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6.0 Environmental Impact Summary

Table 6-1 provides a summary of the environmental impacts that are expected to remain after Keystone's BMPs are applied. These impacts will include both short-term impacts (impacts that will occur over a five-year period or less) and long-term impacts (impacts that exceed five years).

Table 6-1 Impact Summary

Resource	Impact Summary
Air Quality	• Fugitive dust will be generated from Project construction activities and traffic during the construction period regardless of the dust suppression measures applied. All regions crossed by the Project are in attainment for particulate matter and no state-mandated dust control permits will be required. • Operational hydrocarbon emissions from 30 new pump stations and three upgraded pump stations will be minimal because pumps will be electrically driven. • The Steele City tank farm near will emit regulated air pollutants during the crude oil storage. The tank farm will be subject to federal and state air regulations and an air construction and operating permit application will need to be filed with the NDEP.
Geology, Minerals, and Paleontology	• There are 1,546 oil and gas well locations within 0.25 mile of the project. The project also crosses about 150 miles of deposits that may hold gravel resources. Construction and operation of the Project will limit access to underlying minerals such as sand, gravel, oil, and natural gas for the life of the Project. This limitation will be confined to the width of the permanent pipeline easement and locations of aboveground facilities. • The project crosses about 523 miles of bedrock formations that have a high potential to contain scientifically important fossils. Keystone has surveyed where required and made recommendations to avoid impacts to these resources. Adherence to those measures will minimize adverse impacts to scientifically important paleontological resources on federal lands. Resources on non-federal lands may be recovered only with approval of the landowners.
Soils and Agricultural Production	• A small fraction of the excavated soils in areas with highly erodible soils (6,498 acres) could be lost to increased water and wind erosion acting on disturbed soil surfaces until grass and other herbaceous vegetation is restored (potentially three to five years). Soil protection measures will be used during and after construction to avoid or minimize erosion. • Agricultural cropland and rangeland (including hayland) production will be short-term loss in the construction ROW and additional temporary workspace areas for the season during construction on approximately 14,275 acres. During the next growing season, production on haylands and pasturelands may be reduced but not completely lost. Long-term productivity will not be impaired.
Water Resources	• Construction across waterbodies will cause local short-term increases in total suspended solids and deposited sediment in 205 perennial streams and rivers. Channel disturbance at 33 perennial waterbody crossings will be avoided by HDD technique to install the pipeline (see Table 2.1-6). • Pipeline construction will disturb a total of 740 acres of wetlands, river systems, and other open water. Of this total, approximately 556 acres are wetlands (112 acres palustrine emergent wetlands 92 acres forested wetlands, and 65 acres palustrine

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Resource	Impact Summary
	scrub shrub). Approximately 184 acres are located in river systems and open water. It is estimated that vegetation cover in palustrine emergent and palustrine scrubshrub wetlands will recover in one to five years; forested wetlands will require 20 to 50 years. No permanent loss of wetlands will occur as a result of this Project; however, approximately 92 acres (1%) forested wetland will be permanently converted to herbaceous wetland. • Water used for hydrostatic testing of the pipeline will be obtained from surface water sources. The volume for a 50-mile test section of 36-inch pipeline is approximately 14 million gallons (43 acre feet). Withdrawal rates and volumes will be designed to avoid impacts to aquatic life and downstream water users. Hydrostatic test water will be discharged to the land surface at an approved location or returned to the source water using an approved energy dissipation device. Water discharged to the land surface may evaporate or infiltrate into the soil or drainage where the water is released. All necessary water use and discharge permits will be obtained and their conditions adhered to.
Vegetation	• Pipeline construction will disturb a total of 20,782 acres including 11,485 acres of native and modified grassland/rangeland/pastureland, 2,684 acres of forest land, and 4,777 acres of agriculture/cropland.
Wildlife	• Approximately 1,309 acres of upland and wetland wildlife habitats will be cleared during pipeline construction and then recovered over short- and long-term time frames (see water resources and vegetation above and additional temporary workspace areas). • Wildlife displacement from the construction ROW is expected to be short-term. No long-term displacement impacts are expected from the operational activities associated with this project. • There may be a potential loss of bird eggs and young from pipeline clearing activities or increased human presence if these activities occur during the breeding season along the entire length of the Project. • Powerlines (ranging in length from 1 to 57 miles) will be constructed to serve the pump stations. The powerlines represent a collision hazard for waterfowl and other birds similar to those of existing electrical distribution lines.
Aquatic Resources	• Short-term increases in total suspended solids and sediment deposition downstream from channel excavation at open-cut stream crossings will occur in 205 perennial rivers and streams (see water resources above) thus may result in localized, minor, short-term impacts to aquatic resources.
Sensitive Species	• There will be a potential reduction in sensitive wildlife and aquatic species habitats as a result of construction. These habitat changes are described for wildlife and aquatic resources above. • Of the 48 special status species, sever are not located within the Project area (Table 3.7-11).
Land Use (including noise, and transportation)	• Approximately 8,799 acres will not be allowed to be occupied by residential or other structures within the permanent pipeline easement and aboveground facility locations over the life of the Project. Agricultural uses (cropland) will be allowed to continue as before except at the aboveground facility locations. • Several recreation and special-interest areas will be crossed by the Project (Table 3.8-6).

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Resource	Impact Summary
	• Aboveground facilities (tank farm, pump stations, powerlines, valves, densitometers) will exist for the life of the Project. The majority of these facilities will be located in rural areas. Power lines primarily will be located along county roads where possible to minimize impacts and therefore, will impact visual aesthetics in those areas. • Short-term obstruction or temporary disruption to local roads will occur during construction.
Cultural Resources	• Cultural resource impacts may include physical disturbance of archaeological sites or architecturally significant structures and features. Further, the Project may introduce visual or audible elements (e.g., pump stations) that will alter the setting of a cultural resource feature. • Impacts to sites that are eligible for the NRHP will be mitigated by one or more of the following measures: avoidance through use of pipeline realignments and facility relocations; approved data recovery from sites that cannot be avoided; and use of landscaping or other techniques to minimize or eliminate effects on the historic setting or ambience of standing structures. • Construction activities may adversely affect undiscovered archaeological sites. If previously undocumented sites are discovered within the construction work areas, work that could adversely affect the discovery will cease until consultation with appropriate cultural preservation agencies is completed. If the previously unidentified site is recommended as eligible to the NRHP, impacts will be mitigated through the procedures included in an Unanticipated Discovery Plan. • Treatment of any discovered human remains will be handled in accordance with the guidelines contained in the NAGPRA or state laws, depending upon whether the remains are found on federal or state land as well as the age and cultural affiliation of the remains. Construction will not resume in an area where human remains are discovered until the appropriate authorized agency(ies) provides a notice to proceed.
Native American Consultation	• The lead federal agency will consult with tribes that may have a past or current affiliation with the Project area and solicit input.
Socioeconomic Conditions	• Keystone will acquire pipeline easements and fee property from landowners and provide landowners with monetary compensation for the conveyance of those easements or fee property. Keystone will restore damaged or disturbed lands repair or restore damaged property, or compensate owners for damages. Additionally, the easement area will be returned to its preconstruction use with the exception of timber/forest and structures in the permanent easement. • Land for permanent facility sites will be acquired in fee or through an above ground surface lease. • In the short term, construction of the Project facilities will provide direct employment of an estimated 3,500 to 4,200 workers distributed across five to six states. Project employees will increase retail sales in local areas along the Project route. Demands on local infrastructure will include temporary accommodations during the construction period and, potentially, emergency services both during and after the construction period. It is anticipated that workers will commute from larger population centers to the Project work sites. • In the long term, operations will increase revenues to the states and counties crossed by the Project. It is estimated that the Project will pay 140 million dollars in

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Resource	Impact Summary
	property taxes in the first year of operation.
Public Health and Safety	• The USDOT prescribes pipeline design and operational requirements that minimize the risk of accidental crude oil releases. Over the operational life of the Project, a release of crude oil that could injure people, drinking water supplies, and ecologically sensitive areas is highly unlikely. If a spill were to occur the appropriate remedial measures will be implemented to meet federal and state standards designed to ensure protection of human health and environmental quality.