

E.2.7 Cultural and Paleontological Resources

Although Section E.2.7 refers to both Cultural and Paleontological Resources, Sections E.2.7.1 through E.2.7.3 address only to Cultural Resources and Sections E.2.7.4 through E.2.7.6 address only to Paleontological Resources.

Cultural Resources

E.2.7.1 Environmental Setting

The BCD Alternative extends from McCain Valley north and then west through the mountains into the Cleveland National Forest. Sites typically found in this mountainous region include bedrock milling features, ceramic and lithic artifact scatters. Temporary campsites and habitation sites also exhibit evidence of multiple past activities, and the presence of pottery suggests that food was prepared, stored and perhaps transported in ceramic vessels. Historic sites within the vicinity of the BCD Alternative include transportation routes and evidence of historic period ranching and mining. There are many isolated artifacts within the BCD Alternative; the majority of these isolated artifacts are prehistoric.

The BCD Alternative is 19.6 miles long and a cultural resources records search was conducted for its entire length using a 0.5-mile search radius around the alternative. Archaeologists from EIR/EIS consultants Applied EarthWorks, Inc. (AE) and SWCA Environmental Consultants (SWCA) completed intensive cultural resources survey for 100 percent of the 300-foot-wide study corridor of the BCD Alternative on behalf of the CPUC and BLM. A total of 18 cultural resources has been identified within the 300-foot-wide corridor for the BCD Alternative.

- Prehistoric sites identified within the BCD Alternative include two temporary camps, one habitation area, two lithic and ceramic artifact scatters, one lithic artifact scatter, and one bedrock milling site.
- One multicomponent site, a lithic and ceramic artifact scatter with historical refuse present, was identified.
- Two historical refuse scatters were identified.
- Eight of the resources, six prehistoric and two historical, are isolates, typically defined as three or fewer artifacts not associated with a defined, discrete archaeological site, and therefore not eligible for NRHP or CRHR inclusion.

All of the resources, with the exception of one prehistoric temporary camp, were identified during surveys conducted by SWCA and AE for this alternative (see Table Ap.9B-95 in Appendix 9B).

E.2.7.2 Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the BCD Alternative as a result of construction, operation, and maintenance of the project. Table E.2.7-1 summarizes the impacts of the BCD Alternative and a BCD South Option for cultural resources.

Table E.2.7-1. Impacts Identified – BCD Alternative – Cultural Resources

Impact No.	Description	Impact Significance
Route BCD Alternative		
C-1	Construction of the project would cause an adverse change to known historic properties	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains	Class I or II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties	Class I or II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties	Class II
BCD South Option		
C-1	Construction of the project would cause an adverse change to known historic properties	Class II
C-3	Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains	Class I or II
C-4	Construction of the project would cause an adverse change to Traditional Cultural Properties	Class I or II
C-5	Operation and long-term presence of the project would cause an adverse change to known historic properties	Class II
C-6	Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources	Class II

There are 18 known cultural resources located within the 300-foot-wide survey corridor for the BCD Alternative. There is also the potential to encounter undiscovered cultural resources during project construction. Eight of the known cultural resources are isolated artifacts (isolates) that do not require mitigation measures. Isolates, by definition, lack immediate cultural context and therefore lack the data potential that would be required to be considered eligible for NRHP or CRHR inclusion. As a result, project effects to isolates would not be considered adverse under NHPA, nor would they constitute significant impacts under CEQA. The NRHP/CRHR eligibility of the remaining ten resources has not been determined. Formal eligibility determinations would be made by the BLM prior to construction for any resources that would be affected if the BCD Alternative is selected and built.

Because known cultural resources that are potentially eligible for the NRHP or CRHR exist within areas of proposed direct impact and because of the potential for encountering undiscovered cultural resources, the following impacts would occur during project construction or operation of the BCD Alternative.

Construction Impacts

Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class II)

Two cultural resources located within the BCD Alternative are potentially eligible for listing on the NRHP and CRHR and located in areas of direct impact (see App.9B-96 in Appendix 9B). As discussed in Section D.7.9, adverse construction impacts would be mitigated to a less than significant level (Class II) by implementing mitigation measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

C-1a Inventory and evaluate cultural resources in Final APE.

C-1b Avoid and protect potentially significant resources.

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1e Monitor construction.**
- C-1f Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the BCD Alternative include prehistoric resources such as buried living surfaces, refuse deposits, hearths, burials, and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be significant but would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation.

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no Traditional Cultural Properties (TCPs) have been identified within the BCD Alternative. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated with Native Americans or other traditional groups can potentially reduce the impact to less than significant (Class II). Implementation of Mitigation Measure C-4a (Complete Consultation with Native Americans and other Traditional Groups) would potentially reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases, impacts would remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

C-4a Complete consultation with Native American and other Traditional Groups.

Operational Impacts

Impact C-5: Operation and long-term presence of the project would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties such as any register-eligible archaeological sites within and in the vicinity of the project area during operation and long-term presence of the project. Direct impacts could result from maintenance or repair activities, while increased erosion and access could result in indirect project impacts. These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-3a (Consult agencies and Native Americans) and C-4a (Complete Consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

C-1b Avoid and protect potentially significant resources.

C-1c Develop and implement Historic Properties Treatment Plan.

C-2a Properly treat human remains.

C-4a Complete consultation with Native American and other Traditional Groups.

C-5a Protect and monitor NRHP and/or CRHR-eligible properties.

E.2.7.3 BCD South Option

Environment Setting

The BCD South Option is 5.61 miles long and a cultural resources records search was conducted for its entire length using a 0.5-mile search radius around the option (Table Ap.9B-97 in Appendix 9B). Archaeologists from EIR/EIS consultants Applied EarthWorks, Inc. (AE) and SWCA Environmental Consultants (SWCA) completed intensive cultural resources survey for 55.08 percent (3.09 miles) of the 300-foot-wide study corridor of the BCD South Option on behalf of the CPUC and BLM. Four cultural resources have been identified within the 300-foot-wide corridor for the BCD South Option.

- The BCD South Option crosses the historical Old Highway 80. This former intercontinental highway has been designated as a County of San Diego “Historic Route” and has been nominated as a “State Historic Route.” A 33-mile portion of the route that includes the portion crossed by the BCD South Option has been recommended eligible for NRHP and CRHR under Criteria A and C, with specific contributing and non-contributing elements (Lortie, 2000).
- One prehistoric bedrock milling site was identified that is potentially eligible for NRHP or CRHR inclusion.
- Two of the resources are isolates, typically defined as three or fewer artifacts not associated with a defined, discrete archaeological site, and therefore not eligible for NRHP or CRHR inclusion.

All of the resources were identified during previous cultural resources surveys.

Environmental Impacts and Mitigation Measures

Construction Impacts

One historical road (Old Highway 80) that has been recommended NRHP and CRHR eligible and one prehistoric bedrock milling site that is potentially eligible for NRHP or CRHR inclusion have been identified within the BCD South Option. There is also the potential to find additional prehistoric and historic cultural resources during survey of the remaining portions of the option or during construction.

Because known cultural resources that are recommended or potentially eligible for the NRHP or CRHR exist within the BCD South corridor and because of the potential for encountering undiscovered cultural resources, the following impacts would occur during project construction or operation.

Impact C-1: Construction of the project would cause an adverse change to known historic properties (Class II)

One cultural resource located within the BCD South Option is potentially eligible for listing on the NRHP and CRHR and Old Highway 80 has been recommended eligible for NRHP and CRHR inclusion. It is estimated that an additional three resources would be found during survey of the remaining 44.92 percent of the option corridor. As discussed in Section D.7.9, adverse construction impacts would be mitigated to a level less than significant (Class II) by implementing Mitigation Measures C-1a, C-1b, C-1c, C-1d, C-1e, and C-1f.

Mitigation Measures for Impact C-1: Construction of the project would cause an adverse change to known historic properties

- C-1a Inventory and evaluate cultural resources in Final APE.**
- C-1b Avoid and protect potentially significant resources.**
- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1e Monitor construction.**
- C-1f Train construction personnel.**

Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I or II)

Types of subsurface features that could be encountered along the BCD South Option include prehistoric resources such as buried living surfaces, refuse deposits, hearths, burials, and cremations. Historical resources that could be unearthed during project construction include refuse pits and privies. Buried archaeological resources may be encountered during vegetation removal at tower and pull site locations, grading of access roads, or excavation associated with tower construction. Impacts to most unknown significant prehistoric and historic archaeological sites would be significant but would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-1c, C-1d, C-1f, C-2a, and C-3a. However, effects related to Native American human remains would be significant (Class I) even with mitigation.

Mitigation Measures for Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

- C-1c Develop and implement Historic Properties Treatment Plan.**
- C-1d Conduct data recovery to reduce adverse effects.**
- C-1f Train construction personnel.**
- C-2a Properly treat human remains.**
- C-3a Monitor construction in areas of high sensitivity for buried resources.**

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties (Class I or II)

To date, no Traditional Cultural Properties (TCPs) have been identified within the BCD South Option. However, the Sacred Lands File search conducted for the alternatives noted that lands sacred to Native Americans are present in the vicinity of the alternatives, in undisclosed locations. The BLM, as the Federal Lead Agency under NEPA and Section 106 of the NHPA has initiated government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action...,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated with Native Americans or other traditional groups can potentially reduce the impact to less than significant (Class II). Implementation of Mitigation Measure C-4a (Complete Consultation with Native Americans and other Traditional Groups) would potentially reduce impacts to TCPs to a level that is less than significant (Class II), but in some cases, impacts would remain significant (Class I).

Mitigation Measure for Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties

- C-4a Complete consultation with Native American and other Traditional Groups.**

Operational Impacts

Impact C-5: Operation and long-term presence of the project would cause an adverse change to known historic properties (Class II)

Direct and indirect impacts would occur to historic properties such as Old Highway 80 or any register-eligible archaeological sites within and in the vicinity of the project area during operation and long-term presence of the project. Direct impacts could result from maintenance or repair activities, while increased erosion and access could result in indirect project impacts. These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP and/or CRHR-eligible properties), as well as implementation of Mitigation Measures C-3a (Consult agencies and Native Americans) and C-4a (Complete Consultation with Native Americans and other Traditional Groups).

Mitigation Measures for Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties

- C-1b** **Avoid and protect potentially significant resources.**
- C-1c** **Develop and implement Historic Properties Treatment Plan.**
- C-2a** **Properly treat human remains.**
- C-4a** **Complete consultation with Native American and other Traditional Groups.**
- C-5a** **Protect and monitor NRHP and/or CRHR-eligible properties.**

Impact C-6: Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources (Class II)

One historic built environment resource (Old Highway 80) within the BCD South Option was considered by SWCA (2007) for indirect visual impacts (see Table Ap.9B-98 in Appendix 9B). Visual impacts to Old Highway 80 would be adverse for certain portions of the resource; other portions of Old Highway 80 are crossed by existing power lines and/or have been greatly modified from the period of significance. Visual intrusions associated with the construction of towers along the BCD South Option would compromise the integrity of setting and feeling for those segments of Old Highway 80 that retain these aspects of integrity. As historic properties must retain sufficient integrity in addition to meeting at least one of the four NRHP eligibility criteria, visual impacts which degrade the integrity of setting and feeling for any historic property would be considered adverse. These impacts are significant, but would be mitigated to a level that is less than significant (Class II) by implementing Mitigation Measures C-6a, C-6e, and V-3a.

Mitigation Measures for Impact C-6: Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources

- C-6a** **Reduce adverse visual intrusions to historic built environment properties.**
- C-6e** **Reduce adverse visual intrusions to portions of Old Highway 80.** Visual intrusion on portions of Old Highway 80 that retain integrity of setting, caused by the aboveground portion of this alternative, shall be minimized by a combination of minimizing tower height, screening, and painting towers to match the surroundings. In addition, since segments of Old Highway 80 would be crossed by the overhead portion of the BCD South Alternative, compensatory mitigation including new signage shall be employed.
- V-3a** **Reduce visual contrast of towers and conductors.**

Paleontological Resources

E.2.7.4 Environmental Setting

The BCD Alternative is underlain by the following geologic units:

- **Quaternary Alluvium.** Quaternary alluvium consists of partly dissected, mostly unconsolidated, poorly sorted sand, silt, clay, and gravel located at the margins of canyons and within valley floors. “Younger” alluvium is Holocene (10,000 years ago to Recent) in age and “Older alluvium” is Pleistocene (1.8 million years ago to 10,000 years ago) in age. Fossil localities in older alluvium deposits throughout southern California have yielded terrestrial vertebrates such as mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, horses, camels, and bison (Scott, 2006). Younger alluvium and colluvium is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.

- **Metasedimentary Rocks.** Metasedimentary rocks in the central part of San Diego County are referred to as Julian Schist, which is composed of quartz-mica schist and quartzite, with minor amounts of marble and amphibolite. These rocks have been intruded and deformed by plutonic rocks associated with the Peninsular Ranges Batholith. The age of these metasedimentary rocks is not well defined; however, microfossils indicate that they are much older than Triassic in age. No fossils have been discovered in this unit within San Diego County; however, correlative units in Riverside and Orange County have yielded marine mollusks. Metasedimentary rocks in San Diego County are determined to have a marginal potential for paleontological resources.
- **Granitic Rocks.** Granitic rocks are composed of quartz diorite (tonalite) with minor amounts of granodiorite and granite and are Cretaceous in age. Since granitic rocks are plutonic in origin, this geologic unit is determined to have no potential for paleontological resources.
- **Gabbroic rocks.** Gabbroic rocks in this region of San Diego County include the San Marcos and Cuyamaca gabbros, as well as unnamed bodies. They are composed of mostly gabbros with proportions of norite and diorite. Since granitic rocks are plutonic in origin, this geologic unit is determined to have no potential for paleontological resources.
- **Hybrid Gneiss.** This rock unit is composed of hybrid gneisses and associated granodiorite and quartz diorite of Cretaceous age. Hybrid gneiss has no potential for paleontological resources.

E.2.7.5 Environmental Impacts and Mitigation Measures

Table E.2.7-2 lists the impact to paleontological resources identified for the BCD Alternative and a BCD South Option, along with the significance of the impact. Impacts are classified as Class I (significant/adverse, cannot be mitigated to a level that is less than significant), Class II (significant, can be mitigated to a level that is less than significant), Class III (less than significant), or Class IV (beneficial). The following sections provide a detailed discussion of the impacts identified and the locations of those impacts. Detailed maps showing resource potential (paleontological sensitivity) throughout the project area are provided in Appendix 9D.

Table E.2.7-2. Impacts Identified – BCD Alternative – Paleontological Resources

Impact No.	Description	Impact Significance
Route BCD Alternative		
PAL-1	Construction of the project would destroy or disturb unique paleontological resources or sites	Class II
BCD South Option		
PAL-1	Construction of the project would destroy or disturb unique paleontological resources or sites	Class II

Museum paleontological collections records maintained by SDNHM indicate that no previously recorded fossil localities exist within the BCD Alternative or a half-mile radius; however, the geologic units underlying the project area are determined to have a paleontological resource potential ranging from zero to marginal.

Construction Impacts

Impact PAL-1: Construction of the transmission line would potentially destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the proposed BCD Alternative ranges from zero to marginal. Areas determined to have a paleontological sensitivity are located between MP 11.7 to 11.9, MP 12 to 13.4 and MP 19.5 to 19.6. Areas along the Alternative route determined to be paleontologically sensitive based on geologic mapping and museum collection records are shown in Table E.2.7-3. Implementation of Mitigation Measures PAL-1a, -1b, -1c, -1d, and -1e would reduce project effects to a level of less than significant (Class II).

Table E.2.7-3. Paleontological Sensitivity – BCD Alternative

Mileposts	Rock Units	Sensitivity	Fossil Localities
BCD 0-11.6	Granitic Rocks	Zero	None
BCD 11.6-11.7	Hybrid Gneiss	Zero	None
BCD 11.7-11.9	Metasedimentary Rocks	Marginal	None
BCD 11.9-12	Granitic Rocks	Zero	None
BCD 12-13.4	Metasedimentary Rocks	Marginal	None
BCD 13.4-13.5	Hybrid Gneiss	Zero	None
BCD 13.5-13.8	Granitic Rocks	Zero	None
BCD 13.8-14.3	Hybrid Gneiss	Zero	None
BCD 14.3-18.8	Granitic Rocks	Zero	None
BCD 18.8-19.1	Hybrid Gneiss	Zero	None
BCD 19.1-19.2	Granitic Rocks	Zero	None
BCD 19.2-19.4	Gabbroic Rocks	Zero	None
BCD 19.4-19.5	Hybrid Gneiss	Zero	None
BCD 19.5-19.6	Metasedimentary Rocks	Marginal	None

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

- PAL-1a** Inventory and evaluate paleontological resource in the Final APE.
- PAL-1b** Develop Paleontological Monitoring and Mitigation Plan.
- PAL-1c** Monitor construction for paleontology.
- PAL-1d** Conduct paleontological data recovery.
- PAL-1e** Train construction personnel.

E.2.7.6 BCD South Option

Construction Impacts

Museum paleontological collections records maintained by SDNHM indicate that no previously recorded fossil localities exist within the BCD South Option or a half-mile radius; however, the geologic units underlying the project area are determined to have a paleontological resource potential ranging from zero to marginal.

Impact PAL-1: Construction of the transmission line would potentially destroy or disturb significant paleontological resources (Class II)

The potential to discover paleontological resources during construction of the proposed BCD South Option ranges from zero to low. Areas determined to have a paleontological sensitivity are located between MP 1.8 to 2.1. Areas along the Alternative route determined to be paleontologically sensitive based on geologic mapping and museum collection records are shown in Table E.2.7-4. Implementation of Mitigation Measures PAL-1a, -1b, -1c, -1d, and -1e would reduce project effects to a level of less than significant (Class II).

Table E.2.7-4. Paleontological Sensitivity – BCD South Option

Mileposts	Rock Units	Sensitivity	Fossil Localities
BCDS 0-1.8	Granitic Rocks	Zero	None
BCDS 1.8-2.1	Younger alluvium	Low	None
BCDS 2.1-5.6	Granitic Rocks	Zero	None

Mitigation Measure for Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources

- PAL-1a** Inventory and evaluate paleontological resource in the Final APE.
- PAL-1b** Develop Paleontological Monitoring and Mitigation Plan.
- PAL-1c** Monitor construction for paleontology.
- PAL-1d** Conduct paleontological data recovery.
- PAL-1e** Train construction personnel.