The South Variant Alternative would have the same unavoidable adverse effects involving transportation infrastructure and service as described for the South Alternative in Section 5.3.15.5.1.

5.3.16 Visual Resources

5.3.16.2 Environmental Effects

5.3.16.2.2 South Alternative

5.3.16.2.2.1 Summary of Direct, Short-term Effects from the South Alternative on Landscape Character.

Pg. 5-752, 2nd paragraph

Ground disturbing activities associated with construction of the pipeline would remove a band of existing vegetation approximately 150 feet wide. A similar disturbance band would occur along the short stretch of smaller pipeline that extends from the primary penstock to the future Kane County Water Treatment Plant (WTP). Intermittent pressure-relieving valves with vent structures in below-ground at-grade vaults would be located along the South Alternative alignment, and would occur on the pipeline extending to the future Kane County WTP. These structures would occur at various pipeline and penstock points along the South Alternative. The valves and vent structures would be in buried vaults. The installation of the valve structures would not remove additional vegetation outside the 150-foot-wide disturbance area. The at-grade vault shapes would create varying degrees of contrast with the lines and forms of the existing landscape. Eleven of the 18 VAUs in the South Alternative would be directly affected by project facilities, including VAUs 1, 3, 4, 7, 8, 9, 15, 16, 19, 20, and 21. The clearing of sage-scrub vegetation on the proposed facility sites would create large rectangular shapes in the characteristic landscape in areas void of cultural modifications associated with rural development and would result in varying degrees of contrast.

5.3.16.2.5 Existing Highway Alternative.

5.3.16.2.5.1 Summary of Direct, Short-term Effects from the Existing Highway Alternative on Landscape Character.

Pg. 5-770, 2nd paragraph

Like the South Alternative, ground disturbing activities associated with construction of the pipeline would remove a band of existing vegetation approximately 150 feet wide. A similar disturbance band would occur along the short stretch of smaller pipeline that extends from the primary penstock to the future Kane County WTP. Two of the five VAUs in the Existing Highway Alternative would be directly affected by project facilities, including the future Kane County WTP in VAU 9 and HS-2 Hwy facility in VAU 15. The clearing of sage-scrub vegetation on the proposed facility sites would create large rectangular shapes in the characteristic landscape in areas void of cultural modifications associated with rural development and would result in varying degrees of visual contrast.

5.3.16.2.6 Southeast Highway Alternative.

5.3.16.2.6.2. Summary of Direct, Long-term Effects from the Southeast Corner Alternative on Landscape Character.

Pg. 5-778, 1st paragraph

Like the South Alternative, ground disturbing activities associated with construction of the pipeline would remove a band of existing vegetation approximately 150 feet wide. Ground-disturbing activities would remove a uniform vegetation low to medium in height and density, expose lighter soils, and cut through several deeply incised washes. The existing 500 kV transmission line is a dominating feature that attracts attention within VAU 12. The potential effects from the Southeast Corner Alternative would draw attention from the natural setting and would create a notable degree of change in the characteristic landscape because of the introduction of distinct lines into the landscape in the foreground in VAU 12. In the middleground views of this Alternative the magnitude of change to the landscape and the level of contrast would be negligible because the project components would not be discernible features in the setting. Therefore, the Southeast Corner Alternative would create moderate, direct long-term, effects in the foreground and very low, direct long-term direct effect in the middleground of VAU 12.

This is a new Section 5.3.16.2.7. Section heading numbers of the remaining sections in Section 5.3.16.2 are increased accordingly.

5.3.16.2.7 South Variant Alternative.

This section addresses direct and indirect effects on visual resources under the South Variant Alternative. The following subsections qualitatively describe the potential direct effects on the VAUs from the proposed South Variant Alternative alignment (Table 5-136). Effects are described from east to west, and the effects are summarized in Table 5-144A.

Table 5-144A
Summary of Direct Impacts by VAU/Platform for the South Variant Alternative

No.	Visual Assessment Unit (VAU)	Short-Term		Long_Term	
		Foreground	Middleground	Foreground	Middleground
12	Jacob Canyon/Kanab Creek/Pipe Valley[1]	Moderate[2]	Very Low	Moderate	Very Low
	KOP 28	NP	Very Low	NP	Very Low
	KOP 29	NP	Very Low	NP	Very Low
	Dominguez-Escalante HT[4]	NP	Very Low	NP	Very Low

Source: Logan Simpson
Notes:
(1) Italicized text denotes the magnitude of the potential change in the characteristic landscape.
(2) Very Low = negligible/none, Low =subtle/weak, Moderate = notable/ moderate, High = substantial/strong, Very High = severe/very
strong, NP= not present, NV= not visible
(3) Gray shading denotes the magnitude of potential effect on views from sensitive viewing platforms.
(4) HT= Historic Trail.

Table 5-145A catalogs additional simulations for the South Variant Alternative by name and number; provides the KOP at which each simulation was generated; and lists the VAU in which each simulation is located.

Table 145A
Visual Simulation Listing for the South Variant Alternative

KOP No.	Simulation Name/Subject	Corresponding VAU Number
31	Kaibab Paiute Tribal Headquarters	13- Potter Canyon Unit
32 Linear	Hydro Station 2 (South) Eastbound from Highway 389	15- Colorado City / Hildale Unit
32 Linear	Hydro Station 2 (South) Eastbound from Highway 389	15- Colorado City / Hildale Unit

Source: Logan Simpson Design Inc.
Note: KOP = key observation point; VAU = visual assessment unit

5.3.16.2.7.1. Summary of Direct, Short-term Effects from the South Variant Alternative on Landscape Character.

This section summarizes the direct, short-term effects in the foreground and middleground distance zones from the proposed pipeline alignment as planned for the South Variant Alternative. There would be no other project facilities such as booster pump stations or staging areas proposed with this alternative. The direct, short-term effects for the magnitude of change in the landscape character in the foreground and middleground for VAU 12 is listed in Table 5-136. These potential effects would be the same as the short-term effects on the foreground and middleground views from the sensitive viewing platforms.

5.3.16.2.7.2. Summary of Direct, Long-term Effects from the South Variant Alternative on Landscape Character.

Similar to the South Alternative, ground disturbing activities associated with construction of the pipeline would remove a band of existing vegetation approximately 150 feet wide. Ground-disturbing activities would remove a uniform vegetation low to medium in height and density, expose lighter soils, and cut through several deeply incised washes. The existing 500 kV transmission line is a dominating feature that attracts attention within VAU 12. The potential effects from the South Variant Alternative would draw attention from the natural setting and would create a notable degree of change in the characteristic landscape because of the introduction of distinct lines into the landscape in the foreground in VAU 12. In the middleground views of this Alternative the magnitude of change to the landscape and the level of contrast would be negligible because the project components would not be discernible features in the setting. Therefore, the South Variant Alternative would create moderate, direct long-term, effects in the foreground and very low, direct long-term direct effect in the middleground of VAU 12.

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5.3.16.2.7.3 Summary of Direct Effects on Views from Sensitive Viewing Platforms from the South Variant Alternative.

No sensitive viewing platforms would be present in the foreground of VAU 12 in this alternative. The direct effects in the middleground distance zones from sensitive viewing platforms in the South Variant Alternative are described in more detail in Table 5-136. The South Variant Alternative would not be visually evident and would have a very low level of contrast when viewed from the middleground from KOPs 28 and 29, and from Dominguez-Escalante HT in VAU 12; therefore, for the South Variant Alternative, there would be a very low, direct long-term effect when viewed from platforms in the middleground distance zone.

5.3.16.2.7.4 Effects on Scenic Roads and Byways.

Fredonia-Vermilion Cliffs Scenic Road/Highway 89A
The South Variant Alternative would be greater than five miles from the Fredonia-Vermilion Cliffs Scenic Road/Highway 89A; therefore there would be no effect on the designated scenic road.

Zion Park Scenic Byway/Highway 9
The South Variant Alternative would be greater than five miles from the Zion Park Scenic Byway; therefore there would be no effect on the designated scenic byway.

5.3.16.2.7.5 Effects on Historic Trails.
Effects on the historic trails in the area of potential effect would be dependent on the accurate location of the trails, which is currently unknown. Effects are therefore discussed based on the currently available data.

Old Spanish NHT
The South Variant Alternative would be greater than five miles from the Armijo Route of the Old Spanish NHT; therefore there would be no effect on the NHT.

Dominguez-Escalante Historic Trail
The South Variant Alternative would be visible from the Dominguez-Escalante HT in the middleground in VAU 12. When this alternative is viewed in the middleground of the HT, the magnitude of direct effects would be very low in the long-term.

Honeymoon Historic Trail
The South Variant Alternative would be greater than five miles from the Honeymoon HT; therefore there would be no effect on the HT.

Temple Historic Trail
The South Variant Alternative would be greater than five miles from the Temple HT; therefore there would be no effect on this trail.

5.3.16.2.7.6 Effects on ACECs.
Two ACECs (Shinarump and Kanab Creek) that have scenic resources identified as a resource relevant to the ACEC are located within the middleground of the South Variant Alternative. None of these two ACECs would be crossed by the proposed waterline or within the foreground view of either ACEC. Approximately 0.5 mile of the proposed pipeline alignment would be

visible according to the bare-earth visibility analysis in the middleground view from the southern portion of Shinarump ACEC. Approximately 0.4 mile of the South Variant Alternative may be visible within the middleground from the Kanab Creek ACEC. This alternative would create very low, short-and long-term, direct effects on middleground views because of the low landscape modification, limited visibility, and weak level of contrast that would be created by the project components.

5.3.16.2.7.7 Effects on WAs and WSAs.
The South Variant Alternative would be greater than five miles from any WA or WSA; therefore there would be no effect on these special management areas.

5.3.16.2.7.8 Effects on National Monuments.

Pipe Springs National Monument
The South Variant Alternative would be greater than five miles from the PSNM; therefore there would be no effect on the Monument.

Effects on Vermilion Cliffs National Monument
The South Variant Alternative would be greater than five miles from the VMNM; therefore there would be no effect on this Monument.

5.3.16.2.7.9 Effects on Special Recreation Management Areas.
The Arizona Strip ERMA may potentially have views of the South Variant Alternative within the foreground and middleground distance zone of the project alignment. From the views from this ERMA the potential magnitude of change in the setting would range from moderate in the foreground to very low, direct, short- and long-term effects based on the moderate to negligible change in the characteristic landscape as noted in VAU 12.

5.3.16.2.7.10 Effects on Sand Hollow State Park
The South Variant Alternative would be greater than five miles from the Sand Hollow State Park; therefore there would be no effect on this park.

5.3.16.2.7.11 Effects on Kaibab Paiute Indian Reservation.
Foreground views from the Kaibab-Paiute Indian Reservation would be along the entire approximately 3.7 miles of the South Variant Alternative. The potential effects from the South Variant Alternative would draw attention from the natural setting and would create a notable degree of change in the characteristic landscape because of the introduction of distinct lines into the landscape in the foreground in the VAU. In the middleground, this alternative would create a negligible magnitude of change in the characteristic landscape. Therefore the South Variant Alternative would result in a moderate, direct short-and long-term effect in the foreground and a very low, direct short- and long-term effect in the middleground from the Kaibab-Paiute Indian Reservation.

As previously mentioned, the SPAC based on discussions with the Kaibab Paiute Tribal Council identified 17 culturally important resources within the area of potential effect for visual resources. Of the 17, two may be within the middleground of the South Variant Alternative. The

two culturally important resources in the middleground of the South Variant Alternative are generally located within VAU 12. In the middleground, the South Variant Alternative would create a negligible effect on the setting in the short-and long-term to these two culturally important resources because the project components would not be visually evident or perceived in the characteristic landscape.

The remaining 15 cultural important resources would appear to be more than 5 miles away from the South Variant Alternative. It would not be likely that the proposed waterline would be visually discernible from that distance during construction or operation. Therefore, the landscape character would remain intact with no apparent change to the setting as viewed from these two resources.

5.3.16.2.7.12 Effects on Navajo Indian Reservation.
The South Variant Alternative would be greater than five miles from the Navajo Nation; therefore there would be no visual resources effect on the Nation.

5.3.16.2.7.13 Conformance with BLM VRM Objectives.
Approximately 0.3 mile of the South Variant Alternative would cross BLM-administered land with a VRM Class IV designation. There were no KOPs identified for this specific area of the Arizona Strip FO. Based on the magnitude of change in the characteristic landscape as well as the potential effects to views from Kaibab-Paiute Indian Reservation, the South Variant Alternative would conform to Class IV objectives.

5.3.16.4 Cumulative Effects

This is a new Section 5.3.16.4.4. Section heading numbers of the remaining sections in Section 5.3.16.4 are increased accordingly.

5.3.16.4.4 South Variant Alternative.
The South Variant Alternative visual resource cumulative effects would be the same as described for the South Alternative in Section 5.3.16.4.1.

5.3.16.5 Unavoidable Adverse Effects

This is a new Section 5.3.16.5.4. Section heading numbers of the remaining sections in Section 5.3.16.5 are increased accordingly.

5.3.16.5.4 South Variant Alternative.
The unavoidable adverse effects for the South Variant Alternative would be the same as described for the South Alternative in Section 5.3.16.5.1.

5.3.17 Air Quality

5.3.17.2 Environmental Effects

5.3.17.2.3 Air Quality Effects.