lands
<ul style="list-style-type: none"> Dust control measures would be used on access roads and the construction ROW when fugitive dust resulting from construction activities creates a nuisance to nearby residences or a safety hazard. Overland Pass' EIs and agency monitors will determine on a case-by-case basis whether or not dust has become a nuisance or hazard in a particular area. 	all lands
<ul style="list-style-type: none"> If water is obtained from wells or surface water sources to suppress dust, written approval from the landowner or regulatory agency will be obtained prior to appropriation. 	all lands
<ul style="list-style-type: none"> Use of salts as a suppressant will be limited to magnesium chloride, if allowed by local, state, and federal agencies for application. Magnesium chloride will not be used along the pipeline construction ROW on federal lands. 	all lands
<ul style="list-style-type: none"> Soils tracked on to paved roads will be removed. Soil tracked onto paved roads that extends more than 50 feet from the point of origin will be removed within 1 day of discovery. 	all lands
Geology and Mineral Resources	
<ul style="list-style-type: none"> Overland Pass will implement its <i>Blasting Plan</i> that identifies blasting procedures including safety, use, storage, and transportation of explosives. 	all lands, unless otherwise specified in the plan
<ul style="list-style-type: none"> All blasting will be performed by registered licensed blasters who will be required to secure all necessary permits and comply with regulatory requirements in connection with the transportation, storage, and use of explosives, and blast vibration limits for nearby structures, utilities, wildlife, and fish (where blasting is conducted in waterbodies). 	all lands
<ul style="list-style-type: none"> Appropriate flags, barricades, and warning signals will be used to ensure safety during blasting operations. Blast mats would be used when needed to prevent damage and injury from fly rock. 	all lands
<ul style="list-style-type: none"> Blasting in the vicinity of other pipelines will be coordinated with the pipeline operator, and would follow operator-specific procedures, as necessary. 	all lands
<ul style="list-style-type: none"> Overland Pass will either repair, or fairly compensate the owner, for damages that result from blasting. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
Paleontological Resources	
<ul style="list-style-type: none"> Overland Pass will implement its <i>Monitoring and Mitigation Plan</i> (Paleo Plan) to protect fossil resources that may be encountered during project construction, including the resources identified during the field survey. 	federal lands, unless otherwise specified in the plan
<ul style="list-style-type: none"> High sensitivity paleontological units (e.g., those requiring avoidance, excavation, recording of sites) have been identified. 	federal lands only
<ul style="list-style-type: none"> The Paleo Plan includes provisions for the preparation and curation of any fossil collections. 	federal lands only
<ul style="list-style-type: none"> The Paleo Plan includes provisions for the preparation of a final report based on the data recovered. 	federal lands only
<ul style="list-style-type: none"> All work conducted under the Paleo Plan will be performed by qualified paleontologists with trained assistants. 	federal lands only
<ul style="list-style-type: none"> Future maintenance activities that occur outside the previously excavated trench line in Condition 1 and 2 areas will be evaluated for Paleontological resources prior to surface disturbance. 	federal lands only
Soils	
<i>Erosion</i>	
<ul style="list-style-type: none"> Overland will implement its POD that details construction procedures, environmental requirements, project plans, and mitigation measures to be used during construction of the proposed Overland Pass Pipeline Project. 	all lands, unless otherwise specified in the plan
<ul style="list-style-type: none"> Temporary erosion and sediment control devices will be installed promptly after soil disturbance and would be inspected on a daily basis in areas of active construction; on a weekly basis in areas with no construction; and within 24 hours of each 0.5 inch of rainfall. 	all lands
<ul style="list-style-type: none"> Damaged temporary erosion and sediment control structures will be repaired within 24 hours of identification. 	all lands
<ul style="list-style-type: none"> Overland Pass will construct slope breakers across the pipeline construction ROW to slow the velocity of runoff and move water off the ROW. 	all lands
<ul style="list-style-type: none"> Temporary slope breakers (e.g., certified weed-free straw bales, silt fence, earthen berms) will be used during construction, and permanent slope breakers will be installed during final grading following backfilling, as needed. 	all lands
<ul style="list-style-type: none"> Slope breakers will be constructed and maintained according to slope-dependent spacing indicated in the <i>Construction, Reclamation, and Revegetation Plan</i>. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<ul style="list-style-type: none"> Overland Pass will install and maintain sediment barriers (e.g., silt fences, staked certified weed-free straw bales, combination of both) at the base of slopes adjacent to road crossings, waterbody crossings, and wetlands, as appropriate, and in other areas as necessary until permanent revegetation measures are judged successful and the potential for siltation is minimized. 	all lands
<ul style="list-style-type: none"> Trench breakers consisting of sacks of soil or sand, polyurethane foam, or bentonite clay bags will be installed around the pipe in the trench to prevent subsurface channeling of water along the trench. 	all lands
<ul style="list-style-type: none"> Topsoil will not be used for trench breakers. 	all lands
<ul style="list-style-type: none"> Permanent trench breakers will be installed on slopes just before backfilling. The spacing of trench breakers will be determined by a qualified professional or installed at the same spacing as permanent slope breakers. 	all lands
<ul style="list-style-type: none"> Trench breakers also will be installed on slopes greater than 5 percent that are adjacent to waterbodies and wetlands. 	all lands
<ul style="list-style-type: none"> Overland Pass will attempt to complete final cleanup and installation of permanent erosion control measures in an area within 20 days (10 days in residential areas) after backfilling the trench in that area, weather and soil conditions permitting. 	all lands
<ul style="list-style-type: none"> In no case will final restoration of an area be delayed beyond the next available seeding season. 	all lands
<ul style="list-style-type: none"> Overland Pass will make every effort to ensure the rapid, successful establishment of vegetation on areas requiring revegetation as described in the <i>Construction, Reclamation, and Revegetation Plan</i>. 	all lands
<ul style="list-style-type: none"> Following final grading and cleanup, Overland Pass will condition the construction ROW for planting including the preparation of a seedbed to a depth of 3 to 4 inches and application and incorporation of soil amendments at rates agreed to by the landowner or land management agency, or specified in writing by the local soil conservation authority. 	all lands
<ul style="list-style-type: none"> On the PNG, certified weed-free straw or hay mulch will be crimped in at a rate of 1.5 tons/acre. 	PNG only
<ul style="list-style-type: none"> Where disturbed slopes are greater than 20 percent, Overland Pass will utilize stabilization measures immediately after final grading such as applying 1.5 tons per acre of weed free straw mulch, soil pocking, or installing commercial erosion control fabrics. These measures also will be utilized to minimize the effects of wind and water erosion on less severe slopes where sandy or other erosion prone soils create conditions that are adverse to achieving successful reclamation. On private lands, Overland Pass will utilize the same measures unless other requirements are required by the landowner. 	all lands except the PNG

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<ul style="list-style-type: none"> On the PNG, pocking will not be used. At the time of final slope recontouring, Overland Pass will install photodegradable or biodegradable erosion control fabric that is non-toxic to vegetation or germination of seed, and non-toxic or injurious to humans or wildlife, on waterbody banks and slopes over 10 percent. Overland Pass will anchor the erosion control fabric in accordance with the manufacturer's specifications 	PNG only
<ul style="list-style-type: none"> Overland Pass will employ additional measures in areas of heavy compaction; the additional measures are discussed in greater detail in the <i>Construction, Reclamation, and Revegetation Plan</i>. 	all lands
<ul style="list-style-type: none"> Overland Pass will seed areas to be revegetated in accordance with written recommendations for seed mixes, rates, and dates obtained from the local soil conservation authorities or land management agencies. 	all lands
<ul style="list-style-type: none"> Seeding and mulching in cultivated areas will conform to the adjacent off ROW area unless otherwise requested in writing by the landowner. 	all lands
<i>Open Trench</i>	
<ul style="list-style-type: none"> In the Kemmerer and Rock Springs field offices, open trench sections will be limited to a 10-day period (RP 0 to RP 110). Exceptions may be made through a variance approval on a case-by-case basis, when rocky conditions exist. 	Kemmerer and Rock Springs BLM land only
<ul style="list-style-type: none"> To minimize topsoil erosion, hydrologic impacts, and potential impacts to range and wildlife on the PNG, Overland Pass will limit the amount of trench open at one time to no more than 2 miles at the end of each construction day. Trench plugs will be installed at 0.5-mile intervals (except at previously agreed upon locations such as road crossings). 	PNG only
<i>Topsoil Segregation</i>	
<ul style="list-style-type: none"> Double-ditching will be used for trenching in eastern Colorado and Kansas, along Spreads 3, 4, and 5. 	all lands
<ul style="list-style-type: none"> Trenchline and spoil side and/or the full ROW practices will be used in areas where double-ditching is not used. In arid areas (e.g., Wyoming and some portions of Colorado along Spreads 1, 2, and 3) with limited topsoil, topsoil may be removed from the full ROW. 	all lands except PNG
<ul style="list-style-type: none"> In all areas, stripped topsoil will be stored separately and not allowed to mix with trench spoil. 	all lands
<ul style="list-style-type: none"> The PNG will allow a 50-foot offset from the existing Southern Star pipeline. As part of this mitigation, Overland Pass has agreed to a one-time reseeding of identified portions of the southern half of the Southern Star ROW. The total area to be reseeded will not exceed 25 acres. 	PNG only

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<ul style="list-style-type: none"> On the PNG, synthetic polyacrilamide (PAM) tackifiers will be used to control topsoil erosion if the EI or PNG inspector determines there is a need and the PNG inspector requests tackifer application. Tackifer application will occur within 24 hours of request. Only anionic PAM should be used as it is safe to humans, wildlife, and fisheries. Magnesium chloride will not be used on the PNG. 	PNG only
<ul style="list-style-type: none"> On non-federal lands in Wyoming and portions of Colorado, 6 inches of topsoil will be removed, unless it is determined by the EI or Compliance Monitor that there is not 6 inches of suitable topsoil present. Where deep topsoil is present on non-federal lands in Colorado and Kansas, 1 foot of soil will be removed on the trenchline and spoil side to minimize impacts on agricultural activities. 	non-federal lands only
<ul style="list-style-type: none"> On lands managed by the BLM and the ANF, full ROW topsoil stripping will occur to a depth of 6 inches. On the PNG, the full depth of the topsoil horizon will be removed from the trenchline only. 	federal lands only
<ul style="list-style-type: none"> Following backfilling and rough grading of the construction ROW, the stripped topsoil will be returned to its original position. 	all lands
<ul style="list-style-type: none"> Topsoil will not be used to pad the pipe or to manufacture trench breakers. 	all lands
<ul style="list-style-type: none"> Topsoil segregation will be monitored by clearing inspectors and Overland Pass' EIs, and, where required, agency monitors. 	all lands
<i>Soil Compaction and Rutting</i>	
<ul style="list-style-type: none"> Overland Pass will minimize compaction by restricting activities on susceptible soils during wet soil conditions. 	all lands
<ul style="list-style-type: none"> Overland Pass will identify areas of compacted soils by conducting compaction tests across the construction ROW using appropriate devices, and will plow severely compacted soils with a paraplow or other deep tillage implement, or other methods as agreed to by the landowner or land management agency. 	all lands
<ul style="list-style-type: none"> Overland Pass would test for compaction at regular intervals no less than every 0.25 mile on the working side of the ROW. Where the soil has a 15 percent increase in bulk density from the average undisturbed density, mitigate for compaction by ripping to the depth of compaction with a ripper or subsoiler. 	federal lands
<ul style="list-style-type: none"> On the PNG, the entire length of the working side of the ROW will be ripped to the depth of compaction using the required compaction reduction tool, equipped with winged shanks. 	PNG only
<ul style="list-style-type: none"> Where topsoil is segregated from the working side of the construction ROW or additional temporary workspace areas, Overland Pass will decompact the subsoil first before re-spreading topsoil. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<ul style="list-style-type: none"> In areas where topsoil has not been removed, rutting from construction equipment will be considered excessive if greater than 4 inches on BLM and ANF lands, or greater than 3 inches on PNG lands. 	federal lands only
<ul style="list-style-type: none"> On federal lands, Overland Pass will consult with the applicable federal agency on roads that require maintenance or reclamation during or after construction. Two track roads found to be disturbed by construction activities will be reclaimed, at the agencies discretion, by decompacting soils, constructing permanent erosion control (such as drivable water bars), and reseeding the entire roadbed. The two-track will be allowed to reestablish through normal traffic patterns and use. 	federal lands only
<i>Stony/Rocky Soils and Shallow-to-Bedrock Soils</i>	
<ul style="list-style-type: none"> Overland Pass will segregate topsoil from trench spoil and will replace topsoil after cleanup. 	all lands
<ul style="list-style-type: none"> Overland Pass will remove excess rock from the top 12 inches of soil, to the extent practical, in cultivated and rotated croplands, hayfields, pastures, residential areas, and other areas at the landowner's or land management agency's request. In these areas, the amount of rock on the ROW after construction will be similar to adjacent, off-ROW areas 	all lands
<ul style="list-style-type: none"> Overland Pass will take precautions to minimize the mixing of blast rock with backfill and will replace rock in the trench to a level that is not higher than the original bedrock profile. 	all lands
<ul style="list-style-type: none"> In areas where bedrock is within 12 inches of the surface, Overland Pass will replace rock in the trench to the original bedrock profile, and will then backfill the remaining depth with excavated subsoil before replacing the topsoil. 	PNG only
<ul style="list-style-type: none"> Where necessary, excess rock would either be hauled off the ROW or, subject to landowner or land management agency approval and any applicable permit conditions, disposed of on the ROW. 	all lands
<i>Droughty Soil</i>	
<ul style="list-style-type: none"> In areas of droughty soils, Overland Pass will apply mulch and stabilize the soil surface to minimize wind erosion and to conserve soil moisture. 	all lands
<i>Drain Tiles and Irrigation Systems</i>	
<ul style="list-style-type: none"> Overland Pass will replace/repair any drain tiles or irrigation systems damaged by construction activities in accordance with the <i>Construction, Reclamation, and Revegetation Plan</i>. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<i>Spills</i>	
<ul style="list-style-type: none"> Overland Pass will implement its <i>Spill Prevention, Containment, and Countermeasure (SPCC) Plan</i>, which specifies cleanup procedures in the event of soil contamination from spills or leaks of fuels, lubricants, coolants, or solvents. 	all lands, unless otherwise specified in the plan
<ul style="list-style-type: none"> If pre-existing contamination is encountered during trenching operations, Overland Pass will suspend work in the area of the suspected contamination until the type and extent of the contamination is determined. The type and extent of contamination, the responsible party, and local, state, and federal regulations would determine the appropriate cleanup method(s) for these areas. 	all lands
<i>Aboveground/Ancillary Facilities</i>	
<ul style="list-style-type: none"> If contractor yards are located in rangeland, topsoil will be stripped and stored at the edge of the yard and temporary traffic lanes will be installed by placing gravel over geotextile fabric. 	all lands
<ul style="list-style-type: none"> Upon completion of the project, traffic lanes will be removed, compacted soils would be mitigated according to the <i>Construction, Reclamation, and Revegetation Plan</i>, and topsoil will be restored to its original position. 	all lands
<ul style="list-style-type: none"> Overland Pass will identify roads that will be used on a temporary basis to transport personnel, equipment, and vehicles including high clearance vehicles and heavy trucks, and materials to the proposed project work areas. Overland Pass will implement its <i>Traffic and Transportation Management Plan</i> to minimize impacts. 	all lands, unless otherwise specified in the plan
Water Resources	
<i>Surface Water</i>	
<ul style="list-style-type: none"> To minimize potential impacts on water quality, Overland Pass will implement the measures contained in Overland Pass's <i>Construction, Reclamation, and Restoration Plan</i>, including, but not limited to: installing and maintaining sediment barriers to prevent silt-laden water from entering wetlands and waterbodies; restoring original contours as practical; revegetating disturbed areas; and use of energy-dissipating devices to disperse and slow the velocity of any water discharges during construction. 	all lands, unless otherwise specified in the plan
<ul style="list-style-type: none"> Overland Pass will provide written notification to the authorities responsible for potable surface water supply intakes located within 3 miles downstream of the crossing at least 1 week before beginning work in a waterbody, or as otherwise specified by that authority. 	all lands
<ul style="list-style-type: none"> Overland Pass will notify the appropriate state authorities at least 48 hours before beginning trenching or blasting within the waterbody, or as specified in state permits. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<ul style="list-style-type: none"> The size of extra workspace areas will be limited to the minimum size needed to construct the waterbody or wetland crossing. Overland Pass will locate all extra workspace areas at least 50 feet away from the edge of the waterbody, wetland, or riparian area on federally managed land and 10 feet from the edge of the waterbody or wetland on private land. This buffer distance would be applied to flowing waters at the time of construction. On federally managed land, spoil excavated from the waterbody trench will be placed or stored a minimum of 50 feet from the edge of the waterbody, wetland, or adjoining riparian vegetation. 	federal lands/private lands
<ul style="list-style-type: none"> Where waterbodies are adjacent to the construction ROW, sediment barriers will be installed along the edge of the construction ROW as necessary to contain spoil and sediment within the construction ROW or designated extra workspace areas. 	all lands
<ul style="list-style-type: none"> Trench plugs will be used at all waterbody crossings, as necessary, to prevent diversion of water into upland portions of the pipeline trench and to keep any accumulated trench water out of the waterbody. 	all lands
<ul style="list-style-type: none"> All equipment will be parked overnight and/or fueled at least 100 feet from a waterbody or wetland boundary on non-federally managed land and at least 500 feet from a waterbody, wetland, or riparian vegetation boundary on federally managed-land. Overland Pass will not store hazardous materials, fuels, or lubricants within 500 feet from a waterbody, wetland, or municipal watershed area. Concrete coating activities will not be performed within 100 feet of a waterbody or wetland boundary. 	federal lands/private lands
<ul style="list-style-type: none"> Overland Pass will attempt to complete all in-stream work within 24 hours for all minor waterbody crossings and within 48 hours for intermediate waterbody crossings. 	all lands
<ul style="list-style-type: none"> During wet ditch crossings, streambed spoil will be removed and subsequently restored to retain the natural bed materials of the streambed. Under no circumstances will foreign substrate materials (e.g., introduced gravel) be used to back-fill a channel crossing, unless they are native to the immediate locale and mimic the natural bed material. This practice will apply to perennial, intermittent, and ephemeral channels on federal lands. 	federal lands
<ul style="list-style-type: none"> On the PNG, construction across waterbodies that are flowing at the time of construction may be delayed for 2 days. Overland Pass will use open cut crossing methods if the construction delay results in the waterbody drying up due to a weather event. If delaying construction does not achieve this objective, intermittent waterbodies that are flowing at the time construction will be crossed using either the flume or dam and pump crossing method. 	PNG only

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<i>Hydrostatic Test Water</i>	
<ul style="list-style-type: none"> Overland Pass will implement their <i>Hydrostatic Test Plan</i>, which includes procedures for hydrostatic test water appropriations and discharges. Overland Pass will acquire the necessary permits from state agencies before withdrawing hydrostatic test water, including specific approvals from applicable resource agencies. 	all lands, unless otherwise specified in the plan
<ul style="list-style-type: none"> No chemical or biological additives will be allowed during hydrostatic testing unless approved by the appropriate agency responsible for the NPDES permit. 	all lands
<ul style="list-style-type: none"> When discharging onto upland locations, Overland Pass will use energy-dissipating devices (e.g., filter bag, straw bale structures) to dissipate and slow the velocity of the discharge water. On the PNG, sediment filtration bags will be used in all instances during water discharge. 	all lands/PNG only
<ul style="list-style-type: none"> Overland Pass will consult with appropriate state and federal agencies (USFWS and others) before discharging hydrostatic test waters directly into surface waterbodies. Agency recommendations will be implemented prior to such direct discharges, which as Overland Pass proposes, will be made to the waterbody of origin where the surface water was withdrawn. Test water that is not discharged directly to surface waterbodies will be discharged onto stable upland locations near the point of withdrawal, or sprayed on level or nearly level croplands as irrigation water. Irrigation water applications will be done in coordination with landowners as proposed. Stable upland areas will have slopes less than 10 percent, be minimally susceptible to sheet and rill erosion by having suitable soil and abundant vegetation, and be large enough to provide adequate infiltration while avoiding concentrated flow on land surfaces. Discharge rates shall be controlled to minimize channel and gully erosion. Hydrostatic test water will not be disposed of via wells or other means of groundwater injection. 	all lands
<i>Groundwater</i>	
<ul style="list-style-type: none"> Upon completion of construction, Overland Pass will restore the ground surface as closely as practicable to original contours and revegetate the ROW to facilitate restoration of preconstruction overland flow and recharge patterns. 	all lands
<ul style="list-style-type: none"> Overland Pass will either repair or replace potable water supply wells damaged by construction activities, or fairly compensate the landowner for damage to potable water supply wells resulting from pipeline construction. 	all lands
<ul style="list-style-type: none"> Overland Pass will contact private well owners to obtain groundwater. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<ul style="list-style-type: none"> Overland Pass will continue to coordinate with those local and regional districts during the procurement, permitting and use, and discharge of groundwater for project purposes. Coordination with groundwater management districts will be integrated with regulatory interactions with the respective state water resources agencies. 	all lands
<ul style="list-style-type: none"> Groundwater pumped and discharged aboveground for construction purposes will meet agricultural water quality standards in the respective states and/or districts where it is discharged. 	all lands
<ul style="list-style-type: none"> When groundwater is observed during construction (e.g., sites requiring dewatering due to groundwater, saturated wetlands), permanent trench breakers will be installed to prevent unintentional transport of groundwater by the pipeline trench. 	all lands
<ul style="list-style-type: none"> If a pipeline rupture occurs within 500 feet of a groundwater supply source (well or spring), Overland Pass will immediately notify the owner of the source, and will comply with any mitigation and/or monitoring provisions reached through agreements with the source owner and appropriate regulatory agencies. 	all lands
Floodplains, Wetlands, and Riparian Areas	
<ul style="list-style-type: none"> Overland Pass will implement procedures described in the <i>Construction, Reclamation, and Revegetation Plan</i> that include best management practices for restoring floodplain surfaces and subsurface hydrology. 	all lands, unless otherwise specified in the plan
<ul style="list-style-type: none"> Overland Pass would minimize impacts to wetlands and enhance vegetation recovery by following the wetland construction and restoration guidelines contained in the <i>Stream Crossing and Wetland Protection Plan</i> developed for the project. 	all lands, unless otherwise specified in the plan
<ul style="list-style-type: none"> In riparian wetland areas, Overland Pass will cut the existing vegetation to ground level, leaving existing root systems intact. Cut vegetation will be removed from these areas for disposal. Grading activities will be limited to the area directly over the pipeline trench. Except if standing water is present, up to 1 foot of topsoil will be stripped and separated from the trench spoil. Overland Pass will limit the pulling of stumps to the trench area except where safety considerations necessitate stump removal. Excavated stumps will be removed from the wetland. 	all lands
<ul style="list-style-type: none"> At least one of the EIs employed on each spread will have knowledge of the wetland conditions of the project. 	federal lands only
<ul style="list-style-type: none"> If dewatering of the trench is necessary, it will be conducted in a manner designed to prevent heavily silt-laden water from entering a waterbody or undisturbed portions of the wetland. 	all lands
<ul style="list-style-type: none"> Overland Pass will ensure that all disturbed areas are successfully revegetated with wetland herbaceous and/or woody plant species. 	all lands
<ul style="list-style-type: none"> No lime or fertilizer will be used in wetland areas. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<ul style="list-style-type: none"> During operation of its pipeline, Overland Pass will only allow herbaceous vegetation in the 10-foot-wide strip centered over the pipeline. All woody vegetation greater than 15 feet in height will be removed from a 25-foot-wide strip centered over the pipeline to eliminate problems with large root structures affecting the pipeline. 	all lands
<ul style="list-style-type: none"> Herbicides or pesticides will not be used in or within 100 feet of a wetlands except as allowed by the appropriate land management agency or state agency. 	all lands
Vegetation	
<ul style="list-style-type: none"> Overland Pass would use pipeline construction industry standard practices and BMPs for site stabilization and vegetation restoration in areas disturbed by construction as identified in the <i>Construction, Reclamation, and Revegetation Plan</i>. 	all lands, unless otherwise specified in the plan
<ul style="list-style-type: none"> On federal land, Overland Pass will be responsible for ensuring successful revegetation of soils disturbed by project-related activities. Revegetation success will be monitored for 5 years (in July, first, third, and fifth growing seasons) following project completion to evaluate revegetation and erosion control success, according to the <i>Construction, Reclamation, and Revegetation Plan</i>. 	federal lands, except PNG
<ul style="list-style-type: none"> On the PNG, monitoring will occur on an annual basis for the first five years, and where problem areas exist thereafter, and will be subject to the same reporting standards as for the BLM. 	PNG only
<ul style="list-style-type: none"> All areas disturbed by construction activities will be reseeded and allowed to revegetate naturally with tree and shrub species after construction is completed. This stipulation does not preclude ROW vegetation maintenance practices proposed by Overland Pass. 	all lands
<ul style="list-style-type: none"> Overland Pass will implement reclamation procedures on disturbed lands immediately following construction as described in the <i>Construction, Reclamation, and Revegetation Plan</i>. 	all lands, unless otherwise specified in the plan
<ul style="list-style-type: none"> On federal lands, seeding will take place immediately after re-grading, but no later than 20 days after regrading is completed, regardless of the time of year, unless severe weather precludes these activities. If seeding cannot be done within the recommended seeding dates, the appropriate interim erosion control measures discussed in the <i>Construction, Reclamation, and Revegetation Plan</i> would be installed and seeding of permanent vegetation would be performed at the beginning of the next season. 	federal lands only

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
Noxious Weeds and Invasive Plants	
<ul style="list-style-type: none"> Overland Pass will implement their <i>Weed Management Plan</i> that incorporates details regarding known occurrences of noxious and invasive weeds along the proposed project, current treatment of known noxious weed areas, and mitigation measures to minimize the spread and establishment of noxious weeds and non-native invasive species. 	all lands, unless otherwise specified in the plan
<ul style="list-style-type: none"> Prior to construction, Overland Pass will conduct surveys of the areas of known and anticipated infestations of noxious weeds to identify locations of infestations or presence of noxious weed species identified by federal, state, and local agencies. Known infestations will be identified and mapped on environmental alignment sheets to facilitate post construction weed monitoring. 	all lands
<ul style="list-style-type: none"> Areas of the ROW where weed infestations are identified will be clearly marked prior to construction. In these areas, Overland Pass will maintain segregated topsoil in areas identified as supporting noxious weeds adjacent to the areas from which they are obtained to eliminate the transport of soil-born noxious and invasive weed propagules to other areas along the ROW. During reclamation, the Contractor would return topsoil and vegetative material to the areas from which they were obtained. 	all lands
<ul style="list-style-type: none"> Prior to the beginning of construction and at state lines, all contractor vehicles and equipment will be cleaned of soil and debris capable of transporting weed propagules. All contractor vehicles and equipment will be inspected by the EI(s) and may require additional cleaning. 	all lands
<ul style="list-style-type: none"> Only certified weed-free straw or hay bales will be used to construct sediment control devices or in mulch applications. On BLM administered land, only straw bales will be used in mulch applications as opposed to hay bales. On the PNG, hay bales will not be used for mulching or erosion control, unless approved in advance. 	federal lands
<ul style="list-style-type: none"> Overland Pass will ensure that straw or hay bales used to construct sediment control devices or used as mulch applications would be certified weed free and obtained from approved certified sources as recommended by the County Weed and Pest Districts, Weed Control Supervisors, and the States of Colorado, Wyoming, and Kansas. 	all lands
<ul style="list-style-type: none"> Seed mixes will be tested for viability to ensure that desirable seed viability exceeds 95 percent. Seed mixes will have a certified content that contains 0 percent noxious weeds. 	federal lands
<ul style="list-style-type: none"> Overland Pass will ensure that seed mixes utilized for revegetation would be certified weed free and obtained from approved certified sources as recommended by the States of Colorado, Wyoming, and Kansas. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<ul style="list-style-type: none"> Overland Pass will utilize established reclamation practices to prevent the establishment of noxious weeds in reclaimed construction areas and pipeline ROW. 	all lands
<ul style="list-style-type: none"> In the event noxious weed species become established in the ROW, Overland Pass will control weeds in the ROW and to work with adjacent landowners to prevent spread of the species to adjacent lands. 	all lands
Wildlife	
<i>General Wildlife Resources</i>	
<ul style="list-style-type: none"> Overland Pass will follow its POD and other measures referenced in the EIS to minimize impacts to wildlife and their habitats during pipeline operation and maintenance. 	all lands, unless otherwise specified in the plan
<ul style="list-style-type: none"> On federal lands, trench plugs will be installed at a maximum of 0.5-mile intervals and at visible wildlife game trails and livestock watering trails that intersect the trench line. Twenty-foot gaps would be left in spoil and topsoil stockpiles at all trench plugs. A suitable ramp-up out of the trench would be sloped and a 5-foot-wide path maintained across the trench plug. A corresponding gap in the welded pipe string would be left at each trench plug. 	federal lands
<ul style="list-style-type: none"> The pipeline and pipeline trench will be inspected on a regular basis during construction and immediately prior to backfilling to identify entrapped animals. Wildlife found in trenches during construction will be coaxed to the nearest ramp and either be encouraged to exit the trench, removed by hand, or trapped (if other methods are unsuccessful). If any animal in the trench is determined to be a special status species, only authorized Overland Pass resource monitors will be allowed to remove it from the trench. 	all lands
<ul style="list-style-type: none"> Overland Pass will implement a mandatory employee education program for all construction personnel to minimize wildlife impacts and vehicle collisions during project construction. 	federal lands
<i>Big Game</i>	
<ul style="list-style-type: none"> Unless exemptions are authorized in writing by the BLM or Forest Service as appropriate, Overland Pass will avoid construction and non-emergency maintenance activities on federal lands within elk, pronghorn, or mule deer crucial winter and crucial winter/yearlong ranges between November 15 and April 30 in Wyoming and within pronghorn severe winter range between December 1 and April 30 in Colorado. 	federal lands
<i>Raptors and Other Migratory Birds</i>	
<ul style="list-style-type: none"> If construction occurs during migratory bird breeding seasons, Overland Pass will consult with the BLM and the USFWS and prepare a plan to mitigate construction impacts to nesting migratory birds. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<ul style="list-style-type: none"> Overland Pass will consult with the USFWS and BLM to develop mitigation measures to avoid or minimize blasting impacts on nesting birds. 	all lands
<ul style="list-style-type: none"> Pre-construction raptor surveys will be completed along the proposed ROW in accordance with the methodology outlined in the Overland Pass' <i>Sensitive Species Survey Plan</i>. These surveys will identify specific areas where construction may affect active nests (and, in the case of burrowing owls, cause direct impacts on nesting habitat) and where buffer zones may be required. 	all lands
<ul style="list-style-type: none"> Overland Pass will abide by established spatial and timing buffers for active raptor nests identified during pre-construction surveys within 1.0 mile of the construction ROW for ferruginous hawks, or within 0.75 mile of the construction ROW for northern goshawk, peregrine falcon, and burrowing owl from February 1 to July 31 on BLM lands within Wyoming and within 0.25 mile of the construction ROW from March 1 to June 30 on PNG lands. 	all lands
<i>Aquatic Resources</i>	
<ul style="list-style-type: none"> Overland Pass will implement measures to mitigate the effects of hydrostatic testing, including screening intake hoses to prevent the entrainment of fish and other aquatic organisms and regulating the rate of withdrawal of hydrostatic test water to avoid adverse impact on aquatic resources or downstream flows. 	all lands
<ul style="list-style-type: none"> Overland Pass will follow construction constraint periods identified in the <i>Construction, Reclamation, and Revegetation Plan</i> to avoid or minimize impacts to game fish spawning. 	all lands
<ul style="list-style-type: none"> Overland Pass will meet requirements for water withdrawals in the Colorado River and Platte River basins. 	all lands
Special Status Species	
<ul style="list-style-type: none"> Overland Pass will follow its <i>Conservation Measure Plan</i> to avoid or minimize impacts from construction and operation of the pipeline on threatened, endangered, or special status species. 	all lands
<i>Black-footed Ferret</i>	
<ul style="list-style-type: none"> If black-footed ferret is observed during construction, construction would cease, and the USFWS would be notified. 	all lands
<i>Prebles Meadow Jumping Mouse</i>	
<ul style="list-style-type: none"> No equipment will be parked closer than 100 feet from the stream crossing in suitable habitat. 	all lands
<ul style="list-style-type: none"> When equipment crosses suitable habitat, a biologist will clear the area and physically remove mice encountered. These efforts will continue ahead of each piece of equipment until the ROW is cleared and silt fences have been installed. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<ul style="list-style-type: none"> If crossing of suitable habitat for Prebles meadow jumping mouse occurs during the breeding season (June or July), captured adults will be released at the trap site and followed to attempt to determine if they have young in a nest. If a nest is located within the ROW, a decision will be made whether to move the centerline or ROW and avoid the nest or delay the crossing until late July when the young should be mobile and able to be trapped and moved from the immediate area. 	all lands
<ul style="list-style-type: none"> Construction through suitable habitat areas will be conducted as quickly as possible. 	all lands
<ul style="list-style-type: none"> In suitable habitat for Prebles meadow jumping mouse, the width of the ROW will be reduced to 60 feet and additional temporary workspace will be adjusted or fenced to protect habitat. 	all lands
<ul style="list-style-type: none"> Following construction, areas of potential habitat will be restored to preconstruction conditions by broadcast seeding the banks and replacing plugs of willow and/or preexisting shrub species from the riparian area (one plant every square foot). 	all lands
<ul style="list-style-type: none"> If suitable habitat is grazed, and the landowner provides consent, the replanted area will be fenced until vegetation is established. 	all lands
<ul style="list-style-type: none"> The long-term maintenance plan will allow revegetation of native shrub species in addition to herbaceous species in areas identified as potential Preble's meadow jumping mouse habitat. 	all lands
<i>Bald Eagle</i>	
<ul style="list-style-type: none"> If construction occurs during the breeding season for the bald eagle, Overland Pass will conduct pre-construction bald eagle nest surveys at known nest sites and within suitable nesting habitat during the appropriate period in accordance with the survey plans. 	all lands
<ul style="list-style-type: none"> On BLM lands, Overland Pass will not construct within 1 mile of active bald eagle nest sites during the nesting season February 1 through July 31. 	all lands
<ul style="list-style-type: none"> In Colorado, Overland Pass will not construct within 0.5 mile of active bald eagle nest sites during the nesting season November 15 through July 31. 	all lands
<ul style="list-style-type: none"> If Overland Pass encounters a previously unidentified active bald eagle nest within 1 mile of the construction ROW, Overland Pass will notify the USFWS. Overland Pass will not continue with construction until the USFWS staff has reviewed the information, and the USFWS notifies Overland Pass in writing that construction may proceed or use of mitigation may begin. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<ul style="list-style-type: none"> In the event that an active bald eagle nest is located within the specified buffer zone, Overland Pass will provide an experienced biologist to monitor the nest prior to construction to determine when young birds are no longer dependent on the natal nest or nest area, in accordance with Overland Pass's <i>Conservation Measure Plan</i> in the POD. 	all lands
<ul style="list-style-type: none"> In order to minimize impacts to roosting bald eagles, Overland Pass will conduct surveys for roosting eagles within potential winter roost areas if construction occurs between November 1 and April 1. In the event that occupied bald eagle winter roost sites are identified within 1 mile of construction areas, Overland Pass will avoid or minimize construction activity between November 1 and April 1 and will avoid ground disturbing activities within 0.5 mile of active communal roost sites year round. 	all lands
<i>Interior Least Tern, Piping Plover, Whooping Crane, Eskimo Curlew</i>	
<ul style="list-style-type: none"> If suitable habitat is proposed to be crossed, monitoring during the migratory period will occur (RP 680-720 for whooping crane). 	all lands
<ul style="list-style-type: none"> If a least term is identified within the project area, construction will cease until the individual vacated the area. 	all lands
<i>Wyoming Toad</i>	
<ul style="list-style-type: none"> If the pipeline route comes within 2 miles of a known location, a field survey will be conducted. If surveys identify toads within the revised project area, a route re-alignment will be considered. 	federal lands
<ul style="list-style-type: none"> If avoidance of Wyoming toad will not be possible, the ROW will be cleared by biologist prior to construction to remove all Wyoming toads. Toads would be placed in appropriate habitat. 	federal lands
<ul style="list-style-type: none"> Exclusion fence will be installed to a depth of 4 inches in occupied habitat. 	federal lands
<i>Yellow-billed Cuckoo</i>	
<ul style="list-style-type: none"> If pre-construction surveys identify individuals within the project area, the construction ROW width will be reduced to a distance to be determined by the EI or CM. 	federal lands
<ul style="list-style-type: none"> Construction will be avoided during the nesting season. 	federal lands
<i>Townsend Big-eared Bat, Fringed Myotis, Long-Eared Myotis, Long-legged Myotis, Pallid Bat, and Spotted Bat</i>	
<ul style="list-style-type: none"> Preferred bat roosting habitats will be avoided (e.g. caves and abandoned mines) and BMPs identified in project plans will be implemented. 	federal lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<i>Swift Fox</i>	
<ul style="list-style-type: none"> Construction will occur prior to June 1, or a change in ROW configuration will be evaluated (e.g., reducing ROW width) in habitat identified with active natal dens. If a natal den cannot be avoided, the den will be monitored and construction avoided until the juveniles have emerged and are able to relocate from the ROW. 	federal lands
<ul style="list-style-type: none"> If identified active non-natal den within the construction ROW cannot be avoided, the BLM or USFS will be contacted, as appropriate. 	federal lands
<ul style="list-style-type: none"> For active natal or non-natal den identified outside of the construction ROW, Overland Pass will avoid the den, install silt fence along the ROW; and implement general protection measures and BMPs as identified in project plans. 	federal lands
<i>Black-tailed and White-tailed Prairie Dog</i>	
<ul style="list-style-type: none"> Where active colonies occur within or adjacent to the project area, the edge of the ROW will be flagged or fenced to avoid the area. 	federal lands
<ul style="list-style-type: none"> Staging areas, temporary workspaces, or pipeyards will be sited outside of active colonies. 	all lands
<ul style="list-style-type: none"> Following construction, areas of potential prairie dog habitat will be restored to preconstruction conditions. 	federal lands
<i>Sage Grouse</i>	
<ul style="list-style-type: none"> Construction and maintenance will not occur within 2 miles of an occupied sage grouse lek from March 15 through July 15 and within 0.25 mile of an occupied lek from March 1 through May 15, between the hours of 8 p.m. to 8 a.m. on federal lands. 	federal lands
<ul style="list-style-type: none"> Aboveground facilities will not be located within 0.25 mile of a known sage grouse lek. 	federal lands
<ul style="list-style-type: none"> Blasting activities will not occur between March 15 and May 31 within 0.25 mile of a known sage grouse lek, unless otherwise permitted by the appropriate resource agency. 	federal lands
<i>Mountain Plover</i>	
<ul style="list-style-type: none"> Construction and maintenance will not occur within 0.25 mile of identified mountain plover nests between April 10 and July 10 until the young have fledged (7 days post-hatching). 	federal lands
<i>Migratory Birds (Baird's Sparrow, Brewer's Sparrow, Loggerhead Shrike, Long-billed Curlew, Sage Sparrow, Sage Thrasher, Trumpeter Swan, White-faced Ibis)</i>	
<ul style="list-style-type: none"> Vegetation clearing will avoid the nesting season. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<i>Great Basin Spade Foot Toad, Northern Leopard Frog</i>	
<ul style="list-style-type: none"> The ROW will be cleared in suitable habitat by biologists prior to construction to remove all individuals. 	federal lands
<ul style="list-style-type: none"> Exclusion fencing will be installed to a depth of 4 inches in occupied habitat. 	federal lands
<i>Midget-faded Rattlesnake</i>	
<ul style="list-style-type: none"> Construct between October and April when the snakes are inactive. 	federal lands
<ul style="list-style-type: none"> Restrict trench depth to 5 feet near known active snake dens that are within 100 feet of the pipeline ROW. 	federal lands
<ul style="list-style-type: none"> Blasting will not occur within 500 feet of known active snake dens. 	federal lands
<ul style="list-style-type: none"> If a den site occupied by an individual or by a congregation of individuals is uncovered during trenching, construction will be stopped, and a biological resource monitor will immediately notify the BLM to develop and implement appropriate protection measures. 	federal lands
<ul style="list-style-type: none"> All attempts will be made by pipeline personnel to eliminate or reduce fatalities or injuries to individual snakes. 	federal lands
<ul style="list-style-type: none"> All personnel working on the pipeline between RP 55 and RP 70 will have a pre-work orientation addressing the importance of avoiding the snakes, including those snakes that may be crossing or basking on the ROW, additional temporary workspaces, or access roads in the project area. 	federal lands
<ul style="list-style-type: none"> The ROW will be cleared in suitable habitat by biologists prior to construction to remove all individuals. 	federal lands
<ul style="list-style-type: none"> Exclusion fencing will be installed to a depth of 4 inches in occupied habitat. 	federal lands
<i>Spotted Skunk</i>	
<ul style="list-style-type: none"> Trees felled and brush cleared within 200 feet of the proposed Big Creek crossing (RP 670) will be piled in a stack(s) adjacent to the existing riparian area to restore/increase habitat for the eastern spotted skunk. 	all lands
<i>Stonecat</i>	
<ul style="list-style-type: none"> Per the recommendation of the CDOW (Swigle 2006c), Overland Pass will avoid construction across the North Fork of the Republican River between May 31 and August 1 to avoid direct impacts to spawning and young stonecat (late April to early May). 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
Land	
<ul style="list-style-type: none"> • Permits required for installation of the pipeline underneath existing public roads and, as needed, to transport equipment will be obtained prior to construction. For open-cut road crossings, Overland Pass will attempt to: <ul style="list-style-type: none"> • Maintain at least one lane of traffic open with detours around construction; • Provide plating over the open portion of the trench; or • Use other suitable methods when open cutting a road. 	all lands
<ul style="list-style-type: none"> • If a construction method requires a road to be closed for up to 24 hours, Overland Pass will develop a detour for public traffic to bypass the construction area. Overland Pass will provide a detour for vehicle traffic on CR 437 along the North Platte River for the duration of the open cut river crossing. 	all lands
<ul style="list-style-type: none"> • Overland Pass will require the construction contractor to post caution signs on roads, where appropriate, to alert motorists of pipeline construction and warn them of slow traffic. Traffic control measures such as traffic control personnel, warning signs, lights, and barriers will be used during construction to ensure safety and to minimize traffic congestion. 	all lands
<ul style="list-style-type: none"> • Pipe trucks transporting pipe joints and low boys hauling heavy equipment will travel with flashing yellow caution lights in accordance with state law. The construction contractor will employ traffic control personnel as required by state DOT safety requirements for use on paved roads during equipment crossings to ensure safe passage of local traffic. 	all lands
<ul style="list-style-type: none"> • Construction vehicles will follow posted speed limits on rural county roads and highways and follow a 25 mph speed limit on unposted project roads. Speeds will be reduced to 10 mph below posted limits on highways when traveling at night. 	all lands
<ul style="list-style-type: none"> • Overland Pass will implement the following measures to reduce traffic congestion and roadside parking hazards: <ul style="list-style-type: none"> • Project personnel will exercise caution when commuting to and from the construction area to minimize the potential for accidents, and local speed limits will be enforced. • Overland Pass will provide the construction contractor with an equipment yard to be used as a primary parking area for employee personal vehicles. Unauthorized vehicles will not be allowed within the construction ROW or along roadsides near the ROW. The construction contractor will provide buses for transporting workers that do not require personal vehicles to the work site from the yard. 	all lands
<ul style="list-style-type: none"> • Overland Pass will require its construction contractor to comply with local load weight restrictions when using existing public roads and crossing public bridges to prevent road and bridge damage. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<ul style="list-style-type: none"> The construction contractor will be directed to remove soil left on the road surface by equipment crossings. At the end of each workday, mats or other appropriate measures (e.g., sweeping) will be used to reduce deposition of mud and soils on public roads and highways. 	all lands
<ul style="list-style-type: none"> Where culverts are required to improve an access road at stream crossings, these culverts will be of adequate size to accommodate storm runoff as required by federal, state, or county road permits, and of sufficient strength to support construction and maintenance equipment. All temporary culverts and associated fill material will be removed from the stream crossing after construction. 	all lands
<ul style="list-style-type: none"> Overland Pass will notify landowners prior to the start of construction adjacent to a residence. 	all lands
<ul style="list-style-type: none"> Overland Pass will maintain traffic flow and emergency vehicle access on roadways with traffic control personnel or detour signs where necessary. 	all lands
<ul style="list-style-type: none"> Overland Pass will backfill and restore in residential areas as soon as possible, and fence off or plate sections of trench left open near residences at the end of the construction day. 	all lands
<ul style="list-style-type: none"> Overland Pass will periodically inspect road surfaces near residences and, if necessary, clean street surfaces and wet exposed soil to prevent generation of fugitive dust. 	all lands
Visual Resources	
<ul style="list-style-type: none"> Downward shield lighting or low profile lighting, and motion sensors will be used at all facilities that require night lighting to minimize nighttime visual effects. 	all lands
<ul style="list-style-type: none"> MLVs located on the PNG will be painted in earth tones with a matte finish and the site will not be graveled. In addition, fences around the MLVs on the PNG will be barbed wire similar to livestock fences in the area. 	all lands
Cultural Resources	
<ul style="list-style-type: none"> If construction will adversely affect any properties listed on, or eligible for listing on, the NRHP, mitigation will be required. Mitigation may include, but not be limited to, one or more of the following measures: a) avoidance through the use of realignment of the pipeline route, relocation of temporary extra workspace, or changes in the construction and/or operational design; b) data recovery, which may include the systematic professional excavation of an archaeological site or the preparation of photographic and/or measured drawings documenting standing structures; and c) the use of landscaping or other techniques that would minimize or eliminate effects on the historic setting or ambience of standing structures. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
<ul style="list-style-type: none"> To minimize unauthorized collecting of archaeological material or vandalism to known archaeological sites, Overland Pass and their contractors, and all construction personnel, will attend mandatory training and be educated on the significance of cultural resources and the relevant federal regulations intended to protect them. 	all lands
Socioeconomics	
<ul style="list-style-type: none"> Overland Pass will implement its <i>Traffic and Transportation Management Plan</i> to mitigate potential impacts of project-related road use and construction. 	all lands, unless otherwise stipulated in the plan
Hazardous Materials Storage and Use	
<ul style="list-style-type: none"> Hazardous materials, chemicals, fuels, lubricating oils, and materials associated with concrete coating will not be stored within 500 feet of streams, wetlands, or water wells. On federal lands, refueling and lubricating of construction equipment would be restricted to at least 500 feet of streams, wetlands, or water wells. Fuel and service truck drivers would be responsible for spill prevention during refueling and service activities. 	federal lands
<ul style="list-style-type: none"> On non-federal land, refueling and lubricating of construction equipment will be restricted to upland areas at least 100 feet from the edge of any streams, wetlands, ditches, and other waterbodies; 200 feet from private water supply wells; and 400 feet from public water supply wells, wherever possible. Wheeled and tracked construction equipment will be moved to an upland area more than 100 feet from streams, wetlands, ditches, and other waterbodies for refueling and at the end of each work day. 	non-federal lands
<ul style="list-style-type: none"> On private lands, materials such as fuels, other petroleum products, chemicals, and hazardous materials including wastes will be located in upland areas at least 500 feet away from streams and/or 200 feet of private wells (400 feet for public wells). 	non-federal lands
<ul style="list-style-type: none"> Pumps and temporary fuel tanks for the pumps will be stored in secondary containment if located within 100 feet of flowing waterbodies. Containment will provide a minimum volume equal to 110 percent of the volume of the largest storage vessel located in the yard. 	all lands
<ul style="list-style-type: none"> Any construction spills will be promptly cleaned up and contaminated soil hauled to a disposal site approved by Overland Pass and that meets local jurisdictional requirements. 	all lands
<ul style="list-style-type: none"> In wetlands where no upland sites are available for refueling, auxiliary fuel tanks may be mounted to equipment to minimize the need for refueling. Only a fuel truck with a maximum of 300 gallons of fuel may enter restricted areas to refuel construction equipment. Two trained personnel will be present during refueling to reduce the potential for spills or accidents. 	all lands

Table A-1 Summary of Key Applicant-Committed Mitigation Measures

Resource	Applicability
Spills	
<ul style="list-style-type: none"> Overland Pass will implement procedures identified in the SPCC Plan to minimize the risk of spills and the effects of spills on the environment. 	all lands, unless otherwise stipulated in the plan
<ul style="list-style-type: none"> For an upland spill during construction, berms will be constructed with available equipment to physically contain the spill. Absorbent materials will be applied to the spill area. Contaminated soils and vegetation will be excavated and temporarily placed on and covered by plastic sheeting in a containment area a minimum of 100 feet away from any wetland or waterbody, until proper disposal is arranged. 	all lands
<ul style="list-style-type: none"> If a spill occurred beyond the scope of on-site equipment and personnel, an Emergency Response Contractor will be secured to further contain and clean up the spill. 	all lands
<ul style="list-style-type: none"> For spills in standing water, floating booms, skimmer pumps, and holding tanks will be used as appropriate by the contractor to recover and contain released materials on the surface of the water. 	all lands
<ul style="list-style-type: none"> For a spill threatening a waterbody, berms, and/or trenches will be constructed to contain the spill before it reached the waterbody. Deployment of booms, absorbent materials, and skimmers may be necessary if the spill reaches the water. The spilled product will be collected and the affected area cleaned up in accordance with appropriate state or federal regulations. 	all lands
Reliability and Safety	
<ul style="list-style-type: none"> Overland Pass will prepare an emergency plan that includes procedures to minimize the hazards in a natural gas liquids pipeline emergency prior to placing the pipeline system in service. 	all lands
<ul style="list-style-type: none"> Impacts from a potential rupture will be minimized by block and/or check valves installed on either side of waterbodies with widths greater than 100 feet. 	all lands

Table A-2 Summary of BLM-Recommended Mitigation Measures

GEO-1:	Overland Pass shall monitor for subsidence during construction and operation in susceptible areas. Overland Pass shall use appropriate design standards and ground monitoring devices to assure pipeline integrity.
SOIL-1:	In areas where topsoil has not been removed, rutting from construction activities shall not exceed 4 inches on all federal lands, with the exception of the PNG where the rutting restriction is 3 inches. If rutting exceeds these depths, it shall be considered excessive and operations halted until conditions are dry. If conditions do not improve, Overland Pass shall consult with the applicable federal agencies to determine if alternate topsoil removal techniques may be employed to alleviate rutting concern.
SOIL-2:	Prior to preparation of the final POD, Overland Pass shall consult with the federal land management agencies to obtain detailed soil inventory information to be used to fine-tune the proponent's site-specific reclamation and revegetation plans. Site-specific changes and mitigation measures shall be incorporated by RP into the <i>Construction, Reclamation, and Revegetation Plan</i> . The changes shall be incorporated directly into the text of the final POD for the project.
SOIL-3:	On the ANF, topsoil would not be removed from the temporary workspace area.
WATER-1:	If water is present, all waterbodies (regardless of size and flow) and wetlands on federal lands shall have an approved crossing structure consisting of either a temporary culvert, rock fill, or equipment bridge. One pass of clearing equipment and equipment for installation of a bridge shall be allowed across the waterbody or wetland.
WATER-2:	On an as-needed basis as determined and specified through consultations with appropriate state and federal fisheries and water quality agencies, power washing of equipment with water and other chemicals as specified shall be required to avoid transfer of whirling disease, parasites, or nuisance organisms after equipment crosses perennial streams. Suitable chemical treatments may be used for equipment cleaning when sustained daytime temperatures are below freezing. Any fluids used for this purpose that contain additives (e.g., chlorine) shall not be discharged to streams or drainages, but shall be disposed of in an agency-approved manner at an appropriate facility.
WATER-3:	If water is withdrawn from the surface waters containing fisheries (e.g., for HDD or hydrostatic testing) during the period from April 1 through October 31, Overland Pass shall utilize a filter screen with a mesh size that would prevent impingement and entrainment of aquatic organisms. The mesh size would be 3/32-inch to protect larval fish. For surface water withdrawals during November 1 through March 31, a 0.5-inch mesh filter screen may be used.
WATER-4:	Overland Pass shall use construction techniques applicable for flowing waterbodies when dry/seasonally dry lake beds are crossed during saturated or inundated conditions.
WATER-5:	On federal land, Overland Pass shall reduce the total construction ROW width to 60 feet in riparian and wetland areas.
WATER 6:	Prior to any discharge, hydrostatic testing water will be tested and processed to ensure that the water meets local, state, or federal water quality standards. This includes meeting NPDES permit requirements as stated in Chapter XVIII of the Wyoming Water Quality Rules and Regulations. Prior to discharge of hydrostatic testing water from the pipeline, the holder shall design and install a suitable energy dissipator(s) at the outlet(s), and design and install suitable channel protection measures necessary to ensure that there will be no erosion or scouring of natural channels within the affected watershed as a result of such discharge. Overland Pass would be responsible for any erosion or scouring resulting from such discharge. Straw bales, sandbags, rock, or other materials or objects installed will be removed from the site upon completion of hydrostatic testing.

Table A-2 Summary of BLM-Recommended Mitigation Measures

VEG-1:	To minimize impacts to waterbodies, wetlands, and riparian areas, Overland Pass shall set back TWAs a minimum distance of 50 feet from the edge of waterbodies, wetlands, or riparian areas, whichever distance would provide the greatest protection. The distance shall be measured from the water bank of the waterbody, the margin of a wetland, and the exterior edge of a riparian area. In addition, erosion and sediment control measures, including but not limited to, silt fence, straw bales, berms, water bars, and mulching shall be installed around each TWA to prevent soil movement into the nearby sensitive area. Riparian areas form a transition between permanently saturated wetlands and upland areas and are typically associated with waterbodies (see Glossary).
VEG-2:	Overland Pass shall continue to monitor and control invasive plant species and noxious weeds along the ROW for the life of the project.
WILD-1:	The duration a trench is open shall be limited to 10 days from RP 0 to RP 110 on federal land administered by the BLM Kemmerer and Rock Springs field offices. In areas with large amount of rock where trenching may take longer and may include blasting, Overland Pass may request variances from this mitigation measure on a case-by-case basis.
WILD-2:	To avoid impacts to kokanee salmon and brown trout movements and effects on habitat from ice in the winter and high flows in the spring, construction across the Green River shall occur between July 1 and August 15 or between October 15 and November 20.
WILD-3:	Overland Pass will notify WGFD at least 72 hours prior to initiating construction at streams with sensitive fisheries (Table 3.5-2).
SSS-1:	If there is perceptible flow within Bitter Creek at the time of crossing, Overland Pass shall use a dry crossing method (dam-and-pump or flume method) to protect the flannelmouth sucker populations.
SSS-2:	Overland Pass shall prepare a plan prior to construction to be approved by the BLM to avoid disturbance to all Nelson's milkvetch plant locations.
LAND-1:	Overland Pass shall notify all federal grazing permittees at least 5 days in advance of construction activities. Additionally, Overland Pass must take measures to avoid cutting off access to rangeland for winter sheep operations.
LAND-2:	Overland Pass shall post notification at recreation sites and on main access roads into these recreation sites warning users of heavy traffic related to construction of the project.
ARCH-1:	Adverse effects to historic properties will be mitigated through the implementation of a project-wide Memorandum of Agreement among the BLM; Pawnee National Grasslands USFS; Overland Pass Pipeline LLC; Wyoming, Colorado, and Kansas SHPOs; and the Advisory Council on Historic Preservation.
SAFETY-1:	In order to comply with BLM regulations at 43 CFR 2886.10, prior to operating the pipeline, Overland Pass must certify to BLM in writing that it has constructed and tested the pipeline in accordance with the terms of the ROW grant and it is in compliance with the plans, specifications, and federal and state laws and regulations concerning the pipeline.