

4.3.14 Cultural Resources

Impact CUL-1: Effects on Identified Archaeological Sites Resulting from Construction of Conveyance Facilities

The extent of identified archaeological sites within the area that could be affected by construction of Alternative 4A conveyance facilities are the same as described for Alternative 4. This encompasses the 10 previously recorded archeological sites occurring in the footprint of the conveyance facility. Site descriptions summarizing available information regarding these resources, are provided in Appendix 18B, *Identified Cultural Resources Potentially Affected by BDCP Alternatives*, Section B.1.2, *Archaeological Site Descriptions*, of the Draft EIR/EIS.

The significance of the identified archeological sites are the same as described for Alternative 4. Because many of these resources are large (typically in excess of 30 meters across), they are each likely to contain sufficient integrity to yield artifacts in their original associations in a manner that will convey the significance themes outlined in the Alternative 4 discussion. These resources are likely to qualify as historical resources under CEQA and historic properties under the National Register of Historic Places (NRHP).

The mechanisms that could affect the archeological sites would be identical to those described for Alternative 4. These resources occur within the footprint of both temporary work areas and permanent surface impacts and would be subject to the same types of disturbance described under Alternative 4. Construction of the water conveyance facilities has the potential to materially impair these resources under CEQA and to adversely affect the resources as defined by Section 106 of the National Historic Preservation Act (NHPA).

NEPA Effects: Construction may disturb and damage NRHP and California Register of Historic Resources CRHR-eligible archaeological resources. This effect is considered adverse because the damage may impair the integrity of these resources and thus reduce their ability to convey their significance

CEQA Conclusion: Construction of conveyance facilities would affect 10 identified archaeological resources that occur in the footprint of this alternative. DWR identified these resources and found that they are likely to qualify as historical resources under CEQA (see the individual site descriptions in Appendix 18B, *Identified Cultural Resources Potentially Affected by BDCP Alternatives*, Section B.1.2, *Archaeological Site Descriptions*, of the Draft EIR/EIS). This impact would be significant because construction could materially alter or destroy the physical integrity of the resource and/or their potential to yield information useful in archaeological research through excavation and disruption of the spatial associations that contain meaningful information. Identified but currently inaccessible resources may also be significant under other register criteria; indirect effects such as introduction of inconsistent changes to the setting may also diminish the significance of these resources. Mitigation Measure CUL-1 would reduce this impact, by recovering data at affected significant archeological sites and by monitoring and protecting resources during construction. However, this measure would not ensure preservation of the physical integrity of the resources or ensure that all of the scientifically important material would be retrieved because feasible archaeological excavation only typically retrieves a sample of the deposit, and portions of the site containing important information may remain after treatment. The impact on identified

1 archaeological sites is considered significant and unavoidable because construction could damage
2 the remaining portions of the deposit.

3 **Mitigation Measure CUL-1: Prepare a Data Recovery Plan and Perform Data Recovery**
4 **Excavations on the Affected Portion of the Deposits of Identified and Significant**
5 **Archaeological Sites**

6 Please see Mitigation Measure CUL-1 under Impact CUL-1 in the discussion of Alternative 4 in
7 Chapter 18, *Cultural Resources*, of the Draft EIR/EIS.

8 **Impact CUL-2: Effects on Archaeological Sites to Be Identified through Future Inventory**
9 **Efforts**

10 The potential effects of constructing water conveyance facilities on archaeological sites identified
11 through future inventories would be the same as described for Alternative 4. These future impacts
12 could occur because most of the area crossed by the proposed water conveyance facility is not
13 currently legally accessible and as such has not been surveyed for the presence of archaeological
14 sites. As with Alternative 4, Alternative 4A would also require extensive geotechnical testing that
15 could damage or destroy archaeological sites. Although the majority of the footprint of the water
16 conveyance facility has not been surveyed, sensitive resources have been located within and near
17 the portions of the alignment that have been surveyed. For this reason, additional archaeological
18 resources are likely to be found in the portion of the footprint where surveys have not yet been
19 conducted. For the reason enumerated under Alternative 4, these sites are likely to qualify as
20 historical resources or unique archaeological resources under CEQA and historic properties under
21 Section 106 of the NHPA.

22 The potential effects on historic sites under Alternative 4A would be the same as those disclosed for
23 Alternative 4. In summary, historic sites are likely to be associated with the historic-era themes of
24 settlement, reclamation, agriculture, and flood management in the Delta region and as such
25 contributed to the economic base for developing urban centers. These historic sites are likely to
26 qualify as historical resources or unique archaeological resources under CEQA and historic
27 properties under Section 106 of the NHPA.

28 Absent mitigation, ground-disturbing construction is likely to physically damage many of these
29 resources by disrupting the spatial associations that convey data useful in research or changing the
30 setting such that the resource no longer contains its significance. These impacts would materially
31 impair these resources within the meaning of CEQA and adversely affect the resources within the
32 meaning of Section 106 of the NHPA. These effects would be adverse.

33 **NEPA Effects:** This alternative has the potential to damage previously unidentified archaeological
34 sites. Because these sites may qualify for the NRHP or CRHR, damage to these sites may diminish
35 their integrity. For these reasons this effect would be adverse.

36 **CEQA Conclusion:** The footprint for this alternative is sensitive for both prehistoric and historic-era
37 resources that cannot be identified at this time because much of the footprint is not legally
38 accessible. Because many of these resources are likely to have data useful in prehistoric and historic
39 archaeological research, as well as the integrity to convey this significance, they are likely to qualify
40 as historical resources or unique archaeological sites under CEQA or historic properties under the
41 Section 106 of the NHPA. Ground-disturbing construction may materially alter the significance of
42 these resources by disrupting the spatial associations that could yield important data, resulting in a

1 significant effect. Mitigation Measure CUL-2 would address the impacts of both prehistoric and
2 historic resources through conducting inventories, evaluating significance, and proposing treatment
3 of archeological and historic resources as well as monitoring during the construction phase.
4 However, this mitigation cannot guarantee that all eligible or significant resources would be
5 preserved in place, or that all important data would be retrieved before construction destroys these
6 resources. The scale of the project, investment into existing designs, and the presence of other
7 important environmental resources such as habitat, natural communities, and wetlands that should
8 be avoided are constraints on the flexibility and feasibility of avoidance. For these reasons this
9 impact is significant and unavoidable.

10 **Mitigation Measure CUL-2: Conduct Inventory, Evaluation, and Treatment of**
11 **Archaeological Resources**

12 Please see Mitigation Measure CUL-2 under Impact CUL-2 in the discussion of Alternative 4 in
13 Chapter 18, *Cultural Resources*, of the Draft EIR/EIS.

14 **Impact CUL-3: Effects on Archaeological Sites That May Not Be Identified through Inventory**
15 **Efforts**

16 The potential effects of construction of the water conveyance facilities on archaeological sites that
17 may not be identified during inventory efforts would be the same as described for Alternative 4. The
18 effects on archaeological resources would be the same because the design of the water conveyance
19 facilities and construction methods and duration would be identical for both alternatives. As
20 described for Alternative 4, although surveys will be completed for the water conveyance footprint,
21 such surveys cannot guarantee that all sites will be identified prior to construction.

22 Ground-disturbing activities occurring under Alternative 4A, including the construction of surface
23 features such as intakes, subterranean tunnel boring operations, and access may disturb and
24 damage these resources before they can be identified and avoided during monitoring efforts
25 required under Mitigation Measure CUL-3. This damage and disturbance may materially impair
26 these resources within the meaning of CEQA or adversely affect the resources within the meaning of
27 Section 106 because this disturbance would impair the ability of these resources to yield data useful
28 in research. While Mitigation Measure CUL-3 would reduce the potential for this impact, it would not
29 guarantee the impact would be avoided entirely. Therefore, this impact would be adverse.

30 **NEPA Effects:** Constructing Alternative 4A has the potential to damage previously unidentified
31 archaeological sites that also may not necessarily be identified prior to construction. While cultural
32 resource inventories will be completed once legal access is secured, no inventory can ensure that all
33 resources are identified prior to construction. Because these sites may qualify for the NRHP or
34 CRHR, damage to these sites may diminish their integrity. For these reasons this effect would be
35 adverse.

36 **CEQA Conclusion:** This impact on archeological resources not identified during inventory efforts
37 would be considered significant for the same reasons described for Alternative 4. Construction has
38 the potential to disturb previously unidentified archaeological sites qualifying as historical
39 resources, historic properties, or unique archaeological resources. Mitigation Measure CUL-3 would
40 reduce but not entirely avoid the potential for this impact, by implementing construction worker
41 training, monitoring, and discovery protocols. This impact would remain significant and
42 unavoidable because archaeological resources may not be identified prior to disturbance.

1 **Mitigation Measure CUL-3: Implement an Archaeological Resources Discovery Plan,**
2 **Perform Training of Construction Workers, and Conduct Construction Monitoring**

3 Please see Mitigation Measure CUL-3 under Impact CUL-3 in the discussion of Alternative 4 in
4 Chapter 18, *Cultural Resources*, of the Draft EIR/EIS.

5 **Impact CUL-4: Effects on Buried Human Remains Damaged during Construction**

6 Effects on buried human remains during construction occurring under Alternative 4A would be the
7 same as described for Alternative 4. As described in greater detail for Alternative 4, the footprint of
8 the water conveyance facilities is sensitive for buried historic and prehistoric human remains. While
9 inventory and monitoring efforts are prescribed by Mitigation Measures CUL-2 and CUL-3, the large
10 land area subject to disturbance under Alternative 4A make exhaustive sampling to identify all
11 buried and isolated human remains technically and economically infeasible. For these reasons the
12 potential remains that such resources may be damaged or exposed before they can be discovered
13 through inventory or monitoring. This effect would be adverse.

14 **NEPA Effects:** Buried human remains may be damaged by constructing Alternative 4A because such
15 remains may occur either in isolation or as part of identified and previously unidentified
16 archaeological resources where construction will occur. This effect would be adverse.

17 **CEQA Conclusion:** Damage to buried human remains during construction would be considered a
18 significant impact for the same reasons described for Alternative 4. The project area is sensitive for
19 buried human remains and construction of Alternative 4A would likely result in disturbance of these
20 features. Disturbance of human remains, including remains interred outside of cemeteries is
21 considered a significant impact in the State CEQA Guidelines Appendix G checklist. Mitigation
22 Measure CUL-4 would reduce the severity of this impact by following state and federal guidelines,
23 including notifying the county coroner and the Native American Heritage Commission (NAHC), if
24 human remains are discovered during construction. This impact would be considered significant
25 and unavoidable, because mitigation would not guarantee that these features could be discovered
26 and treated in advance of construction and the scale of construction makes it technically and
27 economically infeasible to perform the level of sampling necessary to identify all such resources
28 prior to construction.

29 **Mitigation Measure CUL-4: Follow State and Federal Law Governing Human Remains if**
30 **Such Resources Are Discovered during Construction**

31 Please see Mitigation Measure CUL-4 under Impact CUL-4 in the discussion of Alternative 4 in
32 Chapter 18, *Cultural Resources*, of the Draft EIR/EIS.

33 **Impact CUL-5: Direct and Indirect Effects on Eligible and Potentially Eligible Historic**
34 **Architectural/Built-Environment Resources Resulting from Construction Activities**

35 Effects of constructing the water conveyance facilities on built-environment resources under
36 Alternative 4A would be the identical to those described for Alternative 4. As described in greater
37 detail under Alternative 4 and Appendix 18B, *Identified Cultural Resources Potentially Affected by*
38 *BDCP Alternatives*, of the Draft EIR/EIS, a total of 17 built-environment resources have the potential
39 to be directly or indirectly affected by constructing the water conveyance facilities. These effects
40 would materially impair the resources within the meaning of CEQA and result in adverse effects

1 within the meaning of Section 106 because they would diminish the characteristics that convey the
2 significance of the resources.

3 **NEPA Effects:** This alternative would result in direct and indirect effects on NRHP and CRHR eligible
4 built environment resources. These alterations may diminish the integrity of these resources. For
5 these reasons this effect would be adverse.

6 **CEQA Conclusion:** Alternative 4A would result in the same impacts on identified historic-era built-
7 environment resources that are described for Alternative 4. The impacts on the 17 built-
8 environment resources are considered significant because construction may require demolition or
9 alter the character of the resource to such a degree that each resource may no longer be able to
10 convey its significance. Mitigation Measure CUL-5 would reduce the impact by implementing a built
11 environment treatment plan that includes preparing an HSR, assessing preconstruction conditions,
12 implementing protection measures, and preparing Historic American Buildings Survey (HABS)
13 records for CRHR and NRHP-eligible historic buildings and structures that will be demolished. The
14 impact on historic-era built-environment resources would remain significant and unavoidable
15 because even with mitigation, the scale of the project and the constraints imposed by other
16 environmental resources make avoidance of all significant effects unlikely.

17 **Mitigation Measure CUL-5: Consult with Relevant Parties, Prepare and Implement a Built**
18 **Environment Treatment Plan**

19 Please see Mitigation Measure CUL-5 under Impact CUL-5 in the discussion of Alternative 4 in
20 Chapter 18, *Cultural Resources*, of the Draft EIR/EIS.

21 **Impact CUL-6: Direct and Indirect Effects on Unidentified and Unevaluated Historic**
22 **Architectural/Built-Environment Resources Resulting from Construction Activities**

23 Effects of constructing the water conveyance facilities on unidentified and unevaluated historic
24 architectural and built-environment resources under Alternative 4A would be the identical to those
25 described for Alternative 4. As described in detail for Alternative 4, although DWR does not have
26 legal access to the majority of the footprint for the water conveyance, historical documentation
27 suggests numerous additional resources occur in the footprint of the water conveyance facilities
28 that have not been identified or which cannot currently be accessed and evaluated. Construction
29 may result in direct demolition of these resources, damage through vibration, or indirect effects
30 such as changes to the setting.

31 The resources may exhibit significance under both CEQA (State CEQA Guidelines Section
32 15064.5[a][3]) and the NRHP (30 CFR 60.4). In addition, because many of the historic-era structures
33 in the Delta region are intact, and retain their rural agricultural setting, many of these resources are
34 likely to have integrity within the meaning of CEQA and the NRHP (14 California Code of Regulations
35 [CCR] Section 4852[c], 30 CFR 60.4). Because many unidentified resources are likely to have
36 significance and integrity, they may qualify as historical resources under CEQA and historic
37 properties under Section 106 of the NHPA.

38 **NEPA Effects:** This alternative may result in direct modification or indirect changes to the setting for
39 inaccessible and NRHP and CRHR-eligible resources. These changes may diminish the integrity of
40 these resources. For these reasons, this effect would be adverse.

41 **CEQA Conclusion:** Alternative 4A would result in the same impacts on unidentified and unevaluated
42 historic architectural and built-environment resources that are described for Alternative 4.

1 Construction may also result in permanent indirect effects such as changes to the setting. Direct
2 demolition or changes to the setting would be material alterations because they would either
3 remove the resource or alter the resource character, resulting in an inability of the resource to
4 convey its significance. Many of these resources are likely to qualify as historic properties or
5 historical resources under the NHPA and CEQA. Mitigation Measure CUL-6 would reduce these
6 impacts by requiring surveys be conducted on previously inaccessible properties to determine if
7 constructing the water conveyance facilities would adversely affect the properties and if so, the
8 development and implementation of treatment plans. The scale of the project and the constraints
9 imposed by other environmental resources make avoidance of all significant effects unlikely. For
10 these reasons this impact remains significant and unavoidable even with implementation of the
11 following mitigation measure.

12 **Mitigation Measure CUL-6: Conduct a Survey of Inaccessible Properties to Assess**
13 **Eligibility, Determine if These Properties Will Be Adversely Impacted by the Project, and**
14 **Develop Treatment to Resolve or Mitigate Adverse Impacts**

15 Please see Mitigation Measure CUL-6 under Impact CUL-6 in the discussion of Alternative 4 in
16 Chapter 18, *Cultural Resources*, of the Draft EIR/EIS.

17 **Impact CUL-7: Effects of Environmental Commitments on Cultural Resources**

18 Implementing conservation and stressor reduction components at part of Alternative 4A would
19 result in impacts on cultural resources similar in kind to those of Alternative 4. The extent of these
20 impacts occurring under Alternative 4A would be much less than under Alternative 4, however,
21 because the total acreage that would be affected by the restoration actions occurring within the Plan
22 Area would be substantially less. The following Environmental Commitments could result in impacts
23 on cultural because they involve ground-disturbing activities:

- 24 • *Environmental Commitment 3 Natural Communities Protection and Restoration*
- 25 • *Environmental Commitment 4 Tidal Natural Communities Restoration*
- 26 • *Environmental Commitment 6 Channel Margin Enhancement*
- 27 • *Environmental Commitment 7 Riparian Natural Community Restoration*
- 28 • *Environmental Commitment 8 Grassland Natural Community Restoration*
- 29 • *Environmental Commitment 9 Vernal Pool and Alkali Seasonal Wetland Complex Restoration*
- 30 • *Environmental Commitment 10 Nontidal Marsh Restoration*

31 These environmental commitments would result in effects on cultural resources when ground-
32 disturbing work is performed to construct improvements and enhance or restore natural
33 communities. Similar to Alternative 4, direct effects would occur through demolition or destruction
34 of NRHP-, CRHR-, and/or local registry-eligible prehistoric and historic archaeological sites, unique
35 archaeological sites, traditional cultural places (TCPs), human remains, and built-environment
36 resources. In addition, indirect effects may occur where changes to the setting alter the existing
37 setting in a manner that is inconsistent with the feeling and association of the resource. Because the
38 ability of the resources to convey their significance would be lost this effect would materially alter
39 these resources under CEQA and would be adverse under NEPA. For example, reclaimed agricultural
40 landscapes that are converted to habitat may no longer convey the themes of agriculture and

1 settlement, and thus would be inconsistent with remaining features associated with rural historic
2 landscapes created by reclamation, cultivation, and ranching.

3 Mitigation Measure CUL-7 below addresses the impact on cultural resources as a result of
4 implementing the conservation and stressor reduction components. Because of the large acreages of
5 land included in all these components, it is unlikely that all effects on NRHP-, CRHR-, and /or local
6 registry-eligible resources and unique archaeological sites could be avoided. Therefore, this impact
7 would be adverse.

8 **NEPA Effects:** Implementation of conservation and stressor reduction components would result in
9 ground-disturbing work and introduction of new infrastructure to the Plan Area. These physical
10 modifications may result in direct effects on NRHP and CRHR eligible resources. These changes may
11 therefore reduce the integrity of these resources. For these reasons these effects would be adverse.

12 **CEQA Conclusion:** Implementing conservation and stressor reduction components would require
13 ground-disturbing activities that could alter the significant characteristics of NRHP, CRHR, and/or
14 local registry-eligible cultural resources, including prehistoric and historic archaeological sites,
15 TCPs, and built-environment resources such as historic architectural structures and rural historic
16 landscapes. The same construction may damage unique archaeological sites. This construction
17 would likely result in materially adverse changes for the following reasons.

- 18 ● Ground-disturbing construction in archaeological sites disrupts the spatial associations that
19 contain data useful in research, thus diminishing or destroying the basis for the significance of
20 the resource.
- 21 ● Ground-disturbing construction may either directly demolish or indirectly affect the setting of
22 built-environment resources, resulting in an inability of the resource to convey its significance.
- 23 ● Ground-disturbing construction may either directly demolish or change the setting of TCPs
24 resulting in an inability of the resource to convey its significance.
- 25 ● Ground-disturbing construction may inadvertently disturb human remains.

26 The alteration of a resource that changes the characteristics that convey its significance is a material
27 alteration under CEQA. The inadvertent disturbance of human remains is a significant impact under
28 CEQA under the CEQA Guidelines Appendix G checklist. Because this construction would materially
29 alter these categories of resources and disturb human remains it would result in a significant
30 impact. Mitigation Measure CUL-7 would reduce these impacts by identifying and evaluating
31 resources, avoiding resources where possible, and developing treatment where avoidance is not
32 possible. In addition construction would be monitored. However, because of the acreage that could
33 be disturbed as a result of implementing the components, as well as the multiple constraints
34 associated with other environmental resources that require mitigation or avoidance, it is unlikely
35 that all cultural resources could be avoided. Therefore, this impact remains significant and
36 unavoidable.

37 **Mitigation Measure CUL-7: Conduct Cultural Resource Studies and Adopt Cultural**
38 **Resource Mitigation Measures for Cultural Resource Impacts Associated with**
39 **Implementation of Environmental Commitments 3, 4, 6-12, 15, and 16**

40 Please see Mitigation Measure CUL-7 under Impact CUL-7 in the discussion of Alternative 4 in
41 Chapter 18, *Cultural Resources*, of the Draft EIR/EIS.

1 **Impact CUL-8: Compatibility of the Proposed Water Conveyance Facilities and Environmental**
2 **Commitments with Plans and Policies**

3 Similar to Alternative 4, constructing the proposed water conveyance facilities and implementing
4 conservation and stressor reduction components under Alternative 4A could result in the potential
5 for incompatibilities with plans and policies adopted to protect the cultural resources of the Delta. A
6 number of plans and policies that coincide with the study area provide guidance for protection of
7 cultural resources as overviewed in Section 18.2.3, *Regional and Local Plans, Policies, and*
8 *Regulations*, of the Draft EIR/EIS. The policies include the Alameda County East Area Plan, Contra
9 Costa County General Plan, San Joaquin County General Plan, Sacramento County General Plan,
10 Solano County General Plan, and the Yolo County General Plan. A detailed summary of the policies is
11 provided in the discussion of Alternative 4. Similar to Alternative 4, the construction of the water
12 conveyance facilities and conservation and stressor reduction components under Alternative 4A
13 would be compatible with the cultural resource protection policies indicated in the Alameda County
14 East Area Plan, San Joaquin County General Plan, Yolo County General Plan, and potentially
15 incompatible with the Contra Costa County General Plan, Sacramento County General Plan, and
16 Solano County General Plan. Similar to Alternative 4, restoration actions under Alternative 4A would
17 be compatible with policies that emphasize mitigation and incompatible with policies that
18 emphasize preservation.

19 As described in Chapter 13, *Land Use*, Section 13.2.3, of the Draft EIR/EIS, state and federal agencies
20 are not subject to local land use regulations. Furthermore, policy incompatibility, by itself is not a
21 physical impact on the environment.

22 **NEPA Effects:** Because federal agencies are not regulated by local land use policy, the alternative
23 would not result in a conflict with local land use laws.

24 **CEQA Conclusion:** As under Alternative 4, the Plan Area under Alternative 4A is governed by
25 cultural resource management policies adopted by the various counties with jurisdiction in this
26 region. For policies that emphasize preservation or mitigation Alternative 4 will be compatible with
27 these policies because DWR and appropriate federal agencies will implement cultural resource
28 management practices that will identify significant resources, preserve such resources where
29 feasible, and complete mitigation to reduce significant effects where preservation is not feasible. For
30 policies that emphasize preservation, the project is incompatible in some instances because multiple
31 constraints governing the location of proposed facilities makes preservation of all significant
32 cultural resources unlikely. It should be noted that, as described in Chapter 13, *Land Use*, Section
33 13.2.3, of the Draft EIR/EIS, state and federal agencies are not subject to local land use regulations.
34 Furthermore, policy incompatibility, by itself is not a physical impact on the environment.