

17.1 Environmental Setting/Affected Environment

This section discusses the visual resources study area (the area in which impacts may occur) which consists of the Plan Area (the area covered by the BDCP), which is largely formed by the statutory borders of the Delta, along with areas in Suisun Marsh and the Yolo Bypass; upstream rivers and reservoirs; and the Areas of Additional Analysis (see Chapter 3, *Description of Alternatives*). This area hosts a variety of land cover and vegetative communities: open water, riparian forest, wetlands and aquatic vegetation, agriculture, grasslands, and urban development.

The physical context in which a proposed project or alternative would be located is a key consideration in analyzing whether the project or alternative will have adverse or significant effects on aesthetic and visual resources. Identifying a project area's visual resources and conditions involves three steps.

1. Objective identification of the visual features (visual resources) of the landscape, including whether there are any designated scenic vistas or state scenic highways.
2. Assessment of the character and quality of those resources relative to overall regional visual character.
3. Determination of the importance to people, or sensitivity, of views of visual resources in the landscape.

The discussion of visual resource impacts in this chapter is limited to effects on the landscape that affect the human quality of life. Light or glare from construction of infrastructure elements of the project could have an indirect effect on wildlife in the vicinity of the project and in nearby wildlife preserve areas. The project's effects on wildlife in the vicinity of the project and in nearby wildlife preserve areas are discussed in Appendix 5J-D of the Bay Delta Conservation Plan (ICF International 2013:5J-D-1).

17.1.1 Concepts and Terminology

The aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area (Federal Highway Administration 1988:26–27, 37–43, 63–72). Scenic quality can best be described as the overall impression that an individual viewer retains after driving through, walking through, or flying over an area (Bureau of Land Management 1980:2–3). Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, number of views seen, distance of the viewers, and viewing duration. Viewer sensitivity relates to the extent of the public's concern for a particular viewshed. These terms and criteria are described in detail below.

1 17.1.1.1 Visual Character

2 Natural and artificial landscape features contribute to the visual character of an area or view. Visual
 3 character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features.
 4 Urban features include those associated with landscape settlements and development, including
 5 roads, utilities, structures, earthworks, and the results of other human activities. The perception of
 6 visual character can vary significantly seasonally, even hourly, as weather, light, shadow, and
 7 elements that compose the viewshed change. The basic components used to describe visual
 8 character for most visual assessments are the elements of form, line, color, and texture of the
 9 landscape features (USDA Forest Service 1995:28–34, 1-2-1-15, 3-3-3-13, 4-5; Federal Highway
 10 Administration 1988:37–43). The appearance of the landscape is described in terms of the
 11 dominance of each of these components.

- 12 • *Form* is the unified mass or shape of an object that often has an edge or outline and can be
 13 defined by surrounding space. For example, a high-rise building would have a highly regular,
 14 rectangular form whereas a hill would have an organic, mounded form.
- 15 • *Line* is perceived when there is a change in form, color, or texture and where the eye generally
 16 follows this pathway because of the visual contrast. For example, a city's high-rises can be seen
 17 silhouetted against the blue sky and be seen as a skyline, a river can have a curvilinear line as it
 18 passes through a landscape, or a hedgerow can create a line where it is seen rising up against a
 19 flat agricultural field.
- 20 • *Color* is light reflecting off of an object at a particular wavelength that creates hue (green, indigo,
 21 purple, red, etc.) and value (light to dark hues).
- 22 • *Texture* is the perceived coarseness of a surface that is created by the light and shadow
 23 relationship over the surface of an object. For example, a rough surface texture (e.g., a rocky
 24 mountainside) would have many facets resulting in a number of areas in light and shadow and,
 25 often, with distinct separations between areas of light and shadow. Conversely, a smooth surface
 26 texture (e.g., a beach) would have fewer facets, larger surface areas in light or shadow, and
 27 gradual gradations between light and shadow. (Bureau of Land Management 1980:15; Federal
 28 Highway Administration 1988:40).

29 It should be noted that while the analysis does not formulaically list out form, line, color, and texture
 30 and then provide detailed descriptions of each as it applies to a location or landscape, these
 31 elements are addressed by using words and descriptions that are synonymous with those terms. For
 32 instance, a description may not read “the line of the river is meandering” but instead read “the
 33 meandering river” because the later already implies line.

34 Readers and reviewers are most-often familiar with the landscapes that are being discussed and
 35 gain a clear visual image of parts of that landscape when it is described more holistically and in a
 36 simple, relatable manner instead of in elemental pieces. An example would be a description that
 37 reads “a patchwork of row crops, pastureland, and orchards comprise the landscape” versus “there
 38 are many rectangular fields that are adjacent to one another and some of these look more smooth
 39 because they are pasturelands planted with grasses that form a continuous vegetative cover but
 40 some fields look more rough because orchards are planted with trees that have a rough appearance
 41 and there is not as much visual continuity because there are larger spaces between the rows of trees
 42 where the ground plane can be seen”. The second description causes the reader to become more
 43 focused on overly specific details whereas the first description paints a clear visual image of the
 44 landscape in the reader’s mind. The readers’ familiarity with landscape elements (e.g., pastureland,

1 orchards, suburban development, etc.) in their region allows them to intuitively understand how a
2 landscape looks (i.e., form, line, color, and texture).

3 **17.1.1.2 Visual Quality**

4 Visual quality is evaluated using the well-established approach to visual analysis adopted by the
5 Federal Highway Administration, employing the concepts of vividness, intactness, and unity
6 (Federal Highway Administration 1988:46–59; Jones et. al. 1975:682–713), which are described
7 below.

- 8 • *Vividness* is the visual power or memorability of landscape components as they combine in
9 striking and distinctive visual patterns.
- 10 • *Intactness* is the visual integrity of the natural and human-built landscape and its freedom from
11 encroaching elements; this factor can be present in well-kept urban and rural landscapes, and in
12 natural settings.
- 13 • *Unity* is the visual coherence and compositional harmony of the landscape considered as a
14 whole; it frequently attests to the careful design of individual components in the landscape.

15 Visual quality is evaluated based on the relative degree of vividness, intactness, and unity, as
16 modified by its visual sensitivity. High-quality views are highly vivid, relatively intact, and exhibit a
17 high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a
18 low degree of visual unity.

19 **17.1.1.3 Visual Exposure and Sensitivity**

20 The measure of the quality of a view must be tempered by the overall sensitivity of the viewer.
21 Viewer sensitivity or concern is based on the visibility of resources in the landscape, proximity of
22 viewers to the visual resource, elevation of viewers relative to the visual resource, frequency and
23 duration of views, number of viewers, and type and expectations of individuals and viewer groups.

24 The importance of a view is related in part to the position of the viewer to the resource; therefore,
25 visibility and visual dominance of landscape elements depend on their placement within the
26 viewshed. A viewshed is defined as all of the surface area visible from a particular location (e.g., an
27 overlook) or sequence of locations (e.g., a roadway or trail) (Federal Highway Administration 1988:
28 26–27). To identify the importance of views of a resource, a viewshed must be broken into distance
29 zones of foreground, middleground, and background. Generally, the closer a resource is to the
30 viewer, the more dominant it is and the greater its importance to the viewer. Although distance
31 zones in a viewshed may vary between different geographic region and types of terrain, the
32 standard foreground zone is 0.25–0.5 mile from the viewer, the middleground zone from the
33 foreground zone to 3–5 miles from the viewer, and the background zone from the middleground to
34 infinity (Litton 1968:3).

35 Visual sensitivity depends on the number and type of viewers and the frequency and duration of
36 views. Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in
37 relation to the number of viewers and viewing duration. For example, visual sensitivity is generally
38 higher for views seen by people who are driving for pleasure; people engaging in recreational
39 activities such as hiking, biking, or camping; and homeowners. Sensitivity tends to be lower for
40 views seen by people driving to and from work or as part of their work (U.S. Soil Conservation
41 Service 1978:3, 9, 12; Federal Highway Administration 1988:3, 9, 12; USDA Forest Service 1995:3-

1 3-3-13). Commuters and non-recreational travelers have generally fleeting views and tend to focus
 2 on commute traffic, not on surrounding scenery; therefore, they are generally considered to have
 3 low visual sensitivity. Residential viewers typically have extended viewing periods and are
 4 concerned about changes in the views from their homes; therefore, they are generally considered to
 5 have high visual sensitivity. Viewers using recreation trails and areas, scenic highways, and scenic
 6 overlooks are usually assessed as having high visual sensitivity.

7 Judgments of visual quality and viewer response must be made based in a regional frame of
 8 reference (U.S. Soil Conservation Service 1978:3). The same landform or visual resource appearing
 9 in different geographic areas could have a different degree of visual quality and sensitivity in each
 10 setting. For example, a small hill may be a significant visual element on a flat landscape but have
 11 very little significance in mountainous terrain.

12 The analysis provides a quantitative measure of viewer sensitivity using a sensitivity rating matrix,
 13 provided in Appendix 17A, that evaluates the project in relation to viewer proximity/distance to the
 14 project site, viewer concern levels, duration of the views, and the number of viewers and in relation
 15 to the existing intactness and visual quality of the project site. The matrix and its application to the
 16 project analysis are described in detail in Section 17.3.1.1, *Site Inventory and Selection of Key*
 17 *Observation Points*, below.

18 **17.1.2 Visual Character of the Study Area**

19 **17.1.2.1 Delta Overview**

20 The statutory Delta encompasses 738,000 acres and consists of largely undeveloped islands and
 21 low-lying tracts of land surrounded by waterways and levees. Historically, more than 40% of the
 22 state's runoff flowed to the Delta through the Sacramento, San Joaquin, and Mokelumne Rivers
 23 (California Department of Water Resources 1995). In addition to the natural waterways, the area
 24 contains a variety of water development facilities such as levees, aqueducts, and intake structures.
 25 The construction of levees resulted in the conversion of wetlands, riparian corridors, and open
 26 water to agricultural lands characterized by elevated and vegetated levees surrounding low-lying
 27 areas of farmland. Construction of these levees, completed before World War II, also allowed for
 28 urbanization, commercial shipping to the Ports of Stockton and Sacramento, recreational boating,
 29 and marina development within the Delta (SacDelta 2009).

30 For purposes of this analysis, the visual resources study area consists of the Plan Area, which is
 31 largely formed by the statutory borders of the Delta, along with areas in Suisun Marsh and the Yolo
 32 Bypass; upstream rivers and reservoirs; and the Areas of Additional Analysis (see Chapter 3,
 33 *Description of Alternatives*). This area hosts a variety of land cover and vegetative communities: open
 34 water, riparian forest, wetlands and aquatic vegetation, agriculture, grasslands, and urban
 35 development.

36 Lands contributing to the visual resources in the study area include State Recreation Areas, wildlife
 37 refuges and preserves, marinas and shoreline recreation facilities, and the Diablo and Vaca
 38 mountain ranges. Some large tracts are managed by duck hunting clubs. Although the Delta is largely
 39 agricultural, human-made structures of aesthetic value, such as bridges and historical homes and
 40 townsites, are located along the roadways.

41 The largest population centers within the legal Delta are the cities of Sacramento (population
 42 486,189) and Stockton (population 292,133), with smaller historic town centers scattered

1 throughout the region and suburban centers at the edges of the Delta (California Department of
2 Finance 2010). As discussed below, those town centers include Isleton, Walnut Grove, and
3 Courtland.

4 The heart of the study area is at or below sea level and generally flat; however, levees constructed to
5 prevent flooding of populated areas, islands, and agricultural areas contribute to minor topographic
6 variations, extending an average of 10–20 feet above mean high water. These levees form a visual
7 barrier between most development and adjacent waterways. The elevation of the Delta's peripheral
8 areas is higher, but slopes in these areas are generally gentle. On clear days, distant views of Mt.
9 Diablo, portions of the Coast Ranges and the Sierra Nevada are available from many locations within
10 the Delta. State Route (SR) 160, a two-lane, state-designated scenic highway, travels primarily along
11 the tops of levees through the central and northern areas of the Delta and provides elevated views of
12 various land uses and landscape types.

13 Suisun Marsh is the largest contiguous brackish water marsh remaining on the west coast of North
14 America and is a critical part of the San Francisco Bay–Delta Estuary ecosystem. Encompassing
15 116,000 acres, Suisun Marsh consists of managed and tidal wetlands, grasslands, and bays and
16 sloughs. Most of the wetlands in the Suisun Marsh are managed as food, cover, and nesting habitat
17 for waterfowl. A total of 230 miles of levees within the marsh provides critical protection of the
18 drinking water for 22 million people by preventing saltwater intrusion into the Delta (California
19 Department of Water Resources 2010). The Suisun Marsh also provides for a variety of recreational
20 opportunities on both private and public lands, including duck hunting, fishing, upland game
21 hunting, and wildlife observation. Additional passive recreational opportunities are provided in the
22 Hill Slough Wildlife Area and the Peytonia Slough Ecological Reserve (see Chapter 15, *Recreation*, for
23 further discussion). Aside from limited water-dependent industrial areas near Collinsville, the
24 waterfront represents one of the few remaining undeveloped areas with deep-water access in the
25 San Francisco Bay Area.

26 The north and north-central portions of the study area are spanned by approximately 10,200 acres
27 of the Yolo Bypass Wildlife Area. The Yolo Bypass Wildlife Area consists of wildlife habitat and
28 agricultural land that is managed by the California Department of Fish and Wildlife (CDFW).
29 Recreational activities range from hunting, fishing, and hiking to wildlife viewing, nature
30 photography, and environmental education activities (see Chapter 15, *Recreation*, for further
31 discussion). The Sutter County portion of the Yolo Bypass extends from the Fremont Weir in the
32 north to the Sutter/Yolo County line in the south, and the total area consists of approximately 160
33 acres within the Fremont Weir Wildlife Area. The Fremont Weir Wildlife Area includes
34 approximately 1,500 acres that are managed by CDFW and provide for hunting, fishing, and wildlife
35 viewing (see Chapter 15, *Recreation*, for further discussion). When the Fremont Weir releases
36 overflow waters of the Sacramento River, Sutter Bypass, and the Feather River into the Yolo Bypass,
37 the wildlife area becomes flooded. Land uses within the bypass are primarily agricultural or other
38 open space uses that are compatible with flood control operations. Agricultural production is limited
39 to field and row crops. Views from the bypass are expansive when haze is at a minimum. Typical
40 views extend over agricultural fields in the foreground to the middleground and background. The
41 largest number of viewers of the bypass are on elevated roadways, such as those on levees, which
42 provide views of the high-rise buildings of downtown Sacramento that can be seen in the
43 middleground and background, with views of the Sierra Nevada foothills occasionally available on
44 clear days or of views of the western portion of the Sacramento Valley and the Vaca Mountains.
45 These types of landscape views are strongly characteristic of the Sacramento Valley and have
46 contributed to the region's identity.

1 The attributes of the Delta landscape change over the course of a year in response to seasonal
 2 changes and weather. Vegetation, agricultural crops, and land use patterns vary according to the
 3 time of year and farming activities. For instance, a particular field may be fallow through winter and
 4 early spring and yet exhibit substantial vegetative growth through summer. Often stubble or crop
 5 remnant can be seen in fall after harvest.

6 Weather also has a major influence on the landscape. Winter tule fog can substantially reduce
 7 ground level visibility to a few yards and have a major effect on landscape features.

8 Buildings associated with farms and duck clubs in areas that receive flooding are commonly raised
 9 structures that can withstand flooding. These structures are scattered throughout the study area.
 10 The visual character of the Delta landscape is an appealing and sharp contrast against the
 11 Sacramento metropolitan region. Views are moderately high in vividness. The artificial intrusions
 12 associated with development, agriculture, and infrastructure are low, but present, resulting in
 13 moderate intactness. The visual quality of the area is also moderately high in unification because the
 14 landscape is fairly congruent and harmonious in terms of scale, color, and form.

15 **17.1.2.2 Delta Landscape Types**

16 The Delta's landscape can be grouped into four main landscape categories: agricultural, waterways,
 17 developed, and undeveloped open space. Each of these categories has distinctive visual and scenic
 18 attributes that contribute to the dominant visual character of the Delta landscape. Within each
 19 category, specialized dominant features in the visual landscape combine to define more distinct
 20 landscape types that share similar visual elements.

21 **Agricultural Landscapes**

22 Agricultural lands account for the primary land use in the Delta, as described in Chapter 13, *Land*
 23 *Use*. The extensive tracts of agricultural land shape the Delta's visual character. A wide mixture of
 24 crops, land management practices, and agricultural infrastructure create a pastoral visual landscape
 25 composed of a variety of colors, textures, and views from different distances.

26 Farmsteads are often associated with agricultural land uses. Many farmsteads have traditional farm
 27 characteristics, with structures that reflect traditional farmhouse designs. Agricultural lands are
 28 further defined according to the type of agriculture employed (i.e., orchards, row crops, and
 29 pasturelands), as described below.

30 **Orchards**

31 Orchards are dispersed throughout the Delta and create a distinct landscape type within the broader
 32 category of agriculture. Large plots of fruit and nut trees (e.g., pears, peaches, walnuts, almonds),
 33 often planted immediately adjacent to roadways, create broad, seasonally open vistas. In winter, the
 34 barren orchards are devoid of foliage and provide more open views of the landscape. During the rest
 35 of the year, the dense foliage of the orchards limits the field of vision. The flatness of the topography,
 36 coupled with the repetition of the planted tree rows, result in long horizontal lines that dominate the
 37 visual field. These uniform forms and textures are created by cultivation into long, linear rows
 38 defined by orchard trees that are commonly topped to uniform levels.

39 Color changes seasonally, with winter views dominated by gray-brown hues and skeletal trees with
 40 branches lacking leaves. In spring, these tree forms contrast with the bright green grass or yellow
 41 floral displays (e.g., mustard) of groundcover vegetation. During the spring, pale-colored flowers

1 bloom for a short period of time, followed by the emergence of lush green foliage that lasts
 2 throughout summer and autumn. During summer, orchards provide a visual solid wall of green, and
 3 for drivers, glimpses through the rows. Summer and fall bring the harvest, with some orchards
 4 bearing bright-colored fruits amid the green foliage.

5 The winter and summer views are contrasted by the viewing distance or the ability to see through
 6 the orchard to what is beyond. In general, activity and movement are minor elements of this
 7 landscape. Artificial lighting is generally absent; the landscape is dark at night, except for occasional
 8 views of farmsteads dispersed through the landscape. Similarly, sources of glare are generally
 9 absent.

10 **Row Crops**

11 Agricultural tracts supporting row crops (e.g., corn, asparagus, strawberry, wine grapes) are a
 12 distinct visual landscape type in the Delta. Row crops share some visual attributes with orchards—
 13 repeating patterns, uniform height forms, horizontality, and seasonal variation in textures and
 14 colors. Because row crops are generally low to the ground, they allow open views to the surrounding
 15 landscape and distant vistas year-round. These patterns are repeated in widespread areas
 16 throughout the Delta and dominate the visual character of this landscape type.

17 Like those of orchards, views of row crops change seasonally. Winter views encompass broad areas
 18 of brown to black soil, or only the cover of low-growing grasses with relatively uniform texture.
 19 Summer textures tend to be uniform, with rows of green leafy vegetation. Vineyards have a
 20 distinctive visual appearance created by frames used to train the growth of the plants that define the
 21 center of the rows. In winter, these fields are generally open and views through and above the
 22 frames are apparent.

23 Springtime views include bright green grass cover, sometimes with wildflower displays or bright
 24 yellow mustard plants between the vine rows. Summer foliage is dense, however, and views may be
 25 obstructed from ground level to as high as 10–12 feet above the ground depending on crop types
 26 (e.g., corn, strawberries, lettuce, asparagus). Row crops typically exhibit uniformity in forms,
 27 patterns, textures, and seasonal colors. Active agricultural practices—planting, crop tending, and
 28 harvesting activities—are routine in these areas. During periods of intensive activity, movement of
 29 farm equipment, activities by field workers, aerial spraying, and trucking normally provide visual
 30 contrast with the otherwise static landscape. Artificial lighting is generally absent; these are dark
 31 landscapes at night, except for occasional views of farmsteads dispersed through the landscape.
 32 Similarly, sources of glare are generally absent.

33 **Pasturelands**

34 Pasturelands typically exist toward the edges of the Delta, particularly in the eastern and southern
 35 regions (e.g., toward Lodi and Brentwood), as the landscape transitions to higher elevations that
 36 support grasslands and oak savanna. The visual character of pasturelands is characterized primarily
 37 by broad expanses of open space, sometimes with rolling hills and sparsely scattered oak trees. This
 38 landscape type generally affords broad vistas. The presence of grazing cattle contributes to a
 39 pastoral landscape. Additionally, this landscape type can include row crops and working farms such
 40 as dairies.

41 During the rainy winter and spring seasons, these pastures are verdant green, a color that fades to
 42 golden brown during the drier summer and fall seasons in locations where irrigation is not

1 provided. Where oaks are present, the foliage contributes to visually dramatic forms and textures
2 that contrast strongly with the background uniformity of the grass cover.

3 In winter and spring, dark-colored tree trunks and twisting branches dominate the eye of the viewer
4 and contrast with the color of the grass, which is gray-brown in early winter but changes to bright
5 green in late winter and spring. In summer and fall, the foliage forms large dome forms with uniform
6 texture and gray-green color that contrasts strongly against the yellow-golden background colors of
7 the grass.

8 Where irrigation is provided, these pastures often retain their green color throughout the drier
9 summer and fall months, creating a color mosaic pattern on the landscape that contrasts with
10 nonirrigated lands.

11 Large tracts of flat or gently rolling grazing land afford open vistas to distant background views of
12 major landscape features such as Mt. Diablo, the more distant Sierra Nevada, or human-made
13 structures such as bridges and open canals. In general, activity and movement are minor elements of
14 this landscape and are associated mostly with pasture animals. Lighting is generally absent; at night
15 these are dark landscapes, except for occasional views of farmsteads dispersed through the
16 landscape. Similarly, sources of glare are generally absent.

17 **Waterway Landscapes**

18 Approximately 1,000 miles of waterways traverse the Delta (Delta Science Center 2009a), making
19 them a defining and dominant feature of the landscape. Many of the waterways follow natural
20 courses, while others have been constructed for navigation, flood control, water supply, and
21 drainage. The predominant features constraining and defining these waterways are artificial levees.

22 Waterways in the Delta span a wide range of scales in the landscape. The river corridors are large
23 and wide, while the sloughs and associated tributaries can be quite narrow, hidden in some
24 instances amid the flat surrounding terrain.

25 The Delta's waterways are unique in their diversity and wide range of distribution and abundance,
26 adding substantially to the region's visual characteristics. Most Delta waterways have a general
27 scenic quality that attracts and contributes to varied types of recreation. The three general types of
28 waterway visual landscapes—open river, channels and sloughs, and marsh—are described in
29 greater detail below.

30 **Open River**

31 The open river is a visual landscape dominated by a singular, expansive waterway. This landscape
32 type is a common sight along Delta roadways that closely parallel the Sacramento and other rivers
33 and offer views of the river corridor. Delta rivers, such as the Sacramento, San Joaquin, Mokelumne,
34 and Cosumnes, are long and meandering, with extensive surface water visible in many locations.
35 Because of the length of the rivers and their meandering form, they are constantly moving in and out
36 of the field of vision, particularly as viewed from the local roadways. When rivers are present, the
37 visual field is dominated by a large expanse of water that contrasts strongly with adjacent lands and
38 serves as a focal point in the landscape.

39 In some areas of the Delta where former islands have been inundated, such as Franks Tract and Big
40 Break, the open-river landscape expands broadly, creating an open-water visual landscape. These
41 areas offer very wide, uniform expanses of water and afford broad vistas. At a general level, water

1 exhibits strongly horizontal features in form, especially as distance increases from a viewpoint. In
 2 more close-in views, water forms change with wind and passage of boats and ships, inducing low
 3 vertical elements in the waves and wakes, but the horizontal component of the waves and wakes
 4 predominates. The seasonal emergence of aquatic vegetation can also introduce a variety of colors
 5 and textures to these close-in views.

6 River corridors are typically banked by earthen levees that rise above the water level to protect
 7 adjacent lands from flooding. These are often covered with riparian vegetation (e.g., trees, ground
 8 cover), but may also provide locations for water access in the form of docks, marinas, and related
 9 facilities. In winter and early spring, vegetation lacks foliage and tends to create relatively uniform
 10 textured gray-brown forms along the water's edge. In summer, the green foliage is dense and
 11 generally uniform in texture. Levees tend to have regularly repeated colors and textures, generating
 12 a monotonous element in the visual landscape. Riverbanks may also be lined with riprap, composed
 13 of boulders or recycled concrete rubble, to protect against erosion (Delta Science Center 2009a).
 14 Such bank materials are often regarded as visually detracting from a more natural shoreline
 15 appearance.

16 Visually dominant features associated with open river views are the many steel drawbridges
 17 constructed over the numerous river and waterway crossings. These structures have varied forms
 18 and colors and dominate the visual field where present. Although wind may introduce an element of
 19 movement, water in this landscape type is typically flat and still. The color of water is ever changing
 20 with time of day, weather, and wave patterns. The water may be brown, green, or blue when
 21 reflecting the sky at midday and purple, golden, or black when the sun is low at dawn and evening.
 22 Under cloud cover and tule fog, it may appear gray. The color of the water constantly contrasts with
 23 the adjacent vegetation along the banks, islands, or marshes, which changes color with the seasons.

24 Activity and movement are important visual components of the open river visual landscape. The
 25 ever-changing movement of the water and the visual colors, textures, and patterns that result tend
 26 to attract the eye of a viewer, and sometimes dominate the view. The great amount of recreational
 27 boating and commercial shipping creates a constantly changing level of activity on the rivers.
 28 Waterfowl activity generates additional movement and visual attractants. Lighting is generally
 29 absent; these are dark landscapes at night, except for occasional views of residences and structures
 30 dispersed along the banks and traffic headlights on roadways. Boat and ship movements generate
 31 ephemeral lighting. Natural glare is related to the waters' reflective quality. Most nonnatural sources
 32 of glare in this area are temporal and related to boats and ships.

33 **Channels and Sloughs**

34 Numerous channels and sloughs wind through the Delta as the large Sacramento and San Joaquin
 35 rivers mingle with smaller rivers that drain the Sierra Nevada and Coast Ranges (Delta Science
 36 Center 2009b). Sloughs meander through the landscape in a curvilinear fashion, while engineered
 37 waterways that have been channelized and diverted for agriculture and water conveyance tend to
 38 carve straighter paths. These smaller waterways intersect and contrast with the larger landscape,
 39 and although they serve as a focal point in the landscape, they are less dominant in the visual field
 40 than waterways classified under the open river landscape type. The narrower expanse of water in
 41 channels and sloughs creates a more confined visual field than in the open river visual landscape.

42 Channels typically have earthen banks and/or riprap and often appear less natural than waterways
 43 in the open river landscape type. Riparian vegetation may be present, but some of these waterways
 44 may appear merely as depressions in the larger vegetated landscape. Channelized waterways for

1 shipping, water diversion, or water distribution may have banks constructed of earthen or hard
2 materials (for example, the California Aqueduct, the largest waterway of this type, along with the
3 Sacramento, San Joaquin, and Stockton deep water ship channels).

4 Some channels and sloughs are lined by trees and shrubs down to the waterline. Such vegetation
5 tends to be relatively uniform in color, texture, and pattern and varies by season in the same way as
6 described for the open river visual landscape. Water levels in Delta channels and sloughs fluctuate
7 seasonally and daily depending on annual precipitation and the tides. The predominant visual
8 feature apparent with fluctuating water levels is visible during low flows, when more of the adjacent
9 shoreline is exposed to view. Bridges, where present, form a dominant visual element of the
10 landscape. Residences, commercial businesses and docks along the edges, some of which are run
11 down or abandoned, also add substantial variation in forms, patterns, textures, and colors impacting
12 the overall visual quality of the areas.

13 Activity and movement are also important components of the visual landscape of channels and
14 sloughs. Depending on the amount of recreational boating and commercial shipping, there is a
15 constantly changing level of activity on the rivers. Additionally, waterfowl activity generates
16 additional movement and visual attractants in this visual landscape. Lighting is generally absent;
17 these are dark landscapes at night, except for the occasional views of residences, structures, and
18 roadways dispersed along the banks. Boat and ship movements generate ephemeral lighting.
19 Natural glare is related to reflective quality of the water. Most artificial glare sources are temporal
20 and related to boats and ships.

21 **Marsh**

22 The marsh landscape type consists of intermixed open water and wetland vegetation. It is
23 characterized by fluctuating water levels and/or seasonal flooding from tidal action, rain, and
24 management actions. Suisun Marsh and the Yolo Bypass Wildlife Area are two examples of this
25 landscape type.

26 The predominant visual characteristic of Delta marshes is the large, flat, open expanse absent of
27 prominent vertical features or human-made structures. The landscape has strong horizontality in
28 form because of the plane of the water and the uniform height of marsh vegetation. The presence of
29 islands in a marsh, which may have riparian forest, adds the primary vertical element to the
30 landscape and generates visual interest. Texture may be irregular, with some marshes appearing as
31 large bodies of shallow open water and others as smaller, isolated areas of saturated ground. The
32 marsh vegetation itself appears to have uniform texture and growth forms, such as lower growing
33 pickleweed and saltgrass and taller growing bulrush, reed, and cattails as described in Chapter 12,
34 *Terrestrial Biological Resources*.

35 In these landscapes, views may change by season of the year, particularly as water levels fluctuate.
36 Seasonal change in form, color, and pattern is common. Additionally, both freshwater and tidal
37 marshes provide habitat for a diversity of avian species, giving rise to a wide range of seasonal
38 wildlife.

39 Activity and movement of waterfowl contribute strongly to the character of this visual landscape,
40 and wind patterns on shallow water and marsh grasses add visual interest. Human activity is largely
41 absent. Lighting is uniformly absent; these are dark landscapes at night. Natural glare is related to
42 the waters' reflective quality. Artificial sources of glare are generally absent.

1 **Developed Landscapes**

2 Settlement patterns in the Delta are generally rural; however, small towns and pockets of urban
3 development are distributed throughout. This section does not attempt to describe the many types
4 of land uses in the Delta; rather, it focuses on the primary development or settlement patterns that
5 contribute to the visual landscape (i.e., rural centers, urbanized development, and industrial
6 development). Three main types of developed land visual landscapes are described in greater detail
7 below.

8 **Rural Centers**

9 Rural centers are characterized by the small, sometimes historic towns scattered throughout the
10 Delta. These towns are typically clustered alongside a major waterway—for example, Isleton,
11 Walnut Grove, and Courtland, which flank the Sacramento River. These communities are typically
12 dominated by a single, main commercial street that appears characteristic of mid-nineteenth
13 century towns. Typically, the towns were built at the turn of the twentieth century, using
14 nineteenth-century construction techniques and architectural styles. (For a more detailed
15 description of historic resources located in the study area, see Chapter 18, *Cultural Resources*.
16 Additional information about rural centers in the study area is provided in the discussion of
17 community character in Chapter 16, *Socioeconomics*.)

18 A small number of single-family residences typically occupy adjacent streets and may contain yards
19 and landscaping, which break up the visual field. Vertical features are present, but buildings are
20 generally no taller than one or two stories. Although historic storefronts display individual
21 characteristics, there is uniformity among the buildings on the main street, and a strong, commonly
22 repeated pattern of structures aligned in linear arrangements dominates. Building forms and
23 textural elements are highly varied by type of structure and use. However, there are scattered low-
24 rise commercial or industrial areas within these communities.

25 Building materials of brick, concrete, corrugated steel, and wood produce wide ranges of colors that
26 dominate the visual field and contrast with the colors of the surrounding natural environment
27 (greens, blues, and earth tones). Aesthetic quality varies with the condition of the structures in a
28 given community. Ornamental landscaping predominates and creates highly varied forms, colors,
29 and textures. Streets and signage are strong visual elements of the landscape.

30 Rural centers are compact with well-defined edges providing a clear sense of entry and departure. In
31 some cases, rural centers are oriented along the adjacent riverfront, which serves as a focal feature.
32 Except as related to changes in the foliage of ornamental landscaping, seasonal variation in forms,
33 patterns, colors, and textures is generally absent from visual landscapes in rural centers.

34 The rural center visual landscape is characterized by considerable human activity and movement,
35 although these are largely confined to the daytime and early evening hours. Lighting is related to the
36 varied building sources (interior and exterior lighting and signage). Street lighting may be present
37 but often is limited in extent. Some buildings may create sources of glare.

38 **Urbanized Development**

39 Most of the interior Delta is rural; large, more urban development tends to occur only on its edges.
40 The City of Rio Vista is the single sizeable urban development center in the interior Delta and falls
41 into the urbanized development category.

1 The urbanized landscape type is also characterized by medium to larger cities, some with historic
 2 downtowns such as Antioch, Oakley, Brentwood, Stockton, Lodi, and Sacramento, and scattered
 3 outlier communities, such as Discovery Bay, which are mostly on the periphery of the Delta, typically
 4 along major highways. These communities also include areas that have a general suburban visual
 5 character with single-family homes and strip commercial developments lining major streets and
 6 highways. Many of the cities have traditional industrial development and active ports and marinas
 7 along their waterfronts. Although prominent vertical features may be present in mid-rise and high-
 8 rise buildings, horizontal corridors of one or two stories that can span several miles are the
 9 dominant form.

10 Urbanized development sometimes occurs against a backdrop of rural agricultural land; the built
 11 forms are new, and stand in visual contrast to the built forms in historic small towns, which are
 12 characteristic of the rural centers. Color may vary, particularly where agricultural vistas may
 13 alternate with the built environment, but a similarity in built form may produce a texture that is
 14 monotonous. This is notably true for new residential subdivisions in which repetition of building
 15 forms, patterns, textures, and color palette generate visually uniform landscapes. In most instances,
 16 the presence of urbanized development hinders views or vistas.

17 The visual landscape of urbanized areas displays mixed uses, and can sometimes appear visually
 18 complex from a distance, making it difficult to distinguish individual visual elements. Visual
 19 connection with the surrounding natural environment of the Delta is largely absent. Urban centers
 20 are sprawling and have weakly-defined edges, providing little visual sense of entry and departure. In
 21 Rio Vista, development and visual character is oriented to the adjacent riverfront, which serves as a
 22 focal feature. Similar waterfront orientation is present, although to a lesser degree, in the other
 23 cities and today is retained largely in remnant historic districts dating back to the age when those
 24 communities had a stronger river orientation. Sacramento, Stockton, and West Sacramento have
 25 working waterfronts and Stockton and West Sacramento both have active ports.

26 Building forms and textural elements vary greatly by type of structure and use. Most structures are
 27 one or two stories, with mid-rise buildings common in some areas. High-rise buildings are present
 28 only in the largest cities. Building materials are highly varied and façades have wide ranges of color
 29 and texture. Aesthetic quality varies according to condition of the structures and maintenance of
 30 landscaping in a given community. Ornamental landscaping predominates and creates highly varied
 31 forms, colors, and textures. Streets and signage are strong visual elements of the landscape. Except
 32 as related to changes in the foliage of ornamental landscaping, seasonal variation in forms, patterns,
 33 colors, and textures is generally absent in urbanized development landscapes.

34 The urban center visual landscape is characterized by considerable human activity throughout the
 35 day and night, year-round. Lighting systems are extensive and are associated with the varied
 36 building sources (interior and exterior lighting and signage), street and highway lighting, ports and
 37 airports, and others. Many buildings may create sources of glare.

38 **Industrial Development**

39 The industrial visual landscape type is scattered throughout the Delta and includes ports, water
 40 conveyance facilities, transmission lines, substations, and buildings with industrial uses, such as
 41 warehouses and storage silos. The industrial landscape may occur in conjunction with other
 42 landscape types, such as grazing lands and channels and sloughs. Wind farms occur in some such
 43 areas, particularly along the western edge of the Delta in Solano County. Although elements of
 44 nature, such as grasslands and water, may be present, this landscape type contains built elements

1 that dominate and contrast greatly with the surrounding landscape. Verticality, mass, and form of
 2 industrial features are often strong visual elements, as with transmission towers, which serve as
 3 vertical focal points with a strong pattern on a flat landscape.

4 Color, pattern, and texture in industrial landscapes may vary by the type of industrial facilities that
 5 are present, but these facilities typically contrast strongly with the greater landscape. As a result, the
 6 surrounding natural landscape tends to recede to the background of the visual environment, often to
 7 such an extent that the overall character of an area is wholly changed. Such features, therefore, are
 8 commonly regarded as disruptive to the visual integrity of the landscape in which they occur. In
 9 addition, lighting and glare in the environment can vary by the type of industrial structure that is
 10 present and can be a strong element in the nighttime landscape.

11 Only certain industrial uses generate much activity and movement. In general, warehouses and
 12 industrial uses generate considerable human activity and movement and may generate emissions
 13 plumes that have a strong visual presence in the landscape. On wind farms, the motion of wind
 14 turbine blades tends to enhance the visual dominance of those features in the landscape in
 15 combination with their vertical prominence, colors, forms, and patterns. By contrast, transmission
 16 lines and substations create little movement or activity.

17 **Undeveloped Open Space Landscapes**

18 Undeveloped open space landscapes in the Delta can include uncultivated lands interspersed among
 19 agricultural fields, lands that are no longer in agricultural production, and the rolling terrain of the
 20 Montezuma Hills. Uncultivated lands often contain smaller water bodies, mature trees and shrubs,
 21 and landscape signatures that suggest irregular terrain, as well as inundated lands that make the
 22 land unsuitable for agricultural production. Many of these lands are, however, suitable for habitat
 23 and wildlife viewing. Lands that are no longer in agricultural production are naturally recolonizing
 24 with vegetation, and various stages of this successional process can be seen—such as low-growing
 25 coverage over lands that were once tilled, slowly expanding hedgerows, and landscapes spotted
 26 with mature trees and shrubs where old agricultural field signatures are present. These
 27 undeveloped open space landscape types can be clearly seen on Tyler, Bradford, Mandeville, and
 28 Medford Islands and Webb and Holland Tracts. The Montezuma Hills contrast against the other low-
 29 lying lands in the Delta and provide a unique visual focal point west and north of the Sacramento
 30 River. The colors of the hills vary from green to brown with the seasons, and the rolling landform
 31 provides visual interest on the western edge of the study area.

32 **17.1.3 Visual Character of the Areas Upstream of the Delta**

33 In general, the major SWP and CVP water storage facilities (i.e., the potentially affected portions of
 34 the Upstream of the Delta Region) provide year-round water-based recreation areas. Generally,
 35 visual character of the SWP and CVP reservoirs that have the potential to be affected by the BDCP
 36 alternatives consists of open water with minimal areas of rural and recreation-related development.

37 Because recreational activities are important at these reservoirs, the surrounding lands are
 38 primarily managed as natural areas with scattered recreational development. Shoreline vegetation
 39 varies because management focuses on water supply in these areas. Decreases in water level can
 40 result in a condition known as a *bathtub ring*, where formerly submerged, unvegetated areas
 41 become visible as bare dirt around the edge of a reservoir. The visual character upstream of the
 42 Delta at SWP and CVP reservoirs is described in this analysis because the BDCP alternatives may

1 have operational effects on these facilities that could affect their appearance, depending on a given
 2 water year. The reservoirs discussed are Trinity Lake (also referred to as Claire Engle Lake), Shasta
 3 Lake, Whiskeytown Reservoir, Lake Oroville, Folsom Lake, New Melones Lake, San Luis Reservoir,
 4 and Millerton Lake. A discussion of recreational uses at many of these reservoirs is provided in
 5 Chapter 15, *Recreation*.

6 The corresponding SWP and CVP waterways are the Trinity River downstream of Lewiston Dam, the
 7 Sacramento River downstream of Keswick Dam, the Feather River downstream of Oroville Dam, the
 8 American River downstream of Folsom Dam, the Stanislaus River downstream of New Melones Lake
 9 Dam, and the San Joaquin River downstream of Friant Dam. Because visual resources associated
 10 with these waterways would not be affected by implementation of the BDCP alternatives, they are
 11 not discussed further in this section. A discussion of recreational uses of these waterways is
 12 provided in Chapter 15, *Recreation*.

13 Whiskeytown Reservoir, Shasta Lake, and Trinity Lake are central features of the Whiskeytown-
 14 Shasta-Trinity National Recreation Area, established by Congress in 1965 to provide for public
 15 outdoor recreational use and enjoyment, among other purposes.

16 Folsom Lake, New Melones Lake, and Millerton Lake are CVP reservoirs, whereas Lake Oroville is
 17 the primary storage reservoir for the SWP. San Luis Reservoir serves both the SWP and the CVP.
 18 New Melones Lake is surrounded by federal recreation lands, while the other four reservoirs and
 19 their surrounding lands have been designated as State Recreation Areas.

20 **17.1.3.1 Trinity Lake**

21 The 19-mile-long Trinity Lake is the focus of the Trinity Unit of the Whiskeytown-Shasta-Trinity
 22 National Recreation Area, managed by the USDA Forest Service. Trinity Lake is located in Trinity
 23 County and is accessed from SR 3, also known as the Trinity Heritage Scenic Byway. Much of the
 24 shoreline is undeveloped, with developed facilities concentrated primarily along the shoreline of the
 25 Stuart Fork Arm. The surrounding lands are forested, with campgrounds, picnic areas, boat ramps,
 26 resorts, and marinas. Lewiston Lake is located just south of Trinity Dam and also supports primarily
 27 passive recreational activities such as camping, fishing, wildlife viewing, bird watching, and boating
 28 (USDA Forest Service 2003).

29 **17.1.3.2 Shasta Lake**

30 Shasta Lake is the largest reservoir in California, with 370 miles of shoreline and 29,500 surface
 31 acres when full. It is bisected by Interstate (I-)5 in Shasta County, allowing views from the roadway
 32 as well as from the shoreline. The USDA Forest Service manages the lake and surrounding lands as
 33 the centerpiece of the Shasta Unit of the Whiskeytown-Shasta-Trinity National Recreation Area.
 34 Water-oriented recreation is the main attraction. Views of the lake and the surrounding forested
 35 areas predominate, aside from views of I-5.

36 **17.1.3.3 Whiskeytown Reservoir**

37 Whiskeytown Reservoir is located 8 miles west of Redding in Shasta County. It is a main feature of
 38 the National Park Service–managed Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National
 39 Recreation Area. The lake provides 36 miles of shoreline, and views are primarily water-oriented or
 40 focused on the wooded area adjacent to the lake (National Park Service 1999, 2010).

1 **17.1.3.4 Lake Oroville**

2 Lake Oroville is located 70 miles north of Sacramento, near the city of Oroville in Butte County. The
3 lake is at the confluence of the north, south, and middle forks of the Feather River. The lake is the
4 focus of the Lake Oroville State Recreation Areas, which is managed by the California Department of
5 Parks and Recreation (DPR). Lake Oroville is operated for water supply and flood management,
6 power generation, water quality improvement in the Delta, recreation, and fish and wildlife
7 enhancement. Forested areas, areas of scrub, steep canyons, and open areas provide a range of
8 views (California Department of Parks and Recreation 2008).

9 **17.1.3.5 Folsom Lake**

10 Folsom Lake is located 25 miles east of Sacramento, between U.S. Highway (US) 50 on the south and
11 I-80 on the north, at the confluence of the North and South Forks of the American River. It is near
12 many urban areas, being located in El Dorado, Placer, and Sacramento Counties and adjacent to the
13 city of Folsom. The lake is the focus of DPR's Folsom Lake State Recreation Area. Land uses adjacent
14 to the lake are primarily related to active recreation, including swimming areas, boat launches,
15 picnic areas, one marina, hiking trails, and campgrounds, though there are also nearby residential
16 uses as well; these areas provide views of the lake. Approximately 80 miles of trails are located
17 adjacent to the lake through scrub, grassland, and sparse tree cover (California Department of Parks
18 and Recreation and Bureau of Reclamation 2003) that also provide views of the lake.

19 **17.1.3.6 New Melones Lake**

20 New Melones Lake is located in Calaveras and Tuolumne Counties and is bisected from north to
21 south by SR 49. New Melones Lake and the surrounding lands provide flood control for the lower
22 Stanislaus River and San Joaquin River Delta, irrigation and municipal water supplies, peak-use-
23 period hydroelectric production, recreational opportunities, and fish and wildlife enhancement
24 opportunities and improved water quality. Developed recreation areas focus views on the reservoir,
25 and hiking and biking trails provide views through hilly areas of primarily scrub and scattered tree
26 cover (Bureau of Reclamation 2010).

27 **17.1.3.7 San Luis Reservoir**

28 The 12,700-acre San Luis Reservoir is located in northern Merced County and is situated north and
29 south of SR 152 between U.S. Highway 101 and I-5, approximately 2 hours from San Francisco and
30 approximately 12 miles west of Los Banos. The reservoir is fed by the California Aqueduct and the
31 Delta-Mendota Canal during winter and spring. It provides opportunities for views of open water
32 and relatively open grassland (Bureau of Reclamation and California Department of Parks and
33 Recreation 2005).

34 The Upper and Lower Cottonwood Wildlife Areas are northeast and northwest of the reservoir,
35 respectively. These areas are owned by CDFW. Pacheco State Park is west of the reservoir. Los
36 Banos Creek Reservoir is located southeast of San Luis Reservoir. Views to the southeast between
37 San Luis Reservoir and Los Banos Creek Reservoir encompass ranchlands, agricultural lands, an
38 electrical substation, and other scattered non-residential uses (Bureau of Reclamation and California
39 Department of Parks and Recreation 2005).

1 **17.1.3.8 Millerton Lake**

2 Millerton Lake is in the Sierra Nevada foothills, approximately 20 miles northeast of Fresno, and is in
3 both Fresno and Madera Counties. The lake is the centerpiece of the Millerton Lake State Recreation
4 Area, managed by DPR. Water-based recreational activities are the predominant use of the lake, and
5 views focus on the open water. Views of the surrounding area are of relatively steep open space and
6 grazing land, with limited commercial and residential land uses in nearby Friant (Bureau of
7 Reclamation and California Department of Parks and Recreation 2010).

8 **17.1.4 Characterization of Viewers**

9 **17.1.4.1 Recreationists**

10 Among the viewers of the landscapes within the Delta are recreationists who use the public lands
11 and waterways to enjoy a variety of recreational activities, such as boating, fishing, windsurfing,
12 hunting, wildlife viewing, photography, scenic drives, running/walking, and bicycling. Bicycle routes
13 are shown in Chapter 19, *Transportation*, Figure 19-1, and most of these follow local roadways.
14 There is ample opportunity for recreation in the Delta, which hosts numerous marinas, boat
15 launches, campgrounds, fishing sites, and trails. Marinas, boat launches, and public fishing areas are
16 available along the Delta's rivers, sloughs, and islands. State and county parks, State Recreation
17 Areas, and wildlife areas are also present throughout the Delta. The Yolo Bypass Wildlife Area and
18 Stone Lakes National Wildlife Refuge are of particular note because of their size, proximity to the
19 major metropolitan area of Sacramento, and opportunities for passive recreation such as wildlife
20 viewing.

21 A viewer situated at a publicly accessible location is characterized as sensitive when substantial
22 changes to the visual landscape would negatively affect that viewer's experience and/or enjoyment
23 while at that location. Recreationists are considered to have moderately high sensitivity to changes
24 in views because they participate in outdoor recreational activity, are located close to visual
25 resources, and are likely to be in popular recreational areas. In addition, they are more likely to
26 regard the surrounding landscape as a holistic visual experience. However, these viewers are often
27 only in the study area for short durations, ranging from a few hours to a couple of days.

28 **17.1.4.2 Roadway Travelers**

29 Travelers on the Delta's many local roads consist of residents, commuters, and travelers going to
30 and from businesses, water access points, and other recreation areas. Three interstate highways (I-
31 5, I-80, and I-580) are major transportation and trucking routes that traverse the periphery of the
32 Delta (Delta Protection Commission 2010). Because travelers on the interstates would be traveling
33 at relatively high speeds and are typically not anticipating or seeking scenic views, they are
34 considered to have low visual sensitivity to changes in views. However, the limited topography of
35 the region allows wide-ranging views of the area and freeways allow tens of thousands of travelers
36 to view these areas on any given day. In consideration of these factors, the analysis addresses a key
37 observation point along I-5 and takes into account changes to the visual environment as experienced
38 by these viewers.

39 The four major state highways in the Delta (SR 4, SR 12, SR 84, and SR 160) are typically two lanes
40 wide, sometimes built on top of levees. Originally meant for lower traffic volumes at moderate
41 speeds, these state highways are now heavily used for regional trucking, recreational access, and

1 commuting (Delta Protection Commission 2010:31–32). County roads generally follow the levees or
 2 traverse the islands from levee to levee. Two state routes require ferry crossings, including Howard
 3 Landing Ferry on SR 220 and Ryer Island Ferry on SR 84, that carry traffic over the waterways. In
 4 addition, the Jersey Island, Venice, and Woodward Island Ferries transport passengers to private
 5 islands, but these passengers are primarily working agricultural lands. These local roads are not
 6 particularly distinctive in designation or general Delta aesthetic quality, but viewers from these
 7 roads are be considered moderately sensitive to changes in views where scenic resources and views
 8 exist.

9 SR 160 runs north–south from Sacramento to Antioch and was officially designated a State Scenic
 10 Highway in 1969. Scenic qualities associated with SR 160 include historic communities such as
 11 Locke, extensive farmland, and the Sacramento River, as well as distant views of Mt. Diablo and the
 12 Sierra Nevada. A number of historic bridges, including several that are eligible for listing in the
 13 National Register of Historic Places (California Department of Transportation 2008), also cross the
 14 Sacramento River and contribute to the highway’s scenic quality. The elevated nature of SR 160
 15 affords high visibility of the landscape, contributing to its designation as a scenic highway. Many
 16 travelers choose to drive along SR 160 over other options (I-5 or I-80) that would allow for faster
 17 travel. River Road is a county road in Sacramento County that runs along the Sacramento River
 18 opposite SR 160. The portion of River Road between the Paintersville and Isleton bridges is an
 19 officially designated county scenic highway, a designation for county-maintained roads that is
 20 equivalent to an officially designated State Scenic Highway (Cadd pers. comm. 2009). Scenic
 21 qualities for River Road are similar to those for SR 160, described previously. Travelers on SR 160
 22 and River Road are considered to have moderately high visual sensitive to changes in views because
 23 travelers often take these routes instead of other roadways to enjoy their scenic qualities, but they
 24 are still focused on driving the winding roadway, which redirects some of the focus from the
 25 surrounding visual environment.

26 **17.1.4.3 Railway**

27 As described in Chapter 19, *Transportation*, rail travel occurs in the Delta region and study area on
 28 Amtrak’s Capitol Corridor, California Zephyr, Coast Starlight, and San Joaquin Oakland to Bakersfield
 29 routes. The Capitol Corridor passes through and passengers would have views of Conservation
 30 Zones (CZs) 2 and 3, as it travels between Davis and Sacramento, and CZ 11, as it travels between
 31 Martinez and Fairfield (Amtrak 2012a). The Capitol Corridor generally lies west of the Delta until it
 32 approaches Sacramento and provides views of the north Delta, including the Yolo Bypass Wildlife
 33 Area. The California Zephyr and Coast Starlight routes share the same rail line and pass through the
 34 same stations as the Capitol Corridor in the Delta region (Amtrak 2012b and 2012c). Alternatives 1–
 35 9 would not be visible from the Capitol Corridor, California Zephyr, and Coast Starlight routes, but
 36 conservations measures occurring in CZs 2, 3, and 11 may be. The San Joaquin Oakland to
 37 Bakersfield route passes through and passengers would have views CZs 6, 9, and 10 as it travels
 38 between Antioch and Stockton (Amtrak 2012d). The San Joaquin Oakland to Bakersfield route
 39 traverses over agricultural lands on Delta islands and across the San Joaquin and Middle Rivers and
 40 several sloughs. Alternatives 1–9 would be visible from this route, in addition to conservation
 41 measures occurring in CZs 6, 9, and 10 that may be visible. For a description of the Conservation
 42 Zones, see Chapter 3, *Description of Alternatives*, and Figure 3-1.

43 The Altamont Commuter Express (ACE) passes through the study area and passengers would have
 44 views of CZ 7, as it travels through Tracy between Lathrop/Manteca and Livermore (Altamont
 45 Commuter Express 2012). This route passes primarily through agricultural lands and across the San

1 Joaquin and Middle Rivers. Alternatives 1–9 would not be visible, but conservation measures
2 occurring in CZ 7 may be.

3 Rail passengers would mostly have views of the CZs and only a small portion of this viewer group
4 (those on the Joaquin Oakland to Bakersfield route) would have views of the study area that is
5 affected by project alternatives. Rail passengers may enjoy the scenic qualities of the views from the
6 train; however, their views are fleeting and temporary because they pass locations at high speed.
7 Rail passengers are considered to be moderately sensitive to changes in views in the study area and
8 CZs, particularly for those who use rail travel for scenic touring.

9 **17.1.4.4 Residential**

10 Residential land uses are distributed throughout the Delta in varying degrees of density, depending
11 on location. Major cities such as Sacramento, Stockton, and Antioch contain some of the greatest
12 population concentrations in the Delta (U.S. Census Bureau 2000). These major urban areas are
13 located on the periphery of the Delta. In the Delta's interior, Rio Vista is the largest population
14 center, with a population of roughly 8,000. Rio Vista is expected to triple in size by 2020, with a
15 considerable percentage to be generated by an active senior community (City of Rio Vista 2005).
16 The city lies on the west bank of the Sacramento River on SR 12, and most new development is
17 planned to the west of the existing city center (City of Rio Vista 2002). Smaller towns such as Isleton,
18 Courtland, and Clarksburg lie on the banks of the Sacramento River, which is a key visual resource
19 for residents of these towns.

20 Suburban and rural residents are located directly adjacent to the study area or are separated from
21 them by local streets, agricultural fields, or similar. Suburban residences are mostly oriented inward
22 toward the developments, and only residences on the outer edge of the developments have
23 middleground and background views of the study area. The separation and orientation of rural
24 residences allow inhabitants to have direct views over agricultural fields toward the study area.
25 Both suburban and rural residents are likely to have a high sense of ownership over their adjacent
26 waterways, the open space that surrounds them, the recreational opportunities they provide, and
27 their inherent scenic quality. Residents are considered to have high sensitivity to changes in the
28 viewshed because of their potential exposure to such views, extended viewing times, short distance
29 from the study area, and sense of ownership.

30 **17.1.4.5 Businesses**

31 Viewers from industrial, commercial, government, educational, and agricultural facilities have
32 semipermanent views from their respective facilities. Situated in different locations throughout the
33 study area, these facilities' views range from views limited by levees in the study area to sweeping
34 views that extend out to the background. Employees and users of these facilities are likely to be
35 occupied with their work activities and tasks at hand. People often travel to and from work and may
36 spend some of their leisure time recreating in the study area—for example, using the waterways.
37 For these reasons and their limited viewing times and focus on tasks at hand, this viewer group is
38 considered to have moderate sensitivity to changes in views.

39 Agricultural workers are engaged in activities such as preparing and tending to the fields in the
40 study area; their focus is generally on the task at hand. However, they would also have moderate
41 sensitivity to changes in the study area because they make their livelihood from the land and are
42 more likely to hold existing views in high regard.

17.2 Regulatory Setting

17.2.1 Federal Plans, Policies, and Regulations

Goals, objectives, and policies related to visual resources in applicable federal resource management plans are discussed below.

17.2.1.1 Sierra Resource Management Plan

The Bureau of Land Management (BLM) owns 2,035 acres of the Cosumnes River Preserve. BLM manages these lands through its 2008 Final Sierra Resource Management Plan (RMP), in addition to the Cosumnes River Preserve Management Plan, which applies to the entire preserve (discussed below in *State Public Land Management Plans*). The RMP designates the Cosumnes River Preserve an Area of Critical Environmental Concern (ACEC), an area requiring special management attention to protect important natural or cultural resource values (Bureau of Land Management 2008).

The RMP's single visual resources goal seeks to "protect and enhance the scenic qualities and visual integrity of the characteristic landscapes in the planning area," which includes the Cosumnes River Preserve ACEC (Bureau of Land Management 2008). The subsequent objective specifically lists the Cosumnes River Preserve ACEC among those for which it is important "to maintain the existing visual quality" (Bureau of Land Management 2008). The RMP also designates the Cosumnes River Preserve ACEC under Visual Resource Management (VRM) Class II. BLM's VRM system involves inventorying scenic values and establishing management objectives for those values through the resource management planning process. The following management objective applies to VRM Class II (Bureau of Land Management 2007).

- To retain the existing character of the landscape. The level of change to the characteristic landscape should be low.

The RMP lists provisions designed to meet associated VRM objectives, primarily related to BLM's own projects and management activities. However, the following provision may affect the BDCP alternatives (Bureau of Land Management 2008).

- Ensure developments do not detract from scenic integrity by working with counties, agencies, and other entities with management jurisdiction.

17.2.2 State Plans, Policies, and Regulations

Goals, objectives, and policies related to visual resources in applicable state plans, policies, and regulations are discussed below.

17.2.2.1 Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992

The Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992 (Section 21080.22 of the California Public Resources Code) facilitates the recognition, preservation, and protection of Delta resources for the use and enjoyment of current and future generations. The act includes a series of findings and declarations related to the quality of the Delta environment and emphasizes the national, state, and local importance of protecting the unique resources of the Delta. The act states that the protection of these resources will best be achieved if local governments implement land use

1 planning and management practices in compliance with a comprehensive, long-term resource
2 management plan.

3 **17.2.2.2 Delta Protection Commission Land Use and Resource** 4 **Management Plan for the Primary Zone of the Delta**

5 The Delta Protection Act of 1992 directs the Delta Protection Commission (DPC) to prepare a
6 comprehensive resource management plan for land uses within the Primary Zone of the Delta. The
7 Land Use and Resource Management Plan (LURMP) for the Primary Zone of the Delta contains
8 policies that seek to “protect, maintain, and where possible, enhance and restore the overall quality
9 of the Delta environment” (Delta Protection Commission 1995). The Legislature has determined that
10 local plans and decisions affecting the Primary Zone must be in conformance with the DPC’s plan;
11 and local decisions will be subject to appellate review by the DPC. DPC adopted its LURMP for the
12 Primary Zone of the Delta on February 23, 1995. The updated plan was approved by the California
13 Office of Administrative Law on October 7, 2010, and became effective on November 6, 2010. It
14 contains policies to protect the Delta’s unique character, expand public access and recreation, and
15 locate new transmission lines and utilities within existing corridors to minimize impacts (Delta
16 Protection Commission 2010). These policies may incorporate aesthetic resources and apply to the
17 Proposed Project and Alternatives, which fall within the Primary Zone of the Delta.

18 **17.2.2.3 The Delta Plan**

19 The Delta Stewardship Council is currently in the process of approving the Delta Plan, a plan that
20 includes “recommendations for early actions, projects, and programs” to provide a framework for
21 effective and consistent actions of the Delta Stewardship Council. The Delta Stewardship Council
22 adopted the Proposed Final Delta Plan on May 16, 2013. Once the State Office of Administrative Law
23 and California Secretary of State approve the plan, the proposed policies in the Delta Plan will
24 become enforceable regulations. Chapter 5 of the Delta Plan is entitled *Protect and Enhance the*
25 *Unique Cultural, Recreational, Natural Resources, and Agricultural Values of the California Delta as an*
26 *Evolving Place*. As the title suggests and the Delta Plan recognizes, the Delta’s unique environment is
27 worthy of protection to provide enjoyment to those experiencing this environ. This enjoyment is
28 often facilitated by viewing wildlife and natural scenery through boating; biking; using established
29 interpretive, walking, and driving trails; driving on Delta roadways; visiting historic Delta
30 communities; and working and living in the Delta (Delta Stewardship Council 2013).

31 As stated in the Delta Plan, the “California Delta is a unique place distinguished by its geography,
32 legacy communities, a rural and agricultural setting, vibrant natural resources, and a mix of
33 economic activities. Its 839,640 acres of land, sometimes centered on a wide river but laced with a
34 network of narrow channels and sloughs, stretch to the horizon, are bounded only by the levees that
35 were built to drain the Delta’s marshes and floodprone riversides. The Legislature has found that the
36 Delta’s uniqueness is particularly characterized by its hundreds of miles of meandering waterways
37 and the many islands adjacent to them, and has described the Delta’s highly productive agriculture,
38 recreational assets, fisheries, and wildlife as invaluable resources (Water Code section 12981(b)).”

39 The following policies in the Delta Plan pertaining to natural, agricultural, recreational and cultural
40 heritage resources indirectly relate to aesthetic and visual resources:

- 1 **DP R1:** The Delta Protection Commission should complete its application for designation of the
 2 Delta and Suisun Marsh as a National Heritage Area and the federal government should complete the
 3 process in a timely manner.
- 4 **DP R2:** The California Department of Transportation should seek designation of State Route 160 as
 5 a National Scenic Byway and prepare and implement a scenic byway plan for it.
- 6 **DP R3:** Local governments, in cooperation with the Delta Protection Commission and Delta
 7 Conservancy, should prepare plans for each community that emphasize its distinctive character,
 8 encourage historic preservation, identify opportunities to encourage tourism, serve surrounding
 9 lands, or develop other appropriate uses, and reduce flood risks.
- 10 **DP R4:** Agencies acquiring land for water management facilities, ecosystem restoration, and flood
 11 management infrastructure should purchase from willing sellers, when feasible, including
 12 consideration of whether lands suitable for proposed projects are available at fair prices.
- 13 **DP R5:** The California Department of Transportation, local agencies, and utilities should plan
 14 infrastructure, such as roads and highways, to meet needs of development consistent with
 15 sustainable community strategies, local plans, Delta Protection Commission's *Land Use and Resource*
 16 *Management Plan for the Primary Zone of the Delta*, and the Delta Plan.
- 17 **DP R6:** The Delta Stewardship Council, as part of the prioritization of State levee investments called
 18 for in RR P1 Water Code 85306, should consult with the California Department of Transportation as
 19 provided in Water Code section 85307(c) to consider the effects of flood hazards and sea level rise
 20 on State highways in the Delta.
- 21 **DP R7:** The following actions should be considered by the appropriate State agencies to address
 22 subsidence reversal:
- 23 ● State agencies should not renew or enter into agricultural leases on Delta or Suisun Marsh
 24 islands if the actions of the lessee promote or contribute to subsidence on the leased land, unless
 25 the lessee participates in subsidence-reversal or reduction programs.
 - 26 ● State agencies currently conducting subsidence reversal projects in the Delta on State- owned
 27 lands should investigate options for scaling up these projects if they have been deemed
 28 successful. The Department of Water Resources should develop a plan, including funding needs,
 29 for increasing the extent of their subsidence reversal and carbon sequestration projects to 5,000
 30 acres by January 1, 2017.
 - 31 ● The Council, in conjunction with the California Air Resources Board (CARB) and the Delta
 32 Conservancy, should investigate the opportunity for the development of a carbon market
 33 whereby Delta farmers could receive credit for carbon sequestration by reducing subsidence
 34 and growing native marsh and wetland plants. This investigation should include the potential
 35 for developing offset protocols applicable to these types of plants for subsequent adoption by
 36 the CARB.
- 37 **DP R8:** Local governments and economic development organizations, in cooperation with the Delta
 38 Protection Commission and the Delta Conservancy, should encourage value-added processing of
 39 Delta crops in appropriate locations.
- 40 **DP R9:** Local governments and economic development organizations, in cooperation with the Delta
 41 Protection Commission and the Delta Conservancy, should support growth in agritourism,

1 particularly in and around legacy communities. Local plans should support agritourism where
2 appropriate.

3 **DP R10:** The Department of Fish and Wildlife, the Delta Conservancy, and other ecosystem
4 restoration agencies should encourage habitat enhancement and wildlife-friendly farming systems
5 on agricultural lands to benefit both the environment and agriculture.

6 **DP R11:** Water management and ecosystem restoration agencies should provide recreation
7 opportunities, including visitor-serving business opportunities, at new facilities and habitat areas
8 whenever feasible, and existing recreation facilities should be protected, using California State
9 Parks' Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh and Delta
10 Protection Commission's Economic Sustainability Plan as guides.

11 **DP R12:** The Delta Protection Commission and Delta Conservancy should encourage partnerships
12 between other State and local agencies, and local landowners and business people to expand
13 recreation, including boating, promote tourism, and minimize adverse impacts to non-recreational
14 landowners.

15 **DP R13:** California State Parks should add or improve recreation facilities in the Delta in
16 cooperation with other agencies. As funds become available, it should fully reopen Brannan Island
17 State Recreation Area, complete the park at Delta Meadows-Locke Boarding House, and consider
18 adding new State parks at Barker Slough, Elkhorn Basin, the Wright-Elmwood Tract, and south
19 Delta.

20 **DP R14:** The Department of Fish and Game Wildlife, in cooperation with other public agencies,
21 should collaborate with nonprofits, private landowners, and business partners to expand wildlife
22 viewing, angling, and hunting opportunities.

23 **DP R16:** Public agencies owning land should increase opportunities, where feasible, for bank
24 fishing, hunting, levee-top trails, and environmental education.

25 **DP R17:** Cities, counties, and other local and State agencies should work together to protect and
26 enhance visitor-serving businesses by planning for recreation uses and facilities in the Delta,
27 providing infrastructure to support recreation and tourism, and identifying settings for private
28 visitor serving development and services.

29 **DP R19:** The Energy Commission and Public Utilities Commission should cooperate with the Delta
30 Stewardship Council as described in Water Code section 85307(d) to identify actions that should be
31 incorporated in the Delta Plan by 2017 to address the needs of Delta energy development, storage,
32 and distribution.

33 **17.2.2.4 San Francisco Bay Conservation and Development Commission** 34 **Suisun Marsh Protection Plan**

35 The Suisun Marsh Protection Act of 1974 directs the preparation of a plan "to preserve the integrity
36 and assure continued wildlife use" of the Suisun Marsh, which "represents a unique and
37 irreplaceable resource to the people of the state and nation" (San Francisco Bay Conservation and
38 Development Commission 1976). The eastern boundary of the Suisun Marsh extends to Collinsville
39 Road in southern Solano County and falls within the Delta. The San Francisco Bay Conservation and
40 Development Commission's (BCDC's) 1976 Suisun Marsh Protection Plan contains findings that
41 recognize the value of the aesthetic resources of the marsh, as well as adjacent upland grasslands,

1 cultivated areas, and seasonal marshes. The plan’s findings specifically highlight the Potrero Hills
 2 site as unsuitable for water-related industrial development, which would “detract from the value of
 3 the Potrero Hills as a visual feature of the Suisun Marsh” (San Francisco Bay Conservation and
 4 Development Commission 1976). The following policies apply to the development of water-related
 5 industry (San Francisco Bay Conservation and Development Commission 1976).

- 6 • **Policy 1:** Future demand for the shallow-draft water-related industrial sites in the Suisun Marsh
 7 area is questionable. In addition, the Suisun and Potrero Hills sites present several physical
 8 constraints for industrial development and have considerable value as aesthetic and wildlife
 9 resources in the Suisun Marsh area. It is both unnecessary and undesirable to continue to
 10 designate these sites for industrial use and they should not be reserved for this purpose.
- 11 • **Policy 8 (g):** Industrial facilities should be located and designed to avoid visual intrusion on the
 12 Suisun Marsh. Where sloping land is to be used for industrial development, it should be
 13 terraced, rather than leveled, and soil erosion and storm water runoff should be controlled.
 14 Buildings should not be highly visible against the skyline, should have a low profile, be well
 15 designed and unobtrusive in appearance, and use colors and materials compatible with the
 16 surrounding landscapes. Appropriate landscaping should be used to reduce the impact of
 17 industrial structures on views from the Suisun Marsh.

18 The plan directs Solano County to develop a Local Protection Program, which must use the plan’s
 19 policies to protect, preserve, and enhance natural and human-made resources and include the
 20 following course of action (San Francisco Bay Conservation and Development Commission 1976).

- 21 • **Content of Local Protection Program:** (6) Scenic resources. Procedures and standards to
 22 review the design and location of any new development or structures in or adjacent to the
 23 Marsh management areas to protect the visual characteristics of the marsh and, where possible,
 24 enhance views of the marsh.

25 **17.2.2.5 California Scenic Highway Program**

26 In 1963, the California Legislature created the Scenic Highway Program to preserve and protect
 27 scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to
 28 the highways. The state regulations and guidelines governing the Scenic Highway Program are
 29 found in Section 260 et seq. of the Streets and Highways Code. A highway may be designated as
 30 scenic depending on how much of the natural landscape can be seen by travelers, the scenic quality
 31 of the landscape, and the extent to which development intrudes upon the travelers’ enjoyment of the
 32 view.

33 A city or county must nominate an eligible scenic highway for official designation and adopt a
 34 corridor protection program that includes zoning and/or planning policies to preserve its scenic
 35 quality. Official designations are made by the California Legislature and can include county highways
 36 as well (California Department of Transportation 2009a), with the only difference being that a
 37 county maintains the road rather than the state (Cadd pers. comm. 2009). Examples of visual
 38 intrusions that would degrade scenic corridors as stipulated by Caltrans, and potentially lead to the
 39 revocation of a scenic highway designation, include dense and continuous development, highly
 40 reflective surfaces, parking lots not screened or landscaped, billboards, noise barriers, dominance of
 41 power lines and poles, dominance of exotic vegetation, extensive cut and fill, scarred hillsides and
 42 landscape, and exposed and unvegetated earth.

1 SR 160 in Sacramento County from the Contra Costa County line to the southern city limit of
 2 Sacramento (45.8 miles) is the only officially designated State Scenic Highway within the Delta
 3 (California Department of Transportation 2009b). The 28-mile section of county road between the
 4 Isleton and Paintersville bridges, known as River Road, is also an officially designated Sacramento
 5 County Scenic Highway (see Section 17.2.3.2, *County and City General Plans – Sacramento County*).
 6 These roads are within the legal Delta and may be affected by the BDCP alternatives.

7 In Contra Costa County, two state highways are eligible for designation as State scenic highways:
 8 SR 160 from the county line to SR 4 near Brentwood and the SR 4 bypass from SR 160 near Antioch
 9 to SR 84¹ near Brentwood (approximately 9.5 miles) (California Department of Transportation
 10 2009c). These highways fall within the Delta and may be affected by the Proposed Project and
 11 Alternatives. SR 239 is also listed as an eligible State scenic highway; however, the route has never
 12 been constructed (California Department of Transportation 2009d).

13 **17.2.2.6 State Public Land Management Plans**

14 **Cosumnes River Preserve Management Plan**

15 The Cosumnes River Preserve consists of approximately 45,859 acres of wildlife habitat and
 16 agricultural lands along the Cosumnes River east of I-5 and near the town of Walnut Grove. The
 17 preserve is owned by seven partners—CDFW, BLM, California Department of Water Resources,
 18 California State Lands Commission, Sacramento County, Ducks Unlimited, and The Nature
 19 Conservancy—who administer the 2008 Cosumnes River Preserve Management Plan (Cosumnes
 20 River Preserve 2008). The plan seeks to restore native biological communities and promote
 21 compatible uses to improve stewardship of the land. A subgoal specifically seeks to protect and
 22 enhance the Cosumnes River Preserve’s scenic and visual resources, with the objective of managing
 23 preserve lands to retain and/or improve the existing visual character of the landscape and prevent
 24 the disruption of distant and close views from land management changes. The plan notes the
 25 following actions that may relate to the Proposed Project and Alternatives (Cosumnes River
 26 Preserve 2008).

- 27 ● **Action 2.1.2:** Coordinate with the utility companies and other entities to relocate to
 28 underground the existing and future power lines crossing the Preserve.
- 29 ● **Action 2.1.4:** As new development projects proposed around the Preserve, either in close
 30 proximity or in nearby urban areas, undergo environmental review (CEQA), ensure that project
 31 proponents consider potential effects on visual resources at the Preserve, including the effects of
 32 outdoor nighttime lighting.

33 **Brannan Island and Franks Tract State Recreation Areas General Plan**

34 Brannan Island State Recreation Area (336 acres) and Franks Tract State Recreation Area (3,300
 35 acres) situated near the western edge of the central Delta, offer angling, boating, camping,
 36 picnicking, and swimming and are managed by DPR. Both State Recreation Areas fall within the
 37 Delta and may be affected by the BDCP alternatives. A joint general plan was prepared for both State

¹ SR 84 does not presently exist near Brentwood. However, this is the legislative description provided by Caltrans because of a possible future extension of SR 84 that would serve as a connection to I-580 from the Brentwood area (Cadd pers. comm. 2011)

1 Recreation Areas in 1988 and contains DPR's long-term management objectives. The general plan
2 includes the following resource management policy on aesthetic resources for Brannan Island State
3 Recreation Area (California Department of Parks and Recreation 1988).

- 4 • Management of Brannan Island State Recreation Area shall be toward the maintenance of water
5 oriented viewsheds, natural landscape, and toward a reduction or elimination of human-made
6 intrusions. The department shall work to reduce the negative impacts of easements in Brannan
7 Island State Recreation Area. All utility companies shall be encouraged or required to reduce
8 these impacts by rerouting or placing underground the utility lines that currently traverse the
9 unit, by reducing the size of and rehabilitating gas well pads, and by screening and landscaping
10 around gas wells. The department is opposed to any new easements within the unit unless there
11 can be mitigation work accomplished to create a clear net benefit to recreation resources.

12 The following resource management policy for aesthetic resources is included for Franks Tract State
13 Recreation Area (California Department of Parks and Recreation 1988).

- 14 • Management of Franks Tract State Recreation Area shall be toward the maintenance and
15 preservation of the natural environment of the unit.

16 In addition, the general plan contains a Land Use and Development Element for the Brannan Island
17 State Recreation Area, which includes the following goals related to aesthetic resources (California
18 Department of Parks and Recreation 1988).

- 19 • **Goal 11:** Increase the scenic quality of the Highway 160 corridor through the unit, highlighting
20 the entrances at each end and screening the recreation use areas.
- 21 • **Goal 12:** Reduce the existing visual impacts, and improve the environmental setting of all
22 current and future use areas through landscaping and habitat enhancement.

23 **17.2.3 Regional and Local Plans, Policies, and Regulations**

24 Goals, objectives, and policies related to visual resources in adopted general plans for each county,
25 district, and incorporated city in the Delta are discussed below. Local standards are listed below for
26 informational purposes. For further discussion of these plans, policies, and regulations, please see
27 Chapter 13, *Land Use*.

28 **17.2.3.1 East Bay Regional Park District Master Plan**

29 The East Bay Regional Park District (EBRPD) manages 113,000 acres of regional parklands in
30 Alameda and Contra Costa counties. EBRPD's 2013 master plan guides the management of EBRPD
31 lands through policies and guidelines on resource conservation, management, interpretation, public
32 access, and recreation. The master plan specifically recognizes the conservation of its scenic, natural,
33 and open space resources as a primary duty. It includes scenic resources among the many resources
34 that EBRPD seeks to protect, as illustrated in the following elements of the organization's mission
35 and vision statements (East Bay Regional Park District 2013a).

- 36 • Acquire and preserve significant biologic, geologic, scenic, and historic resources within
37 Alameda and Contra Costa Counties.
- 38 • Manage, maintain, and restore the parklands so that they retain their important scenic, natural,
39 and cultural values.

1 The master plan references the scenic values associated with EBRPD's lands throughout the
 2 document, with policies that seek to preserve and enhance the natural and cultural resources of all
 3 of its lands. In addition to broad master plan policies that may include scenic resources, several
 4 policies related to facility development on all EBRPD lands (including by other agencies and
 5 organizations) focus specifically on visual resources, as follows (East Bay Regional Park District
 6 2013a).

7 The following policy addresses the undergrounding of utilities.

- 8 • New utility lines will be placed underground on land owned, operated, or managed by the
 9 District to retain the optimal visual qualities of the area. Rights-of-way (ROWs) and easements
 10 for utilities will not be granted without undergrounding. The District will work in cooperation
 11 with the utility companies to place existing overhead utilities underground (unless so doing
 12 conflicts with applicable codes) as soon as practical and will work with other agencies and
 13 neighbors to reduce visual impacts on adjacent lands. The District will seek to avoid the
 14 construction of high voltage power lines within the parklands, particularly in areas of sensitive
 15 or aesthetically important resources and in preserve areas.

16 The following policy addresses communication sites.

- 17 • The District will keep its lands, including all ridges and peaks, free of additional communication
 18 facilities in order to maintain open viewshed, natural conditions, and public use as well as to
 19 limit vehicular and service activities. Communication sites will be regulated by the provisions of
 20 the 1994 Communication Site Policy. No new licenses will be granted beyond December 31,
 21 1999, except for efforts that will consolidate sites or improve visual quality. The District will
 22 work to reduce the detrimental visual impact of buildings, towers, and access roads at existing
 23 sites and will work with other agencies and neighbors to reduce this impact on adjacent lands.

24 EBRPD makes some land acquisitions because the acquisitions serve important operational or land
 25 management needs or have scenic value. The EBRPD states one of the reasons land may be acquired
 26 is to prevent visual intrusion on parklands and open space. EBRPD also uses scenic easements as a
 27 technique to protect its parklands. Within specific parklands, EBRPD establishes land use
 28 designations to direct resource protection activities. A parkland may be designated a Regional Park
 29 if it contains scenic or natural resources in at least 70 percent of its area, or a Natural Unit if it
 30 contains "extremely varied topography and vistas" and the primary objective is to preserve and
 31 enhance natural habitat. As part of its Natural Unit preservation policy the District acquires and
 32 manages open space view sheds to preserve the intrinsic natural and historic qualities of state and
 33 locally designated scenic highway corridors (East Bay Regional Park District 2013a). Existing EBRPD
 34 lands in the Delta include Antioch Regional Shoreline, Big Break Regional Shoreline, Bay Point
 35 Wetlands Regional Shoreline, and Browns Island Regional Preserve. According to the master plan, a
 36 regional shoreline provides significant recreational, interpretive, natural, or scenic values on land,
 37 water, and tidal areas along the San Francisco Bay and the Sacramento/San Joaquin Delta (East Bay
 38 Regional Park District 2013a). Regional preserves protect significant natural or cultural resources,
 39 which may include scenic beauty or significant topographic resources as an essential feature.

40 EBRPD also owns and manages a number of regional trails, which may connect to "areas of unusual
 41 scenic beauty, vista points, San Francisco Bay, Delta or lake shoreline, natural or historic resources,
 42 or similar areas of regional significance" (East Bay Regional Park District 2013a).

43 The 2013 Draft Master Plan Map (East Bay Regional Park District 2013b) identifies existing and
 44 potential parkland and trails. Existing parkland includes the Delta Access Regional Shoreline, Big

1 Break Park, Antioch-Oakley Regional Shoreline, Brown’s Island, and Bay Point Wetlands, all in the
 2 Delta. Potential parkland in the Delta includes the Delta Recreation Regional Shoreline, Pittsburg
 3 Wetlands, and Point Edith Wetlands Regional Preserve. Existing trails traversing the Delta include
 4 Big Break, Marsh Creek, and Delta De Anza Regional Trails, as well as the San Francisco Bay Water
 5 Trail. Potential regional trails include the Great California Delta Trail; Delta Island Shoreline Trail;
 6 the Delta Trail Extension; Mokelumne Coast to Crest Trail; and potential trail segments along Big
 7 Break Shoreline, the Southern Pacific Railroad, Marsh Creek Trail to Discovery Bay, and Mokelumne
 8 to Discovery Bay.

9 **17.2.3.2 County and City General Plans**

10 **Alameda County**

11 **East County Area Plan**

12 The East County Area Plan functions as the general plan document for eastern Alameda County,
 13 which extends from the Pleasanton/Dublin ridgeline east to the San Joaquin County line, and from
 14 the Contra Costa County line south to the Santa Clara County line (Alameda County 2000). The Land
 15 Use Element contains the goal “to preserve unique visual resources and protect sensitive viewsheds”
 16 (Alameda County 2000). Policies on visual protection, trees, landscaping, alteration of landforms,
 17 and utilities seek to minimize visual impacts and enhance scenic qualities. Specifically, grading along
 18 natural watercourses is to be avoided and utility lines are to be placed underground.

19 **Contra Costa County**

20 **Contra Costa County General Plan**

21 The Contra Costa County General Plan 2005–2020 addresses aesthetic resources primarily in the
 22 circulation and open space elements. Under Overall Open Space Policies, the plan states that
 23 “historic and scenic features, watersheds, natural waterways, and areas important for the
 24 maintenance of natural vegetation and wildlife populations shall be preserved and enhanced”
 25 (Contra Costa County 2005). Sections dedicated to scenic routes and resources are discussed in
 26 greater detail below.

27 ***Scenic Routes***

28 The *Transportation and Circulation Element* identifies scenic routes as those that traverse scenic
 29 corridors of relatively high visual or cultural value. Scenic routes are designated by Contra Costa
 30 County as deserving local protections and differ from State Scenic Highways. The general plan states
 31 that “most scenic routes depend on natural landscape qualities for their aesthetics” (Contra Costa
 32 County 2005). SR 160 and the SR 4 Bypass are both Contra Costa County–designated scenic
 33 highways, as well as eligible State Scenic Highways. SR 4, County Road J4, Bethel Island Road, Jersey
 34 Island Road, Walnut Boulevard, and other roadways as mapped on Contra Costa County’s Scenic
 35 Routes Plan are also county-designated scenic routes within the legal Delta and therefore may be
 36 affected by the BDCP alternatives.

37 The Scenic Routes goal in the general plan is “to identify, preserve and enhance scenic routes in the
 38 county.” The following related policies may be applicable to the BDCP alternatives (Contra Costa
 39 County 2005).

- 1 • **Policy 5-35:** Scenic corridors shall be maintained with the intent of protecting attractive natural
2 qualities adjacent to various roads throughout the county.
- 3 • **Policy 5-37:** Scenic views observable from scenic routes shall be conserved, enhanced, and
4 protected to the extent possible.
- 5 • **Policy 5-43:** Provide special protection for natural topographic features, aesthetic views, vistas,
6 hills and prominent ridgelines as “gateway” sections of scenic routes. Such “gateways” are
7 located at unique transition points in topography or land use, and serve as entrances to regions
8 of the County.

9 **Scenic Resources**

10 The *Open Space Element* identifies scenic resources within Contra Costa County and names the San
11 Francisco Bay–Delta estuary system as one of the county’s two main scenic resources. The general
12 plan’s map of scenic resources identifies resources that should be treated as aesthetic opportunities,
13 including areas that have been designated as scenic waterways. The intent of the designation of
14 scenic waterways is “to draw attention to [their] scenic character for consideration when reviewing
15 projects” (Contra Costa County 2005). County-designated scenic waterways frame the entire
16 western and northern perimeter of Contra Costa County and include the Sacramento and San
17 Joaquin rivers, Franks Tract, and other waterways in the Delta. Clifton Court Forebay is also
18 designated as a scenic waterway.

19 The following general plan goals for scenic resources may apply to the BDCP alternatives (Contra
20 Costa County 2005).

- 21 • **Goal 9-10:** To preserve and protect areas of identified high scenic value, where practical, and in
22 accordance with the Land Use Element map.
- 23 • **Goal 9-12:** To preserve the scenic qualities of the San Francisco Bay/Delta estuary system and
24 the Sacramento-San Joaquin River/Delta shoreline.

25 **City of Antioch General Plan**

26 The City of Antioch General Plan discusses aesthetic resources in the *Community Image and Design*
27 and *Resource Management* elements (City of Antioch 2003). Identifying itself as the “Gateway to the
28 Delta,” Antioch aims to preserve and enhance visual character, including its natural features and
29 view corridors. Goals and policies related to community design, open space preservation, and
30 buffers seek to minimize the impacts of new developments and public facilities on the city’s
31 aesthetic resources. The SR 4 Bypass, identified as a scenic route by Contra Costa County and an
32 eligible State Scenic Highway, traverses the City of Antioch and is located within the Delta.

33 **City of Brentwood General Plan**

34 Aesthetic resources are addressed in the Land Use and Community Design elements of the City of
35 Brentwood General Plan (City of Brentwood 2006). Goals and policies aim to protect habitat areas,
36 views of dominant natural features, and scenic view corridors of community-wide importance,
37 which are to be delineated on a map of development constraints. The SR 4 Bypass, a Contra Costa
38 County-designated scenic route and eligible State scenic highway also known as the Delta
39 Expressway, runs through Brentwood and is located within the Delta. Views from this route are to
40 be preserved and enhanced through open space designations, setbacks, and similar approaches.

1 City of Oakley General Plan

2 The *City of Oakley 2020 General Plan* states that “scenic resources in Oakley include predominant
3 natural landscape features of the Delta waterways,” and it is a specific goal of the Open Space
4 Element “to preserve the scenic qualities of the Delta Waterway.” The following additional open
5 space policies and implementation program regarding the protection and enhancement of the City’s
6 aesthetic resources are specific to the Delta (City of Oakley 2002).

- 7 • **Policy 6.7.1:** Encourage preservation and enhancement of views of the Delta and Mount Diablo
8 to the extent possible.
- 9 • **Policy 6.7.2:** New development and redevelopment along the Delta, adjacent to Marsh Creek
10 and throughout the City should take advantage of view opportunities and visual impacts to the
11 waterway and Mount Diablo, respectively.
- 12 • **Program 6.7.B:** Review development applications for discretionary actions to determine
13 aesthetic impacts and visual compatibility with surrounding property.

14 The *Parks and Recreation Element* of Oakley’s general plan includes the following additional policy
15 and implementation program to preserve views of the Delta.

- 16 • **Policy 7.4.11:** Protect the visual accessibility of waterways by avoiding future development that
17 creates visual barriers adjacent to or along the water’s edge.
- 18 • **Program 7.4.B:** Require proposed development, streets, and parks along the waterfront to
19 maintain and enhance views of the Delta through the development review process.

20 Sacramento County

21 County of Sacramento General Plan

22 The *County of Sacramento General Plan* addresses aesthetic resources associated with *Scenic*
23 *Highways* in its *Circulation Element*, with the goal of preserving and enhancing the aesthetic quality
24 of scenic roads. SR 160, a designated *State scenic highway*, spans Sacramento County for more than
25 45 miles alongside the Sacramento River. In addition, 28 miles of Sacramento County roadway
26 between the Isleton and Paintersville bridges that comprise the River Road are an officially
27 designated County Scenic Highway. In addition to River Road, Isleton Road is protected under scenic
28 corridor sign controls. Sacramento County has also identified additional scenic routes that are not
29 officially designated scenic highways by the state, including Sacramento County roads on levees and
30 along rivers and sloughs in the Delta. These scenic routes are protected by protected by the general
31 plan designation of Permanent Agriculture, agricultural zoning, and scenic corridor sign controls, as
32 stipulated by Sacramento County. The general plan also proposes to provide scenic corridor
33 protection for Twin Cities Road between SR 160 and SR 99. The Sacramento River is protected as a
34 scenic corridor “extending 500 feet to each side of the river, as measured from the middle of the
35 channel or by a minimum of a corridor 300 feet from the edge of the river.” (Sacramento County
36 2011: Circulation Element 25-34)

37 The following objectives seek to protect Sacramento County’s scenic routes.

- 38 • **Objective (1):** To retain designation of the River Road (State Highway 160) as an Official State
39 Scenic Highway and to preserve and enhance its scenic qualities.

- 1 • **Objective (4):** To strengthen the provisions of scenic corridor regulations so as to further
2 protect the aesthetic values of the County's freeways and scenic roads.

3 Related policies aim to strengthen protection of scenic routes through zoning restrictions,
4 designation of additional roads, and coordination with the Delta Advisory Planning Council and the
5 California Department of Water Resources regarding levee maintenance.

6 The Agricultural, Conservation, Land Use, Open Space, and Public Facilities Elements of the general
7 plan contains goals and policies to preserve visual quality of Sacramento County, with an emphasis
8 on minimizing light and glare from building exteriors and other facilities (Sacramento County 2011).

9 **City of Sacramento General Plan**

10 The City of Sacramento adopted its new 2030 general plan on March 3, 2009. The overarching goal
11 identified in the *Environmental Resources Element* is to "maintain and protect significant visual
12 resources and aesthetics that define Sacramento" (City of Sacramento 2009). The following related
13 policies are applicable to the BDCP alternatives (City of Sacramento 2009).

- 14 • **Policy ER 7.1.1:** Protect Scenic Views. The City shall seek to protect views from public places to
15 the Sacramento and American rivers and adjacent greenways, landmarks, and urban views of
16 the downtown skyline and the State Capitol along Capitol Mall.
- 17 • **Policy ER 7.1.2:** Visually Complementary Development. The City shall require new development
18 be located and designed to visually complement the natural environment/setting when near the
19 Sacramento and American rivers, and along streams.

20 Additional policies seek to minimize impacts on visual resources from new development, including
21 the removal of significant resources (e.g., mature trees) and the creation of obtrusive lighting and
22 glare.

23 The general plan's *Utilities Element* also contains the following policies related to aesthetic quality
24 (City of Sacramento 2009).

- 25 • **Policy U 1.1.10:** Safe, Attractive, and Compatible Utility Designs. The City shall ensure that
26 public utility facilities are designed to be safe, aesthetically pleasing, and compatible with
27 adjacent uses.
- 28 • **Policy U 1.1.11:** Underground Utilities. The City shall require undergrounding of all new
29 publicly owned utility lines, encourage undergrounding of all privately owned utility lines in
30 new developments, and work with electricity and telecommunications providers to
31 underground existing overhead lines.

32 Additional policies to maximize visual access to the Sacramento River and encourage the visual
33 quality of properties planned by government agencies that may be exempt from City of Sacramento
34 land use control can be found in the *Land Use and Urban Design Element*.

35 **San Joaquin County**

36 **San Joaquin County General Plan**

37 San Joaquin County is comprehensively updating its 1992 general plan to meet the changing
38 housing, environmental, economic, and growth needs of the county and to incorporate the
39 community's vision for the future in the new general plan.

1 The *San Joaquin County General Plan 2010*, adopted in 1992, specifically seeks to protect the Delta's
 2 aesthetic resources in its *Community Development Element*, which includes the following policy (San
 3 Joaquin County 1992).

- 4 • **Policy 18:** Waterway development and development on Delta islands shall protect the natural
 5 beauty, the fisheries, wildlife, riparian vegetation, and the navigability of the waterway.

6 The Resources Element also contains policies that protect outstanding scenic vistas and views of
 7 waterways, including the objective “to recognize the surface waters of San Joaquin County as
 8 resources of State and national significance for which environmental and scenic values must be
 9 protected” (San Joaquin County 1992).

10 San Joaquin County has designated portions of roadways on Roberts Island, Bacon Island Road, SR 4,
 11 West Eight Mile Road, and I-5 in the Delta as scenic routes. These scenic routes are subject to local
 12 policies and differ from restrictions associated with officially designated State and county scenic
 13 highways. The following general plan policies relate to scenic routes (San Joaquin County 1992).

- 14 • **Policy 13:** Development proposals along scenic routes shall not detract from the visual and
 15 recreational experience.
- 16 • **Policy 23:** Scenic corridors along recreation travelways and scenic routes shall be protected
 17 from unsightly development.

18 Implementation measures for scenic route enhancement (San Joaquin County 1992) state San
 19 Joaquin County's responsibilities.

- 20 • **Measure (b):** Require landscape plans for development along scenic routes.
- 21 • **Measure (c):** Include in the Design Review Manual guidelines for development in the viewshed
 22 of the scenic route.

23 **City of Lathrop General Plan**

24 The *Comprehensive General Plan for the City of Lathrop* encourages the multipurpose use of water
 25 bodies, including for aesthetics, as policy in the *Resource Management Element*. Policies in the
 26 *Community Development Element* require the design and screening of industrial areas to avoid
 27 obtrusive visual impacts (City of Lathrop 2004).

28 **City of Stockton General Plan**

29 The Stockton General Plan 2035 includes the city's extensive riparian areas as among its most
 30 significant visual features (City of Stockton 2007). The *Community Design* and *Natural and Cultural
 31 Resources* elements include policies to promote visual access to waterways, protect scenic areas
 32 from incompatible development, and encourage planting of native vegetation to preserve the visual
 33 integrity of the landscape.

34 **City of Tracy General Plan**

35 The *City of Tracy General Plan* (City of Tracy 2006) includes *Community Character Element* policies
 36 intended to preserve and protect the city's visual character. The *Community Character Element*
 37 includes important concepts and guidelines that apply to the type, location, and character of both
 38 private and public development projects for new and existing areas of the city. This element
 39 identifies principles, goals, objectives, policies, actions, and concepts to maintain and enhance the

1 City of Tracy’s unique character, or “sense of place,” as it relates to both the physical design of the
2 city and quality of life.

3 **Solano County**

4 **Solano County General Plan**

5 The *Solano County General Plan* addresses aesthetic resources in its *Resources* and *Public Facilities*
6 *and Services* elements, noting the Delta and marshlands as among Solano County’s abundant scenic
7 vistas (Solano County 2008). The general plan also references agriculture as a land use that “defines
8 much of the County’s visual character” (Solano County 2008:AG-1). Solano County identifies a
9 number of scenic roadways in the study area that are subject to local protection, including I-80, I-
10 680, SR 12, SR 113, Grizzly Island Road, and Lake Herman Road. Goals and policies seek to protect
11 unique scenic features (e.g., water bodies) and roadways and to minimize glare, light pollution, and
12 disruption to scenic areas from transmission lines.

13 The general plan’s *Suisun Marsh Policy Addendum* comprises the Local Protection Program required
14 by BCDC’s *Suisun Marsh Protection Plan*. The addendum contains policies specific to the preservation
15 of designated scenic roadways, including the following policies relevant to the BDCP alternatives
16 (Solano County 2008: Appendix C-17).

- 17 ● **Policy 1:** Current general plan provisions of the county which designate foreground and distant
18 view components of scenic roadways for agricultural and other open space uses should be
19 retained.
- 20 ● **Policy 2:** The number of man-made interruptions or incidents along a scenic roadway (housing,
21 commercial uses, signs, driveways, etc.) should be limited to maintain the current visual values
22 as the prevalent feature of the route.

23 The policy addendum also includes a foreground component, which regulates the area within a
24 quarter-mile radius of a scenic roadway to preserve the delicate visual character of marshlands.
25 Specific policies require areas immediately adjoining a marsh to remain as open space, protect
26 habitat from encroachment because of its scenic value, and recommend the undergrounding of
27 utility lines.

28 **City of Rio Vista General Plan**

29 The *City of Rio Vista General Plan 2001* contains numerous goals, policies, and implementing actions
30 related to preserving scenic resources. The Resource Conservation Element contains a Visual
31 Resources section with the goal “to protect the visual and scenic resources of Rio Vista—recognizing
32 their importance in the quality of life for City residents and in promoting recreation and tourism”
33 (City of Rio Vista 2002). The following policies are relevant to the BDCP alternatives (City of Rio
34 Vista 2002).

- 35 ● **Policy 10.11.A:** The City shall require new development in scenic areas (e.g., river banks,
36 Highway 12 corridor, Sacramento River waterfront, and hillsides) to use planning, design,
37 construction, and maintenance techniques that:
 - 38 ○ Incorporate design and screening measures to minimize the visibility of structures and
39 graded areas.
 - 40 ○ Maximize views in sensitive viewing areas and corridors.

- 1 ○ Maintain the character and visual quality of the area.
- 2 ● **Policy 10.11.B:** The City shall require that new development be designed to integrate natural
- 3 landforms and vegetation in order to minimize alteration of scenic vistas. Figure 10-2 [of the
- 4 general plan] shall be used to identify sensitive areas of particular concern during project design
- 5 and development.
- 6 ● **Policy 10.11.E:** The City shall require that new roads, parking, and utilities be designed to
- 7 minimize visual impacts. Unless limited by geological or engineering constraints, utilities shall
- 8 be installed underground, and roadways and parking areas shall be landscaped and designed to
- 9 accommodate the natural terrain.

10 The *Community Character and Design* and *Open Space and Recreation* elements contain additional

11 goals and policies that aim to protect waterways and scenic corridors, specifically SR 12, and

12 minimize light pollution. The following goal and policy in the *Open Space and Recreation* element

13 pertain specifically to the Sacramento River as an aesthetic resource (City of Rio Vista 2002).

- 14 ● **Goal 9.1:** To provide public access and view opportunities on the Sacramento River to the
- 15 maximum extent feasible.
- 16 ○ **Policy 9.1.C:** The City shall enhance the Sacramento River and its waterfront as a scenic
- 17 resource consistent with water-oriented recreation.

18 In addition, the following implementing action aims to preserve aesthetic resources (City of Rio

19 Vista 2002).

- 20 ● **Action OSR-14:** Environmental/Visual Constraints Map (Proposed). The City will require with
- 21 each development proposal an environmental/visual constraints map, based on the findings of a
- 22 project-specific biological assessment and consistent with General Plan goals and policies. These
- 23 maps will consider the potential open space opportunities illustrated on Figure 9-1 [of the
- 24 general plan] and on Figure 10-2 [of the general plan], the Sensitive Local Resource Areas Map.

25 **City of Suisun City General Plan**

26 The City of Suisun City General Plan's *Community Character and Design Element* (City of Suisun City

27 1992) states that the perceived character of a community is most strongly a reflection of the way a

28 community looks and feels to residents, workers, and visitors passing through the community.

29 Community character is greatly influenced by the pattern and fabric of development that has

30 occurred over time. One's sense of community character is also shaped by reaction to the human

31 environment and the interaction of human-created and natural features of a community. These

32 natural features are often associated with so-called "quality of life" factors such as recreational

33 opportunities, the preservation of natural resources, vegetation and landscaping, and the

34 preservation of open areas for visual and recreational enjoyment. There is a strong interaction

35 between the urban and natural habitats along the Suisun Marsh, which defines the southern edge of

36 the city. Because the marsh represents a natural habitat border, development design along the

37 marsh must be sensitive to the urban-wildland interface.

1 Yolo County

2 Yolo County General Plan

3 The *Yolo County General Plan* was adopted on November 10, 2009 (Yolo County 2009). Aesthetic
 4 resources are addressed in the *Land Use and Community Character Element*. Goals and policies seek
 5 to protect and enhance the rural landscape and night sky, important site features (e.g.,
 6 watercourses), and scenic views, and to minimize the aesthetic impact of infrastructure and utility
 7 facilities (Yolo County 2009). The general plan Policy CC-1.13 designates local scenic roadways,
 8 including South River Road, which parallels the west bank of the Sacramento River from the West
 9 Sacramento city limits to the Sacramento County line. South River Road is referred to as CH E9 in
 10 this analysis. The following policies specific to the preservation of scenic roadways are relevant to
 11 the BDCP alternatives (Yolo County 2009).

- 12 ● **Policy LU-3.7:** Prohibit the designation of new urban development in places with one or more of
 13 the following characteristics: Areas where there are significant natural resources (e.g.,
 14 groundwater recharge, wildlife habitat, mineral or timber resources, scenic areas, etc.).
- 15 ● **Policy CC-1.2:** Preserve and enhance the rural landscape as an important scenic feature of the
 16 County.
- 17 ● **Policy CC-1.3:** Protect the rural night sky as an important scenic feature to the greatest feasible
 18 extent where lighting is needed.
- 19 ● **Policy CC-1.4:** Identify and preserve, where possible, landmarks and icons which contribute to
 20 the identity and character of the rural areas.
- 21 ● **Policy CC-1.5:** Significant site features, such as trees, water courses, rock outcroppings, historic
 22 structures and scenic views shall be used to guide site planning and design in new development.
 23 Where possible, these features shall become focal points of the development.
- 24 ● **Policy CC-1.8:** Screen visually obtrusive activities and facilities such as infrastructure and utility
 25 facilities, storage yards, outdoor parking and display areas, along highways, freeways, roads and
 26 trails.
- 27 ● **Policy CC-1.9:** In communities, place both new and existing line utilities and
 28 telecommunications infrastructure underground where feasible. Where underground utilities
 29 are not feasible, minimize the aesthetic impact by co-locating new improvements within existing
 30 lines and facilities where possible.
- 31 ● **Policy CC-1.12:** Preserve and enhance the scenic quality of the County's rural roadway system.
 32 Prohibit projects and activities that would obscure, detract from, or negatively affect the quality
 33 of views from designated scenic roadways or scenic highways.
- 34 ● **Policy CC-1.15:** The following features shall be protected and preserved along designated
 35 scenic roadways and routes except where there are health and safety concerns:
 - 36 ○ Trees and other natural or unique vegetation
 - 37 ○ Landforms and natural or unique features
 - 38 ○ Views and vistas
 - 39 ○ Historic structures (where feasible), including buildings, bridges, and signs

- 1 • **Policy CC-1.16:** The following features shall be stringently regulated along designated scenic
2 roadways and routes with the intent of preserving and protecting the scenic qualities of the
3 roadway or route:
 - 4 ○ Signage
 - 5 ○ Architectural design of adjoining structures
 - 6 ○ Construction, repair and maintenance operations
 - 7 ○ Landscaping
 - 8 ○ Litter control
 - 9 ○ Water quality
 - 10 ○ Power poles, towers, aboveground wire lines, wind power and solar power devices and
11 antennae
- 12 • **Policy CC-1.17:** Existing trees and vegetation and natural landforms along scenic roadways and
13 routes shall be retained to the greatest feasible extent. Landscaping shall be required to enhance
14 scenic qualities and/or screen unsightly views and shall emphasize the use of native plants and
15 habitat restoration to the extent possible. Removal of trees, particularly those with scenic
16 and/or historic value, shall be generally prohibited along the roadway or route.
- 17 • **Policy CC-1.18:** Electric towers, solar power facilities, wind power facilities, communication
18 transmission facilities and/or above ground lines shall be avoided along scenic roadways and
19 routes, to the maximum feasible extent.

20 **City of West Sacramento General Plan**

21 The *City of West Sacramento General Plan* includes the goal “to enhance the relationship between the
22 City and the Sacramento River” in its *Urban Structure and Design Element* (City of West Sacramento
23 2004). Related policies seek to promote the development of important scenic areas and preserve
24 vegetation along the river. In addition, the *Public Facilities and Services Element* requires the
25 undergrounding of electrical and overhead facilities and includes the following policy (City of West
26 Sacramento 2004).

- 27 • **Policy 1:** Public facilities, such as utility substations, water storage or treatment plants,
28 pumping plants, and sewer treatment plants, shall be located, designed, and maintained so that
29 noise, light, glare, or odors associated with these facilities will not adversely affect nearby land
30 uses. Building and landscaping materials that make these facilities compatible with neighboring
31 properties shall be used.

32 **17.3 Environmental Consequences**

33 **17.3.1 Methods for Analysis**

34 Using the concepts and terminology described at the beginning of this chapter and the criteria for
35 determining adverse effects described below, analysis of the visual effects of the BDCP alternatives
36 is based on the factors summarized below.

- 1 • Direct field observation from vantage points, including neighboring buildings, property, and
2 roadways as observed on a site visit conducted January 9-11, 2012 and July 29-30, 2013. These
3 site visits represent the contrasting seasonal views of winter and summer.
- 4 • Photographic documentation of key observation points (KOPs) of the study area that provide
5 site-specific and regional context.
- 6 • Review of the project alternatives in regard to compatibility with state and local ordinances and
7 regulations and professional standards pertaining to visual quality, and the extent to which the
8 affected environment contains places or features that have been designated in plans and policies
9 for protection or special consideration (e.g., as designated scenic vistas or highways).
- 10 • The relative numbers of viewers, their sensitivity to changes in the visual environment, their
11 activities, and the extent to which these activities are related to the aesthetic qualities affected
12 by the expected changes.
- 13 • Review of project construction drawings.
- 14 • Evaluation of visual simulations.
- 15 • Specific changes in the affected visual environment's composition, its character, and any
16 specially valued qualities.

17 The focus of this visual analysis is on the alternatives' potential to adversely affect views from
18 publicly accessible locations. Publicly accessible locations in the communities from which residents
19 would view the study area are therefore considered to be of primary importance in this analysis.

20 **17.3.1.1 Site Inventory and Selection of Key Observation Points**

21 To identify the potential effects of alternatives on Existing Conditions of the visual environment, key
22 observation points (KOPs) where features could have visual effects were selected. The KOPs
23 selected were determined to be most representative of the alternatives' potential effects based on
24 the potential to change views available to sensitive receptors and from sensitive viewing areas.

25 KOPs are derived and selected from candidate KOPs (cKOPs). To determine cKOPs, first a 2-mile
26 radius of the project sites were evaluated, which is the area that is considered to encompass
27 discernible elements from the project alternatives that would be visible in the landscape. At
28 distances of greater than 2 miles, the mass and visibility of the project elements would be reduced to
29 be a less substantial portion of the total landscape.

30 Within this 2-mile radius, locations were then evaluated for their potential to have views of the
31 project sites using Google Maps, overlain with engineering layers for each alternative, and Google
32 Street View. These locations were evaluated for its landform, vegetation, water, and artificial
33 features. After this, cKOPs were chosen for the purposes of surveying the project sites and
34 surrounding area. The following criteria were used to select the cKOPs.

- 35 • Include at least one of a representative range of visible project features, including, for example,
36 canals, intakes, pumping plants, bridges, access roads, and embankments, along with all other
37 visible project features such as soil and borrow and reusable tunnel material (RTM) areas.
- 38 • Include locations where project features would be visually obtrusive, including undeveloped
39 areas that possess at least moderate scenic values.
- 40 • Include areas that would be particularly sensitive to changes in the visual landscape, including
41 officially designated scenic areas, publicly accessible areas where viewers spend extended

1 periods, and areas that are at least moderately traveled by the public or are especially sensitive
2 to new sources of light and glare.

- 3 • Include the potential for indirect impacts from project elements such as soil and borrow areas,
4 RTM areas, or dredging locations.

5 In the field, these cKOP locations were visited and photographed to document the presence or
6 absence of views of the sites. Additional locations were also surveyed and photo documented by
7 driving the roads surrounding the project alternatives and capturing the most descriptive views
8 down the roadway corridors and toward the project alternatives at intersections or where a safe
9 road pull-out was present along longer or winding roadways with direct views toward the sites.
10 These were often documented in a 360° view to gain an understanding of available views from the
11 perspective of both motorists and residents and to understand the visual setting.

12 Images from the cKOPs were photographed using a >10 megapixel digital single lens reflex camera
13 equipped with a 50-millimeter equivalent focal length lens. This configuration is the de facto
14 standard that approximates the average view cone and magnification of the human an eye. The
15 camera positioning was determined with a sub-meter differentially corrected GPS.

16 Two hundred and fifty-five (255) cKOPs were photographed within the study area during an initial
17 site visit on January 9–11, 2012. A list of the cKOPs and their latitudinal and longitudinal locations
18 are included in Appendix 17A. The cKOP point locations were brought into GIS, a Google KML file
19 was created, and then the cKOP locations were imported into Google Earth. Once in Google Earth,
20 the cKOPs and associated photos were used as a tool, in correlation with the engineering data
21 overlay for each alternative, to evaluate project effects based on their spatial relationship/proximity
22 to the project sites.

23 Each cKOP was evaluated for its proximity/distance to the project, scenic quality, viewer concern
24 levels, duration of the view, intactness, and number of viewers. This evaluation was completed using
25 a matrix, also included Appendix 17A, that quantifies these qualities from the perspective of viewers
26 at each cKOP toward the project area. These values are based on a 1 to 5 ascending scale, as defined
27 by the *Candidate KOP Sensitivity Matrix Rating Scales* in Appendix 17A. The highest possible
28 sensitivity would be a score of 30 and the lowest possible sensitivity would be a score of 0.
29 Sensitivity in the project ranges from 27 as the highest sensitivity and 12 as the lowest sensitivity.
30 cKOPs were selected and designated as KOPs to be used as the basis to describe the effects of the
31 various features of the BDCP alternatives within this analysis because they were determined to be
32 the most representative sampling of the proposed project's potential effects on the viewshed across
33 all of the spectrum of sensitivity ranges. The KOPs are identified by their previous cKOP
34 designations, 72 KOPs were selected for representative photographs. KOPs were re-photographed
35 on July 29-30, 2013 to show the same view but in the summer. One new KOP was added to
36 accommodate the revised Alternative 4 so that the total number of KOPs was increased to 73. All
37 KOPs are shown in Figure 17-1, *Key Observation Point and Photosimulation Locations*. Photographs
38 taken from these representative KOPs showing winter and summer views are presented in Figure
39 17-2 through 17-73. Note that KOP 258 does not have a winter view because Alternative 4 was
40 modified after January 2012.

41 An important consideration in KOP selection was that visual impacts are generally based on public
42 views (i.e., views from public roads, trails, towns, or bridges rather than from individual residences),
43 as described above. However, views from individual private properties are also considered in
44 evaluating overall change to the visual character of an area. In addition, another consideration is
45 that late fall through early spring views generally possess the greatest potential for visual impact

1 because many trees and shrubs are dormant and without leaves that act to partially or fully screen
2 project features in the landscape during the late spring to early fall. Vegetation's ability to screen
3 features is dependent upon viewer location in relation to the structure and intervening vegetation
4 and distance from both (i.e., an intake will appear smaller if the viewer is farther away or larger if
5 the viewer is closer to the structure).

6 **17.3.1.2 Preparation of Visual Simulations**

7 Computer-generated visual simulations were produced using digitized photographs and computer
8 modeling and rendering techniques to document and evaluate the visual changes that would result
9 from implementation of the action alternatives. The simulations illustrate specific project elements
10 from eleven locations. Simulation vantage points were selected to provide representative public
11 views from which specific project elements would be most visible, and 13 KOPs, mapped on Figure
12 17-1, were selected for simulating project features. Note that one KOP was simulated to show the
13 change from January 2012 and July 2013 conditions and another KOP was simulated to show views
14 in different directions toward different project features. Simulations are shown in Figures 17-76
15 through 17-89. Elements chosen for simulation were intakes on the Sacramento River; the
16 intermediate forebay from SR 160; a tunnel shaft site from Isleton Road, the fish screen at Walnut
17 Grove and Locke; canals that would be visible from I-5 near the Lambert Road overpass, SR 4 near
18 Discovery Bay, SR 4 near South Whiskey Slough Road, and SR 12 near Guard Road; and the
19 redirection of Old River near the Clifton Court Forebay. These simulation locations and features
20 represent visual effects across the alternatives, illustrate a representative sample of potential visual
21 changes, and serve to help readers correlate how visual effects would translate to other site-specific
22 locations that were not simulated.

23 The before and after visual simulations provide clear images of the location, scale, and visual
24 appearance of alternative features. The simulations were developed through an objective analytical
25 and computer modeling process and are accurate within the constraints of the available site and
26 alternative data (three-dimensional computer model was created using a combination of AutoCAD
27 files and geographic information system [GIS] layers and exported to Autodesk's 3-dimensional
28 Studio Max for production). Design data—engineering drawings, elevations and cross sections, site
29 and topographical contour plans, concept diagrams, and reference pictures—were used as a
30 platform from which digital models were created. In cases where detailed design data were
31 unavailable, more general descriptions about alternative facilities and their locations were used to
32 prepare the digital models. Data and assumptions used in the simulations are provided in Appendix
33 17B, Photo Simulation Data Sources and Assumptions.

34 The simulations were prepared using available design data. Although the project elements will
35 continue to undergo design refinement through final design stages, these refinements would not be
36 expected to result in substantial differences in individual features that would affect the outcome of
37 the visual effects analysis. The planning is far enough along and engineers have developed
38 preliminary design of the water conveyance facilities and related structures to meet the operational
39 criteria for the alternatives. Some of the factors incorporated into these considerations include
40 appropriate intake and pump capacities, foundation and housing facility dimensions, extent of levee
41 modification and upgrades to prevent flooding of the intake facilities, conveyance pipe and canal
42 dimensions, the amount of electricity needed to power the alternatives and the associated
43 structures and placement of transmission lines, placement of temporary and permanent access
44 roads, and estimates of landform modifications (cut-and-fill) to accommodate structures. Finally, the
45 analysis assumes that any shifts in specific feature configurations or new alternative components

1 would be minor. Therefore, the simulations are considered appropriate and representative of the
2 type and extent of possible visual changes to the study area.

3 After the viewshed and sensitive receptors were established and visualization created, the visual
4 impact assessment process, which identifies the existing scenic quality of the visual setting, was
5 completed. For this analysis, an adaptation of the BLM's VRM visual resource inventory method was
6 used because it allows the various landscape elements that make up scenic quality to be quantified
7 and rated, with a minimum of ambiguity or subjectivity. BLM's VRM visual resource inventory
8 assigns lands an A, B, or C rating based on the apparent scenic quality, determined by using seven
9 key factors (landscape features): landform, vegetation, water, color, adjacent scenery, scarcity, and
10 cultural modifications. The cKOP sensitivity matrix and the Scenic Quality evaluation form should
11 not to be construed as interrelated from a quantification perspective. The sensitivity matrix uses
12 visual quality as an evaluation criterion where the value is extrapolated from a regional overview
13 perspective. The Scenic Quality evaluation however, uses additional criteria to evaluate place-based
14 scenic quality; therefore the two values are independent of each other. These landscape features
15 were evaluated by three reviewers (interdisciplinary team) and rated numerically on a comparative
16 basis with similar features within the viewshed, and a total score of scenic quality was tabulated
17 (see Appendix 17C). The three reviewers scores were averaged to determine the score used in the
18 analysis.

19 A total of 32 points is possible according to the rating scheme. View scores are as follows.

- 20 • 29 to 32 points: A rating indicates a very high visual quality.
- 21 • 24 to 28 points: B rating indicates a high visual quality.
- 22 • 19 to 23 points: C rating indicates a moderately high visual quality.
- 23 • 14 to 18 points: D rating indicates a moderate visual quality.
- 24 • 9 to 13 points: E rating indicates a moderately low visual quality.
- 25 • 4 to 8 points: F rating indicates a low visual quality.
- 26 • 0 to 3 points: G rating indicates a very low visual quality.

27 The landscape was evaluated for its existing and simulated conditions. A reduction in the existing
28 conditions to a lower Scenic Quality Rating constitutes an adverse effect.

29 **17.3.1.3 Analysis of the Alternatives' Impact on Visual Resources**

30 The alternatives' level of impact can be measured by assessing the existing physical environment,
31 including *landscape sensitivity* and evaluating the *visual dominance* that features would have
32 compared with major features in the existing landscape to determine the *overall effect on viewers* as
33 a result of BDCP implementation. Visual impacts were evaluated by reviewing the alignments for
34 Alternatives 1A, 1B, 1C, and 9 and grouping segments of the alignment by similar visual features and
35 homogeneous character, including viewer groups present and viewer sensitivity levels. The existing
36 visual character was determined for each of these areas, and changes to the visual environment
37 were evaluated in accordance with criteria listed in Section 17.3.2, *Determination of Effects*. In
38 addition, landscape sensitivity and visual dominance of project features were evaluated to
39 determine the overall effect on viewers in that specific area. These areas include the various KOPs
40 along or near the conveyance alignment. These discussions are presented in Appendix 17D,
41 *Permanent Impacts after Construction is Complete*, in Tables 17D-1 through 17D-4. The remainder of

1 the alternatives were evaluated using information gleaned from Alternatives 1A, 1B, 1C, and 9.
 2 Alternatives 1A, 1B, 1C, and 9 are the all-encompassing alternatives and all of the other alternatives
 3 are a reduced version of one of those four alternatives. The reduced alternatives share the same
 4 conveyance method and alignments, the same intake locations, the same shaft site locations, etc. and
 5 the primary difference, as it relates to aesthetic resources, is the number of intakes that are included
 6 under each reduced alternative. A more comprehensive discussion of feature- and site-specific
 7 visual effects on views and viewer groups is presented in Appendix 17E, *Permanent Features*.

8 Scenic vistas are also mapped and included in Appendix Figure 17D-1, *Key Observation Point and*
 9 *Photosimulation Locations*, which also includes all cKOPs, KOPs, and simulated KOPs. It is important
 10 to note that this mapping does not include all scenic vistas within the study area. The mapping
 11 focuses on vistas from public roadways only, with the exception of vistas mapped in proximity to
 12 Brannan Island State Recreation Area, that are in direct or very close proximity to alternative
 13 features and that were directly surveyed during the January 9–11, 2012, site evaluation of the
 14 cKOPs. Scenic vistas generally encompass a wide area with long-range views to surrounding
 15 elements in the landscape. Because of this, it is very common that residents and businesses in the
 16 immediate area, open agricultural lands, and roadways that run parallel and/or perpendicular to
 17 roadways mapped with a scenic vista are contained within and also have scenic vistas even though
 18 they are not mapped in Appendix Figure 17D-1. In addition, it is important to note that vistas have a
 19 directional range. That is to say that some areas have scenic vistas with a 360° view in all directions,
 20 while others may be limited in one direction in a manner that reduces the line of sight angle and
 21 amount of vista that is visible for a narrower vista view. Water-based vistas are not mapped.

22 **Evaluation of Landscape Sensitivity**

23 The BLM Visual Resource Inventory system involves evaluating sensitivity levels based on the
 24 measure of public concern over the scenic quality of a particular landscape. This concern is
 25 measured by considering the types of users, amount of use, public interest, adjacent land uses,
 26 special areas (e.g., scenic roadways), and other factors or special circumstances that may apply to a
 27 particular location that would affect sensitivity (Bureau of Land Management 1984:3). Landscape
 28 sensitivity levels help to determine the management actions that should be applied to various
 29 landscapes in order to maintain their visual integrity (Bureau of Land Management 1984:24–29).
 30 While the study area does not include lands under BLM jurisdiction, this method of inventory is
 31 helpful for identifying landscape sensitivity levels, and the following landscape sensitivity levels
 32 were defined for use in this analysis for the BDCP alternatives.

- 33 ● **High Sensitivity:** There are special areas of interest, a higher number of viewers in the area,
 34 highly sensitive viewer groups present, high public interest in changes to the area, and high
 35 concern over how changes may affect adjacent land uses. The existing character of the landscape
 36 in areas of high sensitivity should be preserved. Natural ecological changes are preferred;
 37 however, this does not preclude very limited development activity. The level of change to the
 38 landscape should be very low and must not attract attention.
- 39 ● **Moderate Sensitivity:** There are a moderate number of viewers in the area with moderate
 40 sensitivity, moderate public interest in changes to the area, and moderate concern over how
 41 changes may affect adjacent land uses. The existing character of the landscape in areas of high
 42 sensitivity should be preserved. The existing character of the landscape in areas of moderate
 43 sensitivity should be retained. The level of change to the characteristic landscape should be low.
 44 Development activities may be seen but should not attract the attention of the casual observer.

1 Any changes must repeat the basic elements of form, line, color, and texture found in the
2 predominant natural features of the characteristic landscape.

- 3 • **Low Sensitivity:** There are few viewers in the area with moderate to low sensitivity, moderate
4 to low public interest in changes to the area, and moderate to low concern over how changes
5 may affect adjacent land uses. The existing character of the landscape in areas of high sensitivity
6 should be preserved. The existing character of the landscape in areas of low sensitivity should
7 be partially retained. The level of change to the characteristic landscape should be moderate.
8 Development activities may attract attention but should not dominate the view of the casual
9 observer. Changes should repeat the basic elements found in the predominant natural features
10 of the characteristic landscape.
- 11 • **Very Low Sensitivity:** There are few viewers in the area with low sensitivity, low public
12 interest in changes to the area, and low concern over how changes may affect adjacent land uses.
13 The level of change to the characteristic landscape in areas of very low sensitivity can be high.
14 Development activities may dominate the view and be the major focus of viewer attention.
15 However, every attempt should be made to minimize the impact of these activities through
16 careful location, minimal disturbance, and repetition of the basic elements.

17 Evaluation of Visual Dominance

18 Visual resource change is analyzed in terms of visual dominance of proposed facilities and features,
19 together with change in visual quality. Viewer responses to these changes are interpreted on the
20 basis of viewer types and viewer sensitivity. For evaluation of the BDCP alternatives, viewer types
21 and their sensitivities were inferred on the basis of the characteristics, activities, and duration of
22 views of various viewer groups.

23 *Visual dominance* refers to the contrast between BDCP features and their setting characterized in
24 terms of vegetation, landform, and structural changes. Dominance is a function of how visually
25 prominent the project is to the viewer and is described using the following terminology.

- 26 • **In-evident:** Project is visible but generally not visually prominent.
- 27 • **Subordinate:** Project is visually prominent, but attracts less attention than other components of
28 the setting.
- 29 • **Co-dominant:** Project attracts attention equally with other components of the setting.
- 30 • **Dominant:** Project dominates the view and attracts more attention than other components of
31 the setting.

32 As part of determining visual dominance, the relative degree of visual contrast that project features
33 would create with the visual landscape is characterized. The determination of a project's overall
34 effect on viewers is based largely on identifying the level of visual dominance a project feature
35 would present over the landscape.

36 Evaluation of Overall Effect on Viewers

37 A project's level of visual dominance can be measured by comparing the project's features with
38 major features in the existing landscape. The combination of the visual dominance rating (from
39 FHWA guidelines) and the landscape sensitivity level (from BLM guidelines) was used to determine

1 the overall effect of project-related landscape changes on viewers. The project's overall effect on
2 viewers can be classified in one of the five following ways.

- 3 • **Negligible:** No visual change and no reduction or increase in visual quality, with no negative or
4 positive viewer responses expected.
- 5 • **Minimally Noticeable:** A perceptible and tangible visual change and minimal reduction in
6 visual quality, with minimal negative viewer responses expected.
- 7 • **Moderately Noticeable:** A tangible degree of visual change and some reduction in overall visual
8 quality, with some moderately negative viewer responses expected.
- 9 • **Noticeable:** Moderate degrees of visual change and a reduction in the overall visual quality,
10 with negative viewer responses expected.
- 11 • **Very Noticeable:** Substantial visual change and considerable reduction in the overall visual
12 quality, with strongly negative viewer responses expected.

13 Table 17-1 illustrates how visual dominance ratings interact with landscape sensitivity levels,
14 thereby determining the project's overall effect on viewers, detailed in Appendix 17D.

15 **Table 17-1. Project's Overall Effect on Viewers**

Project's Visual Dominance	Landscape Sensitivity Level			
	High	Moderate	Low	Very Low
In-evident	Negligible	Negligible	Minimally noticeable	Minimally noticeable
Subordinate	Noticeable	Moderately noticeable	Minimally noticeable	Minimally noticeable
Co-dominant	Very noticeable	Noticeable	Moderately noticeable	Minimally noticeable
Dominant	Very noticeable	Very Noticeable	Noticeable	Moderately noticeable

17 17.3.2 Determination of Effects

18 The impacts of the alternatives on aesthetics and visual resources may result from both construction
19 and operation of BDCP features. In fashioning the thresholds set forth below, the lead agencies
20 considered the questions on the subject of Aesthetics from Appendix G to the CEQA Guidelines, as
21 well as professional judgment and commonly accepted professional standards. Further, for purposes
22 of this analysis, the determination of whether a change in the visual conditions would be *substantial*
23 was performed using the methods described in detail under section 17.3.1, *Methods for Analysis*, and
24 considers site-specific landscape sensitivity (see Appendix 17A) and project feature visual
25 dominance characteristics (see Table 17-1 and Appendix 17D), and the expected change in scenic
26 quality ratings as determined through photo simulation evaluation (see 17.3.1.2 and Appendix 17C).
27 This impact analysis assumes that an action alternative could have an adverse effect (under NEPA)
28 and a significant impact (under CEQA) on aesthetics and visual resources if it would result in any
29 one of the following conditions.

- 30 • Substantially alter the existing visual quality or character of the site and its surroundings. For
31 purposes of this analysis, substantially alter the existing visual quality or character is defined as
32 circumstances in which construction or operational activities would result in a reduction in the
33 Scenic Quality Rating and/or introduce dominant visual elements that, based on the landscape
34 sensitivity level, would result in noticeable to very noticeable changes that do not blend and are

1 not in keeping or are incompatible with the existing visual environment. These changes could be
 2 viewed by sensitive receptors (i.e., residents, recreationists) and from public viewing areas.
 3 Changes to visual quality and character could involve one or more of the following components.

- 4 ○ Substantially alter existing viewsheds, including changing existing terrain, vegetative cover,
 5 or other natural or built features and introducing incompatible visual elements.
- 6 ○ Substantially alter the existing visual quality of a site and/or the region or eliminate visual
 7 resources.
- 8 ○ Substantially obstruct or permanently reduce visually important features.
- 9 ● Have a substantial adverse effect on a scenic vista. For purposes of this analysis, a substantial
 10 adverse effect on a scenic vista is defined as circumstances in which construction or operational
 11 activities would result in a reduction in the Scenic Quality Rating and/or introduce dominant
 12 visual elements that, based on the landscape sensitivity level, would result in noticeable to very
 13 noticeable changes in the visual character of a vista viewshed that do not blend and are not in
 14 keeping or are incompatible with the existing visual environment. These changes can be viewed
 15 by sensitive receptors (i.e., residents, recreationists) and from public viewing areas.
- 16 ● Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings,
 17 and historic buildings within a state scenic highway. For the purposes of this analysis,
 18 substantial damage is defined as circumstances in which construction or operational activities
 19 would alter or change a scenic resource within a state scenic highway to the extent that it would
 20 result in a reduction in the Scenic Quality Rating and/or introduce dominant visual elements
 21 that, based on the landscape sensitivity level, would result in noticeable to very noticeable
 22 changes in the visual character of a state scenic highway's viewshed that do not blend and are
 23 not in keeping or are incompatible with the existing visual environment. These changes can be
 24 viewed by sensitive receptors (i.e., residents, recreationists) and from public viewing areas.
- 25 ● Create a new source of substantial light or glare that would adversely affect day or nighttime
 26 public views in the area. For purposes of this analysis, an adverse effect on day or nighttime
 27 public views is defined as circumstances in which construction or operational activities would
 28 result in a reduction in the Scenic Quality Rating and/or introduce dominant visual elements
 29 that, based on the landscape sensitivity level, would result in noticeable to very noticeable
 30 changes in the viewshed. Elements that could affect light or glare in the study area could involve
 31 one or more of the following.
 - 32 ○ Substantially increase light and glare in the project vicinity.
 - 33 ○ Substantially increase the backscatter of light into the nighttime sky.
 - 34 ○ Substantially reduce the amount sunlight present or the introduction of shadows in
 35 community areas.

36 Glare can be caused by a direct light source (direct glare) or, more commonly, by the reflection of the
 37 sun, moon, or artificial light source from a reflective surface (reflective glare). The intensity of direct
 38 glare is a function of the brightness of the surroundings and the intensity of the light source.
 39 Similarly, the intensity of reflective glare is a function of the reflectivity of the surface, the intensity
 40 of the light source, and the angle of the light source hitting the reflective surface. Highly reflective
 41 surfaces include water, glass, and metal. However, any surface may be a source of reflective glare
 42 based on its coloring and size. Lighter surfaces are more reflective than darker surfaces. For
 43 example, flat white has a reflectivity of 85–95%, whereas yellow has a reflectivity of 70%.

1 Reflectivity decreases as the color gets darker because lighter colors reflect light and darker colors
 2 absorb light. Similarly, larger surfaces have a bigger area from which light will reflect than do
 3 smaller surfaces (Swardon et al. 1986:126–128).

- 4 • Result in long-term (persisting for 2 years or more) adverse visual changes or contrasts to the
 5 existing landscape as viewed from areas with high visual sensitivity. For purposes of this
 6 analysis, adverse visual changes or contrasts are defined as circumstances in which construction
 7 or operational activities would result in a reduction in the Scenic Quality Rating and/or
 8 introduce dominant visual elements that do not blend and are not in keeping or are
 9 incompatible with the existing visual environment, based on the landscape sensitivity level, and
 10 would result in noticeable to very noticeable changes in the viewshed; and areas of high visual
 11 sensitivity are residences and recreation areas. Incompatibility with federal, state, or local plans,
 12 policies, or regulations dealing with the subject of aesthetics and visual impacts. Incompatibility
 13 alone would not result in an adverse effect or significant impact. If, however the incompatibility
 14 relates to an applicable plan, policy, or regulation adopted to avoid or mitigate visual effects,
 15 then an incompatibility might be indicative of a related significant or adverse effect under CEQA
 16 and NEPA, respectively.

17 For the purposes of this analysis, temporary effects are those that occur for a time period less than
 18 two years. Long-term effects refer to time periods greater than two years.

19 **17.3.3 Effects and Mitigation Approaches**

20 The visual resources analysis addresses primarily the study area, in which proposed intake and
 21 conveyance facilities and related structures and operations would be located. The analysis also
 22 addresses the proposed BDCP CM2–CM22, although the assessment is programmatic in scope,
 23 because specific plans have not been developed for those areas. No new structures are proposed
 24 upstream of the Delta or in the SWP and CVP export service areas under any of the proposed
 25 alternatives. In addition, no conservation actions are proposed under any of the alternatives in
 26 either of these regions.

27 As described in Section 17.3.1, *Methods for Analysis*, the evaluation of visual effects considers areas
 28 where the proposed BDCP facilities would be visually dominant features in the context of the
 29 evaluation topic being considered. Acreages and areas of the proposed features and facilities
 30 described in the impact analysis below are detailed in Chapter 3, *Description of Alternatives*, and
 31 Chapter 13, *Land Use*. BDCP features that would not result in a direct or indirect physical change to
 32 the visual environment are not discussed under the impact analysis. The conveyance pipelines and
 33 tunnels 1 and 2 would not be visible because they would be underground. Project features that
 34 would result in physical changes to the visual environment are listed below.

- 35 • Intake structures.
- 36 • Forebays with embankments.
- 37 • Pumping plants.
- 38 • Control structures.
- 39 • Soil spoil and borrow sites.
- 40 • RTM areas.
- 41 • Work/staging areas.

- 1 • Shaft sites (Alternatives 1A, 2A, 3, 4, 5, 6A, 7, and 8).
- 2 • Canals (Alternatives 1B, 1C, 2B, 2C, 6B, 6C, and 9).
- 3 • Bridges (Alternatives 1B, 1C, 2B, 2C, 6B, 6C, and 9).
- 4 • Operable barrier(s) (Alternatives 2A, 2B, 2C, 4, and 9).
- 5 • Temporary and permanent access roads.
- 6 • Transmission lines.
- 7 • Concrete batch plants and fuel stations.
- 8 • Restoration actions.

9 Impacts that would result in physical changes to the visual environment because of alternative
10 features are discussed below in Impacts AES-1 through AES-6.

11 Operational changes would occur in the Upstream of the Delta Region and within the SWP and CVP
12 Export Service Areas, and would result in noticeable changes in the visual setting. As described
13 above, Trinity Lake, Shasta Lake, Lake Oroville, Folsom Lake, New Melones Lake, and San Luis
14 Reservoir would experience slight variations in the storage and elevation patterns as a result of the
15 operation of the alternatives. These effects would affect recreation viewer groups and are discussed
16 in Chapter 15, *Recreation* under *Impact REC-6: Cause a change in reservoir or lake elevations resulting*
17 *in substantial reductions in water-based recreation opportunities and experiences at north- and south-*
18 *of-Delta reservoirs*. In addition, CALSIM modeling results indicate that effects, if any, to river flows
19 are so minor as to have no effect. Each intake would take in up to 3,000 cfs of water at each location.
20 Hydraulic measurements indicate that there would be a localized 1- to 2-inch drawdown, but this
21 would be negligible compared to the 1-foot tidal variation seen at Freeport every day. Additionally,
22 tidal variations are greater further downstream. Therefore, there would be no disruption of water-
23 based views in the vicinity of the intakes and this is not discussed further.

24 **17.3.3.1 No Action Alternative**

25 The No Action Alternative includes continued implementation of SWP/CVP operations,
26 maintenance, enforcement, and protection programs by federal, state, and local agencies and non-
27 profit groups, as well as projects that are permitted or are assumed to be constructed by 2060.
28 Climate change that would occur with or without the BDCP is also part of the No Action Alternative.
29 A complete list and description of programs, plans, and other assumptions considered under the No
30 Action Alternative is provided in Chapter 3, Appendix 3D, *Defining Existing Conditions, No Action*
31 *Alternative, No Project Alternative, and Cumulative Impact Conditions*.

32 Changes to land use have the greatest potential to affect visual resources and viewer groups under
33 continuation of existing policies and programs in the absence of the BDCP alternatives. Under the No
34 Action Alternative, state and federal programs to preserve open space and agricultural lands would
35 continue to be implemented, as described in Chapter 13, *Land Use*. The land uses in the Delta would
36 be similar to those of today because only limited types of development are allowed in the Primary
37 Zone of the Delta. However, some changes in the study area could occur as a result of localized
38 population growth, continued land subsidence on Delta islands, levee instability and potential flood
39 risk, sea level rise, and restoration activities. These changes could result in the conversion of
40 additional agricultural land uses and would consequently affect the visual landscape.

1 Localized population growth would convert agricultural lands on the outskirts of towns and cities in
 2 the Delta, but would not entail new suburban developments in undeveloped areas because of the
 3 limits associated with the Primary Zone of the Delta². This would limit the amount of agricultural
 4 land conversion to rural and suburban development perceived by viewers in the area but could
 5 result in site-specific adverse effects through temporary construction activities and the alteration of
 6 the existing visual character. The severity of such effects would depend on the density and
 7 appearance of new development. In addition, new rural and suburban development would increase
 8 the amount of light and glare present in these areas.

9 Land subsidence, sea level rise, catastrophic levee failure, or a combination thereof should they
 10 occur, would result in flooding and inundation that could significantly damage existing facilities and
 11 infrastructure, uproot and damage vegetation to an unknown extent, permanently flood Delta
 12 islands, and drastically alter the visual landscape of the Delta. Should such events occur, as
 13 anticipated, natural processes and vegetative succession would restore the visual environment to a
 14 certain degree over time. However, permanent scarring or visual remnants of damaged
 15 infrastructure could remain on the landscape. In addition, some Delta islands could become partially
 16 or completely submerged by water and be visible to varying degrees. Such an event could cause a
 17 substantial change in the existing study area visual character. Scenic vistas would also be
 18 significantly altered for an extended period of time or irreparably damaged, because views across
 19 this landscape could be visually changed and crops damaged. To reclaim land or rebuild levees after
 20 such an event would introduce considerable heavy equipment and associated vehicles, including
 21 dozers, excavators, water trucks, and haul trucks, into the viewshed of existing viewers. The visual
 22 effect of these activities may or may not be adverse based on the intervals of time during which
 23 viewers would be in visual contact with the site and extent of construction activities required.
 24 Potential catastrophic levee failure and the resulting submerged landscape would alter the visual
 25 character of affected areas. These potential effects cannot be quantified based on available
 26 information, but can be equated to similar events in recent history. (See Appendix 3E, *Potential*
 27 *Seismic and Climate Change Risks to SWP/CVP Water Supplies* for more detailed discussion)

28 Restoration and environmental enhancement projects may benefit visual resources within the Delta.
 29 These projects include recently completed, ongoing, or planned restoration and enhancement
 30 projects within the north Delta, Lower Yolo Bypass, and Suisun Marsh and implementation of land
 31 management plans for Stone Lakes National Wildlife Refuge, Yolo Bypass, and Lower Sherman
 32 Island. Additionally, the 2008 and 2009 Biological Opinions issued by NMFS and USFWS require
 33 8,000 acres of tidal habitat restoration. Conversion of agricultural lands to restoration sites would
 34 typically involve some topographic grading, exposure of bare soil, and change in vegetation that
 35 could be visually adverse. However, the construction impacts on the visual landscape would be
 36 temporary. The visual changes associated with constructing a restoration site would be very similar
 37 to the visual character seen in much of the Delta with the ongoing agricultural and restoration
 38 operations that are already occurring. Agricultural activities include ground-clearing (disking and
 39 tilling) and planting activities. Restoration projects may enhance wildlife viewing, nonmotorized
 40 boating, and other passive recreation opportunities and visual access within the Delta by increasing
 41 wildlife habitat and public access. These areas may increase glare for a short period of time until

² Land Use Policy P-4 states “New non-agricultural residential development, if needed, shall be located within the existing Primary Zone communities where support infrastructure and flood protection are already provided” (Delta Protection Commission 2011).

1 vegetation becomes established, or if restoration projects include built facilities that produce glare
2 or require lighting.

3 As described in Chapter 15, *Recreation*, ongoing projects and programs such as operation of the
4 Delta Cross Channel, the South Delta Temporary Barriers Program, and the Georgiana Slough
5 Nonphysical Fish Screen would also affect water-dependent recreation by hindering boat passage
6 and access to portions of the Delta's waterways when in place. Other ongoing resource management
7 plans such as controlling nonnative aquatic vegetation, Delta levee protection and repair programs,
8 hatchery and stocking programs, maintenance of channels and sloughs, and other similar projects
9 and programs help maintain access to Delta waterways, keep levees in working order, and keep
10 lands protected. All these ongoing activities are a part of the existing visual environment and would
11 not have adverse effects on the existing visual landscape.

12 Many of the ongoing programs include development of future projects that would require additional
13 project-level environmental review. Future federal actions would be required to comply with NEPA,
14 the federal Endangered Species Act, and other federal laws and regulations. Compliance and permit
15 requirements would be implemented on a case-by-case basis. Overall, the No Action Alternative
16 would result in an array of effects on existing visual quality and character in the Delta. Overall,
17 implementing on-going programs and projects under the No Action Alternative, including changes in
18 farmland are not expected to result in adverse changes to the visual environment because
19 development in much of the study area is restricted by the primary zone designation and city and
20 county ordinances.

21 **CEQA Conclusion:** In total, the ongoing programs and plans under the No Action Alternative would
22 result in the potential for temporary and permanent effects on the study area visual environment
23 that are not expected to substantially change visual resource elements in the Delta because of the
24 current restrictions on development in the primary zone and city and county ordinances to preserve
25 the visual quality of the Delta. Future state and local actions would be required to comply with
26 CEQA, the California Endangered Species Act, and other state and/or local laws and regulations. This
27 potential impact is considered less than significant. No mitigation is required.

28 **17.3.3.2 Alternative 1A—Dual Conveyance with Pipeline/Tunnel and** 29 **Intakes 1–5 (15,000 cfs; Operational Scenario A)**

30 Table 17D-1 in Appendix 17D, *Permanent Impacts after Construction is Complete*, describes existing
31 visual characteristics and the BDCP-related permanent effects of Alternative 1A on visual quality
32 and character, scenic vistas, scenic roadways, and from light and glare sources after construction is
33 complete and identifies the overall effect on viewers. Appendix E, *Permanent Features*, identifies the
34 viewer groups and viewing locations that would be affected by permanent alternative features.
35 Construction of all structural components under Alternative 1A would take 9 years. However,
36 construction of each individual facility would be phased within that period and would occur over a
37 shorter period. The estimated construction times for individual features are included below. The
38 duration and schedule for construction of the water conveyance facilities (CM1) is provided in
39 Appendix 3C, *Construction Assumptions for Water Conveyance Facilities*. In addition, Appendix 22A
40 details the construction schedules and defines the length and sequence of each construction phase.

1 **Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during**
 2 **Construction of Conveyance Facilities**

3 Construction of conveyance facilities under Alternative 1A would result in substantial alteration of
 4 the existing visual quality or character in the vicinity of project elements that can be viewed from
 5 local sensitive receptors and public viewing areas. Visual quality effects at Alternative 1A project
 6 element construction sites would take place beginning with construction mobilization through
 7 completion of project elements. Once construction mobilization under Alternative 1A occurs, all
 8 viewer groups would begin to see visual changes to the portions of the study area where project
 9 features would be built. Construction mobilization, as used herein, is defined as the moment
 10 approval has been given for any materials and supplies, construction equipment, construction
 11 facilities and staging, and staffing to be physically on-site and site modifications to begin. A
 12 generalized sequence of construction mobilization includes first clearing the work area sites and
 13 building and setting up staging areas, temporary field offices, worker parking, equipment and
 14 materials laydown and storage areas, and establishing other construction-related needs. This may
 15 occur after or simultaneously with construction of temporary and permanent transmission lines.
 16 Once the work areas are established, then there is a place set up to begin delivery of materials and
 17 additional equipment to build the alternative features, discussed in more detail below. However, in
 18 general, the sites would first be cleared of vegetation and structures, earthwork and grading would
 19 occur, the built structures and facilities would be constructed, and then landscaping would be
 20 installed. Once a project feature is completed, the work area would be removed and revegetated.
 21 This process would occur in phases, constructing different features at different times, until the
 22 project has been fully completed and would apply to all action alternatives.

23 ***Intakes***

24 The Sacramento River channel and bank would be affected by construction of the five north Delta
 25 intake facilities (Intakes 1–5) between River Mile (RM) 44 (south of Freeport) and RM 37 (north of
 26 the town of Courtland) (Figure 3-2 and Mapbook Figure M3-1). Construction of each intake would
 27 take approximately 4 years to complete and would occur primarily Monday through Friday for up to
 28 24 hours per day. In addition, because of the relatively high groundwater level at all intake locations
 29 and pumping plant sites, dewatering would be necessary to provide a dry workspace. Dewatering
 30 would also be needed where intake pipelines cross waterways and major irrigation canals east of
 31 the Sacramento River. Conveyance pipelines constructed for Intakes 2, 4, and 5 would not be
 32 anticipated to intersect with waterways or major irrigation canals. Dewatering would take place 7
 33 days per week and 24 hours per day and would be initiated 1–4 weeks prior to excavation.
 34 Dewatering would continue until excavation is completed and the construction site is protected
 35 from areas with high groundwater levels (Chapter 3, *Description of Alternatives*). Scattered rural
 36 residences are located along County Highway (CH) E9 and SR 160 along both banks of the river,
 37 throughout the corridor between where Intakes 1–5 would be built; some of these would be near or
 38 directly adjacent to construction activities (KOPs 1, 3, 4, 18, 30, 41, and 49). The towns of
 39 Clarksburg, Hood, and Courtland have a higher concentration of residential viewers and are also
 40 near the intakes (KOPs 12, 38, 72, 73, and 74). Recreationists on local roadways and waterways,
 41 roadway users on local roadways, and nearby businesses would have direct views of intake
 42 construction.

43 Construction of five intake structures and associated facilities would introduce considerable heavy
 44 equipment—excavators, graders, dozers, sheepsfoot rollers, dump trucks, and end loaders, in
 45 addition to support pickups and water trucks—into the viewshed of all viewer groups in the vicinity,

1 especially between Clarksburg and Walnut Grove. Work areas of approximately 125 acres would be
2 located adjacent to each intake site and would be used for staging, temporary field offices, worker
3 parking, equipment and materials laydown and storage, and would support other construction-
4 related needs. While farm equipment is common in this area, the presence of long-term and large-
5 scale construction is not common and would adversely affect viewers who would see work areas
6 over an extended period of time where they once saw agricultural lands. Construction of all the
7 intakes would require that properties first be acquired, resulting in the relocation of several
8 residences and razing of buildings on these properties during construction. The intakes would
9 dissect the parcels, disrupting the continuity of rural land and affecting free-flowing visual access
10 from lands on either side of the intakes. In addition, residences and businesses may experience loss
11 of landscaping, fencing, or other landscape features of personal importance. The landscape
12 sensitivity level is high, and impacts on viewers are substantial because the residents would
13 experience disruptive construction activities near to their homes.

14 Once the site is cleared of built features, earthmoving activities would result in the removal of
15 mature vegetation and topographical changes to areas that are presently flat. Earthmoving activities
16 and associated heavy equipment and vehicles would be readily visible throughout operation of these
17 sites and have the potential to create dust clouds that would attract attention from visual receptors
18 and reduce the availability of short-range views. As set forth in Chapter 22, *Air Quality and*
19 *Greenhouse Gases*, the BDCP proponents have identified several environmental commitments
20 (Appendix 3B, *Environmental Commitments*) to reduce emissions of construction-related criteria
21 pollutants, including basic and enhanced fugitive dust control measures and measures for entrained
22 road dust that would help to reduce the creation of dust clouds that would negatively affect short-
23 range views. As described in Chapter 3, *Description of Alternatives*, revegetation of disturbed areas
24 would occur as a part of the project and revegetation would be determined in accordance with
25 guidance given by DWR's WREM No. 30a, *Architectural Motif, State Water Project* and through
26 coordination with local agencies through an architectural review process. Because revegetation is
27 included as part of Alternative 1A, it would help to lessen visual impacts. However, impacts may still
28 be substantial, as described further in this analysis. This guidance from DWR WREM No 30a is set
29 forth as follows and would apply to the other features described under Impact AES-1.

30 If possible, the natural environment will be preserved. If not possible, a re-vegetation plan will be
31 developed. Landscaping plans may be required if deemed appropriate to enhance facility
32 attractiveness, for the control of dust/mud/wind/ unauthorized access, for reducing equipment
33 noise/glare, for screening of unsightly areas from visually sensitive areas. Planting will use low
34 water-use plants native to the Delta or the local environment, with an organic/natural landscape
35 theme without formal arrangements. For longevity and minimal visual impact, low maintenance
36 plants and irrigation designs will be chosen. Planting plans will use native trees, shrubs or grasses
37 and steps will be taken to avoid inducing growth of non-native invasive plant species/CA Plant
38 Society weedy species. Planting of vegetation will be compatible with density and patterns of existing
39 natural vegetation areas and will be placed in a manner that does not compromise facility safety and
40 access. Planting will be done within the first year following the completion of the project and a plant
41 establishment plan will be implemented.

42 Water-based construction would also be required to construct water intakes and levee
43 modifications. Water-based recreational viewers would have the most direct views toward in-water
44 construction, which would likely require partial channel closures and use of equipment within the
45 waterways (KOP 26). All such construction would have temporary in-water construction zone speed
46 restrictions where high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would
47 effectively be eliminated. In-water construction activities would constrict boat passage, increase

1 boat traffic congestion during peak use (primarily summer weekends), and extend viewing times of
2 these facilities. In-water construction at all locations would result in adverse visual effects due to the
3 elongated viewing times during periods of congestion, temporary partial channel closures that could
4 impede recreational opportunities and create negative visual perceptions of these facilities, and a
5 reduced recreational experience due to the industrial nature of views of such facilities.

6 Once construction of the conveyance facilities is complete, Intakes 1–5 would introduce large,
7 industrial concrete and steel intake structures, approximately 55 feet from river bottom to the top of
8 the structure with a total structure length of 700-2,300 feet, pumping plants that are approximately
9 70 feet tall, landscaping, fencing, and other similar anthropogenic features into an area with an
10 existing rural visual character and a riparian, riverine, and agricultural nature. The design of the
11 intakes and associated facilities could play a large part in helping to improve the quality of affected
12 and degraded viewsheds. Landscaping that would be incorporated as part of the facility design
13 would help to improve the quality of views. Because of the long-term nature of construction,
14 proximity to sensitive receptors, razing of residences and agricultural buildings, removal of
15 vegetation, changes to topography through grading, and addition of large-scale industrial structures
16 where none presently exist, this effect is considered adverse.

17 The intake facilities would result in adverse visual effects upon the landscape. As seen in Figure 17-
18 76a, *Existing and Simulated Views of Intake 3 East from SR 160 in January 2012*, the removal of a
19 substantial amount of riparian vegetation along the east bank acts to open up the vista but also
20 increases the visual prominence of the pumping plant in the landscape. The introduction of tall, steel
21 230 kV transmission lines visually contrasts to existing views where there are no transmission lines
22 and in an area where transmission lines primarily consist of wooden utility poles. The pumping
23 plant introduces a large-scale building, similar in appearance to a warehouse facility, that is a focal
24 point and visually discordant in scale and mass to the surrounding rural character within the vista. It
25 also adds monotone solid color mass into a landscape where the natural colors of the landscape are
26 earth-tones and more muted. Overall, the existing vista from KOP 34 on SR 160 toward Intake 3
27 would be substantially impaired by vegetation removal and introduction of the pumping plant and
28 the Scenic Quality Rating would be reduced from a **D** to an **E**. A reduction in the Scenic Quality
29 Rating associated with Intake 3 is representative of the effects that could occur to other vistas
30 through the removal of vegetation, obscuring and limiting views beyond the foreground, and
31 introducing large industrial features into a rural landscape and this effect would be adverse (see
32 discussions under 17.3.1.2 and 17.3.1.3). However, as shown in Figure 17-76b, *Existing and*
33 *Simulated Views of Intake 3 East from SR 160 in July 2013*, fast-growing poplar or cottonwood trees
34 that were newly planted in January 2012 have since grown and would act to obscure portions of the
35 pumping plant. However, the pumping plant would still be visually discordant in scale and mass to
36 the surrounding rural character within the vista and the Scenic Quality Rating would be reduced
37 from a **D** to an **E**. Note that, over time, the trees will continue to grow and views of Intake 3 from
38 KOP 34 could be further limited.

39 Figure 17-77, *Existing and Simulated Views of Intake 2 West from SR 160*, shows an intake associated
40 with the west alignment (Alternatives 1C, 2C, and 6C). However, this view is representative of how
41 an intake under this alternative would look on the east bank of the river from CH E9. It is also
42 representative of how intakes could affect this and other vista views from SR 160 and CH E9, as
43 mapped in Appendix Figure 17D-1. The conversion of the riverbank that is grassy with riparian
44 vegetation to the industrial looking on-bank intake is a stark visual and color contrast against the
45 more natural colors and textures of a vegetated riverbank that is absent of structures. The pumping
46 plant introduces a large warehouse type of building that is a focal point and visually discordant in

1 scale and mass to the surrounding rural character within the vista. It also adds monotone solid color
 2 mass into a landscape where the natural colors of the landscape are earth-tones and more muted.
 3 The pumping plant and on-bank intake would limit and detract from the visual quality of views
 4 beyond the foreground. The introduction of tall, steel 230 kilovolt (kV) transmission lines visually
 5 contrasts to existing views of wooden utility poles. In addition, at a closer distance, views of
 6 available sky would be interrupted by the transmission lines and pumping plant. Overall, the
 7 existing vista from KOP 15 on SR 160 toward Intake 2 West, which would be representative of views
 8 looking toward the east bank of the river from CH E9, would be substantially impaired by vegetation
 9 removal and introduction of the pumping plant and the Scenic Quality Rating would be reduced
 10 from a **C** to an **E**. A reduction in the Scenic Quality Rating associated with Intake 2 West is
 11 representative of the effects that could occur to other vistas through the removal of vegetation,
 12 obscuring and limiting views beyond the foreground, and introducing large industrial features into a
 13 rural landscape, and this effect would be adverse (see discussions under 17.3.1.2 and 17.3.1.3).

14 Similarly, as seen in Figure 17-78, *Existing and Simulated Views of Intake 4 East from SR 160*, a
 15 substantial amount of riparian vegetation along east bank would be removed and landscaping
 16 associated with the residences along SR 160 would no longer be present. The removal of vegetation
 17 along the river serves to remove screening of the pumping plant and intake that could have been
 18 provided by that vegetation. The realigned roadway slightly increases the prominence of the
 19 roadway surface, but removal of roadside vegetation is what serves to increase the visual
 20 prominence of the roadway. The pumping plant introduces a large-scale building, similar in
 21 appearance to a warehouse facility, that is a focal point and visually discordant in scale and mass to
 22 the surrounding smaller scale rural structures. It also adds monotone solid color mass into a
 23 landscape where the colors of buildings do not detract from the viewshed because vegetation
 24 screens the buildings, softening their appearance and contributing to a unified view. However, the
 25 large scale of the pumping plant, combined with vegetation removal, precludes unified views with
 26 the surrounding landscape. The on-bank intake is not highly visible in from this vantage, due to
 27 distance, the bend in the river, and vegetation on the riverbank that helps to provide some
 28 screening. Overall, existing views from KOP 45 on SR 160 toward Intake 4 would be substantially
 29 impaired by vegetation removal, roadway realignment, and introduction of the pumping plant and
 30 the Scenic Quality Rating would be reduced from a **C** to an **E**. This effect would be adverse (see
 31 discussion under 17.3.1.2 and 17.3.1.3).

32 **Forebays**

33 Construction of a 760-acre intermediate forebay (south of Hood and west of Stone Lakes National
 34 Wildlife Refuge) (KOPs 41, 45, 54, and 86) and 600-acre Byron Tract Forebay (south of Clifton Court
 35 Forebay) (KOPs 103, 106, and 107) would take less than 2 years. Generally, construction would
 36 occur Monday through Friday for up to 24 hours per day. Dewatering is anticipated where the
 37 forebay pipelines cross waterways or major irrigation canals less than 0.25 mile north of the
 38 connection with the intermediate forebay. Dewatering would take place 7 days per week and 24
 39 hours per day and would be initiated 1–4 weeks prior to excavation. After construction is complete,
 40 disturbed areas of exposed soil would be seeded for erosion control and would revegetate after a
 41 short time. The intermediate forebay would be constructed southeast of Intakes 4 and 5 and would
 42 be seen from SR 160 and Lambert Road, between Snodgrass Slough and Stone Lakes National
 43 Wildlife Refuge. Views from Lambert Road are obscured west of Snodgrass Slough by vineyards and
 44 riparian vegetation along Snodgrass Slough (KOPs 82–85). Because the intermediate forebay is in
 45 proximity to the towns of Clarksburg, Hood, and Courtland, there are a concentration of residential,
 46 recreational, and roadway viewers using those roadways. Rural residences would have construction

1 occurring near or directly adjacent to their homes along SR 160 through construction of Intakes 4
2 and 5 and the intermediate forebay. Construction of the intermediate forebay would require that the
3 residential property north of Lambert Road be acquired, resulting in the relocation of those
4 residences and razing of buildings on that property during construction. The landscape sensitivity
5 level is high, and impacts on viewers are substantial because the residents along SR 160 and north of
6 Lambert Road, between Snodgrass Slough and Stone Lakes National Wildlife Refuge, would
7 experience disruptive construction activities near their homes. The existing ground surface
8 elevation at this location is -6 to +8 feet, while embankments surrounding the forebay would be
9 approximately 32 feet above the ground surface.

10 Construction of the Byron Tract Forebay would be near residences and businesses in and near the
11 Rivers End Marina & Storage, at the junction of Lindeman Road, CVP Canal, and Old River. Ground-
12 level construction activities would not be visible from this area because of existing levees but would
13 likely be visible from Byron Highway and Herdlyn and Lindeman Roads, where views are elevated.
14 The existing ground surface elevation at this location is -5 to +5 feet, and embankments surrounding
15 the forebay would also be approximately 32 feet above the ground surface.

16 Earthmoving activities would result in topographical changes to areas that are presently flat and
17 would introduce heavy equipment and vehicles that would be readily visible throughout
18 construction of the forebays and have the potential to create dust clouds that would attract attention
19 from visual receptors and reduce the availability of short-range views. As set forth in Chapter 22, *Air*
20 *Quality and Greenhouse Gases*, the BDCP proponents have identified several environmental
21 commitments (Appendix 3B, *Environmental Commitments*) to reduce emissions of construction-
22 related criteria pollutants, including basic and enhanced fugitive dust control measures and
23 measures for entrained road dust that would help to reduce the creation of dust clouds that would
24 negatively affect short-range views. Once construction of the intermediate forebay is complete, it
25 would be immediately and prominently visible in the foreground from vantages surrounding it. This
26 forebay would convert agricultural lands to a large, geometrically shaped water body that would
27 conflict with the existing forms, patterns, colors, and textures associated with agricultural lands. As
28 seen in Figure 17-79, *Existing and Simulated Views of Intermediate Forebay from SR 160*, the scenic
29 vista across agricultural fields from SR 160 is fairly open but contains existing transmission lines.
30 The forebay embankments would be tall enough to limit views of the existing patchwork of
31 agricultural field it would occupy and the tree line on the horizon. The intermediate forebay
32 embankments would add a man-made visual massing and the embankments would have a visible
33 geometric shape. However, because embankments are approximately 0.5 mile away from both SR
34 160 and Lambert Road, the distance would reduce the apparent scale of the embankments, allowing
35 them to blend somewhat with the grass field in the foreground. Overall, the existing vista from KOP
36 45 on SR 160 toward the intermediate forebay would alter and reduce the available views of
37 agricultural lands and background views but would not substantially reduce the Scenic Quality
38 Rating which would remain an **E**. This effect would not be adverse, when seen from SR 160 and
39 Lambert Road (see discussions under 17.3.1.2 and 17.3.1.3). However, it may be adverse when seen
40 from nearby residential properties along SR 160, which are in closer proximity to the intermediate
41 forebay than SR 160.

42 The Byron Tract Forebay would have a similar effect on the existing visual quality and character as
43 seen from Byron Highway. While Byron Tract Forebay would convert a large area of agricultural
44 land, the forebay in this location would not have as great a negative effect on the landscape as the
45 intermediate forebay, due to the predominance of the existing Clifton Court Forebay, other water
46 conveyance features, and fewer sensitive viewers. However, the Byron Tract Forebay would result

1 in noticeable changes that do not blend, are not in keeping or are incompatible with the existing
 2 visual environment, and could be viewed by sensitive receptors and from public viewing areas. This
 3 effect on visual quality and character would be adverse.

4 Overall, because of the large footprints of the forebays combined with the proximity to sensitive
 5 receptors, razing of residences and agricultural buildings, removal of vegetation, and changes to
 6 topography through grading resulting noticeable changes from public viewing areas, this effect
 7 would be adverse.

8 ***Spoil and Borrow Areas***

9 There would be large spoil/borrow areas near Intakes 1 and 2 (202 acres) (KOPs 1, 4, and 15), the
 10 intermediate forebay (350 acres) (KOP 86), and south of Byron Highway (632 acres) (KOPs 103 and
 11 106) that would be needed under Alternative 1A to store excess spoils from excavation and tunnel
 12 boring and to borrow material to construct levees and to meet other fill requirements. There would
 13 be a total of 1,185 acres of land affected by spoil/borrow areas under Alternative 1A. These sites
 14 would be near the intake structures and forebay locations and would consequently affect the same
 15 viewer groups described above for those features. Changes to the spoil/borrow areas south of Byron
 16 Highway near the proposed Byron Tract Forebay would primarily affect roadway users on the
 17 highway and nearby local roadways. Because these viewers are not as sensitive and there is nearby
 18 rolling terrain, these spoil/borrow areas would not appear as visually obtrusive as the other
 19 spoil/borrow areas for Alternative 1A. The spoil/borrow areas between Intakes 1 and 2 would have
 20 the greatest effect because they have available views from SR 160 and are near the town of
 21 Clarksburg with a higher concentration of residential, recreational, and roadway viewers (Mapbook
 22 Figure M3-1). In addition, the spoil/borrow area south of the intermediate forebay would affect
 23 views from Lambert Road. Views from Stone Lakes National Wildlife Refuge are not available
 24 because the levees and vegetation along Snodgrass Slough prevent views of the ground surface
 25 where this spoil/borrow area would be located. Recreationists on local roadways, roadways users
 26 on local roadways, residents, and nearby businesses would have direct views of construction
 27 activities at spoil/borrow areas. The landscape sensitivity level is moderate to high, and impacts on
 28 these viewers are substantial, especially for residences that would experience disruptive
 29 construction activities near their homes.

30 Earthmoving activities would likely result in the removal of mature vegetation and topographical
 31 changes to areas that are presently flat. Earthmoving activities and associated heavy equipment and
 32 vehicles would be readily visible throughout operation of these sites and have the potential to create
 33 slowly moving dust clouds that would attract attention from visual receptors and reduce the
 34 availability of short-range views. As set forth in Chapter 22, *Air Quality and Greenhouse Gases*, BDCP
 35 proponents have identified several environmental commitments (Appendix 3B, *Environmental*
 36 *Commitments*) to reduce emissions of construction-related criteria pollutants, including basic and
 37 enhanced fugitive dust control measures and measures for entrained road dust that would help to
 38 reduce the creation of dust clouds that would negatively affect short-range views. Spoil and borrow
 39 sites would be in use for close to 7.5 years, and construction operations at these locations would
 40 take place Monday through Friday for up to 24 hours per day. Because of the long-term nature of
 41 construction, proximity to sensitive receptors, removal of vegetation, and changes to topography
 42 through grading, this effect is considered adverse.

43 Once construction of the BDCP facilities is complete, the spoils/borrow area adjacent to the
 44 intermediate forebay would result in a large-scale landscape effect that would alter the agrarian

1 visual character, further compounding the effect at this location. The spoil/borrow area between
 2 Intakes 1 and 2 would result in a large-scale landscape effect that would also alter the agrarian
 3 visual character. In addition to spoils/borrow in the study area, offsite borrow sites may be needed
 4 to provide suitable materials for intake pipeline foundations, berms around RTM storage areas and
 5 canal embankments. It is not known how much import material would be needed and where it
 6 would come from. It is assumed that effects at import borrow sites would be similar in scale and
 7 have similar adverse visual effects to those within the study area. Alterations at these locations
 8 would result in sunken or elevated landforms introduced into a landscape that is currently
 9 predominantly flat. These features would be visually discordant with the area's existing forms,
 10 patterns, colors, textures associated with the existing agrarian character in the study area.
 11 Accordingly, spoil and borrow areas would result in an adverse effect on visual resources. Mitigation
 12 Measure AES-1c is available to address this effect.

13 ***Reusable Tunnel Material Areas***

14 RTM areas would be needed to store excess material from tunnel boring that would later be used to
 15 construct levees and to meet other fill requirements or be transported to spoils sites. Five RTM
 16 areas are proposed for Alternative 1A: one immediately north of Intake 2 (104 acres) (KOPs 1, 4,
 17 and 15) north of Scribner Road, east of the Sacramento River; one south of Isleton Road (303 acres)
 18 (KOP 95) on northern Brannan-Andrus Island; and one each on southeastern Tyler Island, eastern
 19 Bacon Island, and northwestern Victoria Island (288 acres, 329 acres, 572 acres, respectively) (see
 20 Mapbook Figure M3-1). There would be a total of 1,596 acres of land affected by RTM areas under
 21 Alternative 1A. The RTM areas near Intake 2 and Isleton Road would have the greatest effect
 22 because of proximity to nearby residents and visibility from nearby roadways. Activities associated
 23 with placing and spreading the RTM would occur near or directly adjacent to the homes of
 24 residential viewers. The RTM area near Intake 2 would be visible from SR 160. However, the RTM
 25 area near Isleton Road would not be visible from SR 160 because the construction area would be
 26 across the river, at a lower ground elevation than the raised roadway, and the RTM area would not
 27 be visible because of intervening vegetation along SR 160 and Isleton Road. The RTM areas on Tyler,
 28 Bacon, and Victoria Islands generally lack nearby sensitive viewers, and most views of these areas
 29 are in passing from rural roadways. The RTM area on Victoria Island would be visible from SR 4. The
 30 landscape sensitivity level is moderate to high, and impacts on viewers near Intake 2 and Isleton
 31 Road are substantial because the residents would experience disruptive construction activities near
 32 their homes.

33 Earthmoving activities would likely result in the removal of mature vegetation and topographical
 34 changes to areas that are presently flat. Earthmoving activities and associated heavy equipment and
 35 vehicles would be readily visible throughout operation of these sites and has the potential to create
 36 slowly moving dust clouds that would attract attention from visual receptors and reduce the
 37 availability of short-range views. As set forth in Chapter 22, *Air Quality and Greenhouse Gases*, BDCP
 38 proponents have identified several environmental commitments (Appendix 3B, *Environmental*
 39 *Commitments*) to reduce emissions of construction-related criteria pollutants, including basic and
 40 enhanced fugitive dust control measures and measures for entrained road dust that would help to
 41 reduce the creation of dust clouds that would negatively affect short-range views.

42 RTM areas would be in use for close to 7.5 years, and operations at these locations would take place
 43 Monday through Friday for up to 24 hours per day. Because of the long-term nature of construction,
 44 proximity to sensitive receptors, and changes to topography through grading, resulting in noticeable
 45 to very noticeable changes to the visual setting, this effect is considered adverse.

1 Once construction of the water conveyance facilities is complete, the RTM areas between Intakes 1
 2 and 2 and near Isleton Road would result in large-scale landscape effects that would alter the
 3 agrarian visual character. The RTM areas on Tyler, Bacon, and Victoria Islands may be visible in
 4 passing from rural roadways and SR 4, but there is generally a lack of nearby sensitive viewers at
 5 these locations. Alterations at these locations would result in sunken or elevated landforms
 6 introduced into a landscape that is currently predominantly flat. These features would be visually
 7 discordant with the area's existing forms, patterns, colors, and textures associated with the existing
 8 agrarian character in the study area. Mitigation Measure AES-1c is available to address this effect.

9 **Shaft Sites**

10 Shaft sites distributed from Tyler Island south to the proposed Byron Tract Forebay are in areas
 11 where there are no immediate viewers and, therefore, have a low landscape sensitivity level (KOPs
 12 15, 45, 86, 95, 98, and 107). Rural roadways pass near these sites, but views of construction
 13 activities would be fleeting as travelers or recreationists on these roadways travel by the sites.
 14 However, shaft sites between Intake 2 and just south of Isleton Road are in areas with nearby
 15 residences, and the landscape sensitivity level is moderate to high. Construction of the shaft sites
 16 would take just under 2.5 years; they would then be in operation for close to 7.5 years, Monday
 17 through Friday for up to 24 hours per day. This would introduce considerable heavy equipment,
 18 vehicles, and cranes needed to bore and construct the tunnel and remove excavated materials from
 19 the tunnels into the viewshed of sensitive viewers. The shaft sites would have associated work areas
 20 where materials would be stockpiled and pieces needed to construct the finished tunnel structure
 21 would be stored. In addition, launching, retrieval, and ventilation shaft sites would be built on raised
 22 earthen pads to elevate them above the flood level, and these pads would be approximately 16- to
 23 20-feet high (or at the 100-year design flood elevation for each island). The shaft would rise
 24 approximately another 20 feet above the grade of the raised pad, and there would be construction
 25 office and storage buildings located at the base of the raised pad. The shaft site would be surrounded
 26 by fencing. Construction activities associated with the shaft sites may constitute an adverse effect on
 27 visual resources due to the physical introduction of these features and the duration of time that they
 28 would be visible in the landscape. Once construction is completed, the shaft site construction pads
 29 would be removed and the launch and retrieval shafts would be covered with earth. As seen in
 30 Figure 17-80, *Existing and Simulated Views of Launch/Retrieval Shaft Site near Isleton Road*,
 31 construction of shaft sites would convert agricultural lands for a period of time and may require the
 32 removal of landscaping or vegetation and structures and would introduce the raised pad, raised
 33 shaft, construction buildings, and fencing would be introduced into the viewshed, as illustrated in
 34 "Simulated View during Construction." As shown in "Simulated View after Construction," the raised
 35 pad would be left in place, but the construction buildings and fencing would be removed. In addition,
 36 the introduction of tall, steel 230 kV transmission lines visually contrasts to existing views where
 37 the existing transmission lines consist of wooden utility poles. Overall, existing views from KOP 95
 38 on SR 160 toward the launch/retrieval site would be impaired by the removal of the building and
 39 vegetation and introduction of the transmission lines and the Scenic Quality Rating would be
 40 reduced from a **D** to an **E**. This effect would be adverse (see discussion under 17.3.1.2 and 17.3.1.3).

41 Shaft sites would be located just north of Hood (KOP 74), along SR 160, 0.85 mile northwest of Twin
 42 Cities Road, the northern portion of Tyler Island, north of SR 12 (KOP 98), on Mandeville Island, on
 43 the southern portion of Bacon Island, and north of Victoria Canal. Locations where viewer groups
 44 would be able to see shaft sites in the foreground include the site just north of Hood, along SR 160
 45 0.85 mile northwest of Twin Cities Road, and north of SR 12. The Amtrak San Joaquin Oakland to
 46 Bakersfield route passes by the ventilation shaft site on southern portion of Bacon Island but the site

1 would only be seen by passengers sitting in window seats on the north side of the train. In addition,
 2 trains would pass by at a high rate of speed, making views the steel plates indiscernible. All other
 3 locations are not in proximity to sensitive viewers.

4 ***Docks and Barge Traffic***

5 New barge unloading facilities would be built in the viewshed of recreationists, businesses, public
 6 roadways, and residential properties that have views and vistas that include the sites, and would
 7 result in temporary long-term changes in views in the immediate area. These facilities would be
 8 constructed in areas where the landscape sensitivity levels range from low to high. New facilities
 9 would convert vegetated areas to large, unvegetated swaths of land and piles of sand and gravel
 10 with associated loading infrastructure, introducing these features into a viewshed where none
 11 presently exist. These features would contrast sharply with the more natural areas that were
 12 present prior to construction of the new facility. New facilities would convert agricultural and other
 13 open space lands to a land use that is industrial in nature and from one that is vegetated to one that
 14 is largely unvegetated, creating new landscape effects.

15 Alternative 1A includes six barge unloading facilities to be built on or near the pipeline/tunnel
 16 alignment at riverbank locations about 5–6 miles apart (except on Woodward Canal). As described
 17 in more detail in Chapter 15, *Recreation*, the facilities would be built on the following waterways:
 18 Sacramento River, North Fork Mokelumne River, San Joaquin River, Middle River, and Woodward
 19 Canal (which would have two facilities) and would affect water-based recreation. Water-based
 20 recreational viewers would have the most direct views toward barge traffic and loading/offloading
 21 activities involving equipment and materials for pipeline construction. Construction of the barge
 22 facilities may require partial channel closures and use of equipment within the waterways. All barge
 23 facilities would have temporary in-water construction zone speed restrictions where high-speed
 24 recreation (e.g., waterskiing, wakeboarding, tubing) would effectively be eliminated. Once built,
 25 docks would be in use for approximately 5 years. During this time, loading facilities and barge traffic
 26 would constrict boat passage, increase boat traffic congestion during peak use (primarily summer
 27 weekends), and extend viewing times of these facilities.

28 The North Fork Mokelumne River location is a known location for waterskiing and wakeboarding.
 29 The San Joaquin River location is very wide, so boats could avoid the loading facility entirely. The
 30 Middle River location could constrict boat traffic, which may be high at this location; however,
 31 alternative routes are available to avoid this location. The two Woodward Canal barge unloading
 32 facilities would be located across from one another and, if both facilities are in operation, the entire
 33 canal may be constricted and could prevent boat passage in a known location for waterskiing and
 34 wakeboarding area that supports high peak boat traffic volumes. Once construction of the
 35 conveyance facilities is complete, docks would be removed and barge traffic would cease.

36 Construction and use of barges and barge unloading facilities during construction at all locations
 37 would introduce dominant visual elements resulting in noticeable changes that do not blend and are
 38 not in keeping or are incompatible with the existing visual environment. These changes may result
 39 in adverse visual effects due to the elongated viewing times during periods of congestion, temporary
 40 partial channel closures that could impede or eliminate recreational opportunities and create
 41 negative visual perceptions of these facilities, and a reduced recreational experience due the
 42 industrial nature of views of such facilities. Thus, this effect would be adverse.

1 **Access Roads**

2 Construction of temporary and permanent access roads would take less than 2 years and would
 3 follow linear paths; consequently, construction of these features would not be focused on one
 4 specific location for an extended period of time. Construction of access roads would occur Monday
 5 through Friday for up to 24 hours per day. Access roads would be located in areas in where the
 6 landscape sensitivity levels range from low to high. Most of the temporary and permanent access
 7 roads follow alignments that have previously been cleared and that serve as agricultural access
 8 routes. Construction would include improving the condition of these existing access routes to
 9 accommodate construction access. Vegetation removal would likely occur along the rights-of-way of
 10 access roads and would negatively affect views from SR 160, River Road, and other roadways in the
 11 study area. After construction is complete, disturbed areas of exposed soil would be seeded for
 12 erosion control and would revegetate after a short time. Because of the temporary nature of
 13 construction and the regular relocation of activities and because roads follow alignments that have
 14 previously been cleared and that serve as agricultural access routes, this would not constitute a
 15 long-term adverse effect.

16 **Transmission Lines**

17 Proposed transmission line corridors are shown in Mapbook Figure M3-1. Construction of the
 18 temporary 12 kV and 69 kV transmission lines would take less than 2 years and would require
 19 vegetation clearing along the linear ROWs. Construction of the permanent 69 and 230 kV
 20 transmission lines would also take less than 2 years and would require vegetation clearing along the
 21 linear ROWs. Construction of transmission lines would occur Monday through Friday for up to 24
 22 hours per day, and transmission lines would be located in areas in where the landscape sensitivity
 23 levels range from low to high (KOPs 1, 3, 4, 15, 16, 18, 19, 20, 26, 30, 34, 41, 42, 49, 54, 69, 72, 73, 86,
 24 89, 95, 98, 103, 107, 108, 254, and 255).

25 The temporary 12 kV lines would be wooden poles that are 40–45 feet tall and spaced 300 feet
 26 apart. The temporary and permanent 69 kV lines would be wooden or steel poles, depending on the
 27 utility, which are 60 feet tall and spaced 450 feet apart. The temporary 230 kV lines would be steel
 28 poles that are 95–100 feet tall and spaced 750 feet apart; however, lattice steel towers may be used
 29 at Western interconnections. Construction of transmission lines move along these linear ROW
 30 corridors that are 25–40 feet wide for 12 kV lines and 100 feet wide along the lines and 150 feet
 31 wide at poles for 69 kV and 230 kV lines. For every 2 miles of line and where the line takes a turn
 32 greater than 15 degrees, a conductor pulling location that is 50 feet wide with 200 feet of length
 33 along the corridor for 12 kV lines and 150 feet wide with 350 feet of length along the corridor for 69
 34 kV and 230 kV lines would be required adjacent to the pole.

35 Construction would require clearing the corridor of vegetation, erecting the towers or poles, and
 36 then stringing the power lines using the conductor pulling locations. Construction of these features
 37 would move in a linear fashion and would not take place in any specific location for an extended
 38 period of time. Cranes would be used to string 12 kV and 69 kV lines, while towers, cranes and
 39 helicopters would be used for 230 kV lines. Site preparation, tower erection, and stringing would
 40 introduce disruptive visual elements, such as construction equipment and activity, into the
 41 landscape and temporarily detract from views. Construction of the 230 kV lines would be the most
 42 disruptive during construction because towers, cranes, and helicopters would be more visible and
 43 draw more attention toward construction activities because of movement associated with
 44 helicopters and cranes and noise associated with helicopters. Temporary power would be supplied

1 by 69 kV transmission lines that would tap into the Hood, Grand Island, Middle River, and Herdlyn
 2 Substations and would run parallel to existing transmission corridors. These temporary lines would
 3 be in keeping with the existing visual character of the transmission corridor. In addition, 12 kV lines
 4 would supply temporary power by tapping into existing transmission routes, or the newly
 5 constructed 69 kV lines, extending power to construction sites. These would be new lines and would
 6 generally not run parallel to existing transmission corridors.

7 Permanent power would be supplied by the Banks Substation near the Banks pumping plant.
 8 Permanent 230 kV transmission lines are shown on Figure 3-25, indicated by the S-T1a (PTO) line
 9 for Alternative 1A, and would travel from the south to north. The line would not parallel existing
 10 transmission corridors and would introduce a transmission corridor into the landscape where none
 11 presently exists. This would create or add to the amount of visible transmission lines, based on
 12 location, and not be in keeping with the existing visual character. New permanent 69 kV lines would
 13 branch from the northern terminus of the 230 kV line to supply power to the intermediate forebay
 14 pumping plant and Intakes 1–5. Each intake would have an electrical substation and transformer
 15 located to the right of the sedimentation basins and intake pumping plants (refer to Figure 3-20).

16 Most of the transmission lines would follow access roads constructed for the BDCP conveyance
 17 facilities or other existing access roads and roadways that are within the study area. After
 18 construction is complete, disturbed areas of exposed soil would be seeded for erosion control and
 19 would revegetate after a short time. However, tree and shrub removal would likely occur within the
 20 ROWs and would negatively affect views from SR 160, River Road, and other roadways in the study
 21 area. Once the proposed 230 kV electrical power transmission lines are constructed, tall steel poles
 22 that would be highly visible landscape features would contrast strongly with their surroundings.
 23 The 69 kV electrical power transmission lines would also be larger than wood-poled transmission
 24 lines commonly seen in the Delta. While wood-poled transmission lines are part of most existing
 25 views, new 69 and 230 kV transmission lines and their cleared ROWs would adversely affect the
 26 existing visual character by introducing large towering structures in a linear pattern that appear to
 27 march through the landscape. The temporary nature of construction and movement of construction
 28 activities to different locations, combined with tree and shrub removal within ROWs and
 29 appearance of transmission lines once in place, would make changes in views associated with
 30 transmission lines adverse. Mitigation Measures AES-1a through AES-1c are available to address
 31 these effects.

32 The Banks Substation is immediately south of the California Aqueduct, and would require over 2
 33 miles to connect to the Byron Tract Forebay area. A substation, office buildings, and warehouse
 34 facility buildings at the Banks pumping plant currently make this area industrial in nature. However,
 35 the new substation would increase utility infrastructure present at this location, and the new 230 kV
 36 electrical transmission lines would compound the amount of visible industrial elements and result
 37 in adverse visual effects.

38 ***Concrete Batch Plants and Fuel Stations***

39 Approximately 2-acre concrete batch plants would be located at Intakes 2 and 4 and along the
 40 tunnel alignment on Byron Highway and 40-acre concrete batch plants 2.5 miles north of SR 12, and
 41 along the tunnel alignment approximately 8.5 miles south of SR 12 (Mapbook Figure M3-1).
 42 Concrete batch plants would have visible features that are likely to include silos to hold materials for
 43 mixes, material unloading areas and storage piles, concrete truck loading areas and washouts, liquid
 44 storage tanks, conveyors, heavy equipment and trucks for material movement and transport,

1 lighting, and mixing equipment. Built features would be largely made of steel that is painted. Batch
2 plants would convert agricultural lands to industrial facilities.

3 Approximately 2-acre fuel stations would be located at Intakes 2 and 4, 2.5 miles north of SR 12,
4 along the tunnel alignment approximately 8.5 miles south of SR 12, and along the tunnel alignment
5 on Byron Highway (KOP 106). Fuel stations may have aboveground storage tanks that are painted
6 and fuel pumps that would be visible and would convert agricultural lands to industrial facilities.

7 Construction of a concrete batch plant and fuel station north of Intake 2 would have the greatest
8 effect because construction would take place immediately adjacent to SR 160. Construction of a
9 batch plant and fuel station south of Intake 4 (KOP 45) would also have adverse effects because
10 construction would occur within the foreground of view from SR 160 but to a lesser degree because
11 activities would be screened, in part, by the existing orchards to the west. Construction of the
12 concrete batch plant and fuel station 2.5 miles north of SR 12 would be on Tyler Island and would
13 not have a substantial effect because it would not occur in proximity to sensitive visual receptors.
14 Elements of construction may be visible to recreationists on North Mokelumne River and
15 agricultural workers on Tyler Island, but these viewers would only have intermittent visual access
16 and construction would be temporary in nature, lasting less than 2 years. Construction of a concrete
17 batch plant and fuel station east of Byron Highway, just south of the Mendota Canal would be located
18 in close proximity to similar industrial looking facilities that are associated with the Clifton Court
19 Forebay and existing transmission lines that course the area. The primary viewers of this area are
20 roadway travelers on Byron Highway that pass by the site at highway speeds and would have
21 intermittent visual access of temporary construction activities that would last less than 2 years.
22 Once the project is complete, these facilities would be removed.

23 Construction of the concrete batch plants and fuel stations would introduce heavy equipment and
24 vehicles that would be readily visible throughout construction of the facilities and have the potential
25 to create dust clouds that would attract attention from visual receptors and reduce the availability of
26 short-range views. As set forth in Chapter 22, *Air Quality and Greenhouse Gases*, the BDCP
27 proponents have identified several environmental commitments (Appendix 3B, *Environmental*
28 *Commitments*) to reduce emissions of construction-related criteria pollutants, including basic and
29 enhanced fugitive dust control measures and measures for entrained road dust that would help to
30 reduce the creation of dust clouds that would negatively affect short-range views. Once construction
31 of the concrete batch plants and fuel stations are complete, these structures would be immediately
32 and prominently visible in the foreground from surrounding vantages. Agricultural lands would be
33 converted to industrial structures and facilities that conflict with the existing forms, patterns, colors,
34 and textures associated with agricultural lands. Converting agricultural lands to industrial facilities,
35 especially those in close proximity to SR 160 is considered adverse.

36 **Summary**

37 **NEPA Effects:** The primary features that would affect the existing visual quality and character under
38 Alternative 1A, once the facility has been constructed, would be Intakes 1–5, the intermediate
39 forebay and Byron Tract Forebay, transmission lines, and resulting landscape effects left behind
40 from spoil/borrow and RTM areas, and concrete batch plants and fuel stations. These changes
41 would be most evident in the northern portion of the study area, which would undergo extensive
42 changes from the permanent establishment of large industrial facilities and the supporting
43 infrastructure along and surrounding the 8.5-mile segment of the Sacramento River where the
44 intakes would be situated.

1 Overall, construction would take 9 years, and the intensity of the activities in contrast to the current
 2 rural/agricultural nature of the area would be substantial. Construction of Intakes 1–5 and the
 3 accompanying pumping plants, surge towers, borrow/spoil areas, and RTM areas would introduce
 4 visually dominant and discordant features in the foreground and middleground views, and these
 5 elements would be very noticeable to all viewer groups. A construction shaft, tunnel work area, and
 6 RTM area and transmission lines would be visible from SR 4. While not officially designated state
 7 scenic highways, and therefore not discussed under *Impact AES-3: Permanent damage to scenic*
 8 *resources along a state scenic highway from construction of conveyance facilities*, this road is a San
 9 Joaquin County Scenic Route (see *Section 17.2.3.2, County and City General Plans – San Joaquin*
 10 *County*). These features would detract from the visual quality of views from these routes.

11 After construction, areas surrounding Intakes 1–5, spoil/borrow areas, RTM areas, shaft sites, and
 12 locations where concrete batch plants and fuel stations were located may be denuded of vegetation
 13 for a short period of time until the landscaping plans designed under WREM No. 30a are
 14 implemented. Once installed, the landscape would still appear to be denuded of vegetation or to
 15 have little vegetative cover because immature landscaping would be similar in appearance to tilled
 16 or newly planted agricultural fields. The sites would be in a transitional state, and over a period of a
 17 few years, plant species would mature and vegetation would recolonize the sites. These changes
 18 would happen in an area known for its open space, agricultural landscapes, and rural characteristics
 19 and would segment the visual landscape of the study area, reduce the amount of open space lands
 20 available to viewers, and eliminate valued visual resources. The effects of permanent access roads
 21 on visual resources would not be adverse. The effects of shaft site access hatches on the existing
 22 scenic character may be adverse. Operation of the intakes, the visual presence of large-scale
 23 borrow/spoil and RTM area landscape effects, and transmission lines would result in adverse effects
 24 on the existing visual character. In addition, construction of all of these features has the potential to
 25 negatively affect wildlife viewing and the overall enjoyment of scenic views in the study area.
 26 Therefore, because of the long-term nature of construction combined with the proximity to sensitive
 27 receptors, razing of residences and agricultural buildings, removal of vegetation, and changes to
 28 topography through grading, this overall effect of conveyance facility construction on existing visual
 29 quality and character is considered adverse. Mitigation Measures AES-1a through AES-1g are
 30 available to address visual effects resulting from construction of Alternative 1A water conveyance
 31 facilities.

32 **CEQA Conclusion:** Construction of Alternative 1A would substantially alter the existing visual
 33 quality and character present in the study area. The long-term nature of construction of the intakes,
 34 pipeline/tunnel, work areas, spoil/borrow and RTM areas, shaft sites, barge unloading facilities;
 35 presence and visibility of heavy construction equipment; proximity to sensitive receptors; relocation
 36 of residences and agricultural buildings; removal of riparian vegetation and other mature vegetation
 37 or landscape plantings; earthmoving and grading that result in changes to topography in areas that
 38 are predominantly flat; addition of large-scale industrial structures (intakes and related facilities);
 39 remaining presence of large-scale borrow/spoil and RTM area landscape effects; and introduction of
 40 tall, steel transmission lines would all contribute to this impact.

41 Overall, construction would last up to 9 years and would change the existing visual character in the
 42 vicinity of project elements from those of agricultural, rural residential, or riparian and riverine
 43 settings to areas involving heavy construction equipment, temporary construction structures, work
 44 crews, other support vehicles and other activities that would modify and disrupt short- and long-
 45 range views. These activities would be disruptive to some viewers. Once construction is complete,
 46 the alternative would result in the placement of large, multi-story industrial concrete and steel

1 structures, pumping plants, fencing, and other similar anthropogenic features where none presently
 2 exist. Because of the landscape sensitivity and visual dominance of these features, these changes
 3 would result in reduced scenic quality throughout the study area (see 17.3.1.3, *Analysis of the*
 4 *Alternatives' Impact on Visual Resources*). Thus, Alternative 1A would result in significant impacts on
 5 the existing visual quality and character in the study area.

6 Mitigation Measures AES-1a through AES-1g would partially reduce impacts by locating new
 7 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 8 needed where feasible, installing visual barriers between construction work areas and sensitive
 9 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
 10 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
 11 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
 12 visual resources and receptors and restoring the sites upon removal of facilities, and using best
 13 management practices to implement a project landscaping plan. However, impacts may not be
 14 reduced to a less-than-significant level because even though mitigation measures would reduce
 15 some aspects of the impact on visual quality and character, it is not certain the mitigation would
 16 reduce the level of the impact to less than significant in all instances. In addition, the size of the
 17 study area and the nature of changes introduced by the alternative would result in permanent
 18 changes to the regional landscape such that there would be noticeable to very noticeable changes
 19 that do not blend or are not in keeping with the existing visual environment. Thus, Alternative 1A
 20 would result in significant and unavoidable impacts on the existing visual quality and character in
 21 the study area.

22 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 23 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 24 **Transmission Lines and Underground Transmission Lines Where Feasible**

25 BDCP proponents will make site-specific design decisions to locate new transmission lines and
 26 access routes to minimize effects on vegetation where feasible. These efforts will include the
 27 following actions.

- 28 ● Working with the design engineer, site-specific location adjustments will be identified to
 29 avoid adversely affecting mature tree and shrub groupings to the extent feasible and to
 30 avoid creating large, linear swaths of vegetation clearing through the construction of new
 31 transmission lines and access routes.
- 32 ● Where new transmission lines are located near trees along designated scenic route portions
 33 of SR 160 and River Road, the construction contractor will be required to utilize selective
 34 pruning techniques to avoid hard pruning of tree canopies that would negatively affect
 35 those scenic resources and views along those routes.
- 36 ● Existing transmission corridors will be evaluated for placement of the new transmission
 37 lines to avoid creating new transmission corridors to the extent feasible.
- 38 ● Transmission lines will be placed underground except where it can be shown that the lines
 39 can be hidden in existing tree cover, thereby minimizing removal of mature trees.
- 40 ● Undergrounding transmission lines will not be used where implementation would
 41 constitute an adverse effect on sensitive habitats or sensitive species that would outweigh
 42 the reduction of visual effects.

1 Implementation of this measure will minimize the effects on existing visual quality and
 2 character that would result from removal and pruning of mature vegetation within proposed
 3 new transmission lines and access road routes. This measure will provide for a reduction in the
 4 number of trees and shrubs removed from installation of transmission lines and development of
 5 access roads.

6 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 7 **Sensitive Receptors**

8 The BDCP proponents will install visual barriers between construction work areas and sensitive
 9 receptors to reduce the impact on sensitive receptors from the change in existing visual quality.
 10 Barriers will be placed to obscure views of work areas where construction activity and
 11 equipment would be disruptive and lower the existing visual quality. These efforts will include
 12 the following actions and performance standards.

- 13 ● Visual barriers will be installed to minimize sensitive receptors (i.e., residents and
 14 recreational areas) views of construction work areas.
 - 15 ○ The visual barriers will be placed to protect residents and recreational areas that are
 16 located within 0.25 mile of a BDCP-related construction site.
 - 17 ○ The visual barrier may be chain link fencing with privacy slats, fencing with windscreen
 18 material, wood or concrete barrier/soundwall, or other similar barrier.
 - 19 ○ The visual barrier will be a minimum of 6 feet high to help to maintain the privacy of
 20 residents and block long-term ground-level views toward construction activities.

21 While the visual barriers would introduce a visual intrusion, they would greatly reduce the
 22 visual effects associated with visible construction activities and screening construction activities
 23 and protecting privacy is deemed desirable. The visual barriers are an effective means of
 24 reducing the visibility of active construction work areas, thereby minimizing the impact on
 25 existing localized visual quality.

26 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 27 **Material Area Management Plan**

28 The BDCP proponents will develop and implement a spoil/borrow and RTM area management
 29 plan consistent with the “Disposal and Reuse of Spoils, RTM, and Dredged Material,” in Appendix
 30 3B, *Environmental Commitments*, to reduce the extent of negative visual alteration of existing
 31 visual quality or character of spoil, and especially borrow, sites from construction through
 32 remediation of terrain, revegetation, and other practices as described below. The purpose of this
 33 measure is to prevent flattened, highly regular, or engineered slopes which create visual
 34 discordance and incongruence from native topography and to re-establish natural looking
 35 vegetative communities that are indigenous to the project environment. The exception to
 36 grading flattened, regular sites is if the intended use of the site is agriculture. This mitigation
 37 measure will complement and is related to activities described under Mitigation Measure SOILS-
 38 2b, Chapter 10, *Soils*.

39 Prior to construction mobilization, the BDCP proponents will develop a management plan that
 40 identifies site-specific measures to remediate exposed soil and terrain to make it suitable for
 41 planned development, agriculture, or reuse as natural habitat and to mitigate visual effects.
 42 Existing information, such as topographical maps, vegetative surveys or records, and historical

1 and existing photographs, that show preexisting, site-specific (or reference site) conditions prior
 2 to the conversion to agriculture will be evaluated and used as tools for restoring disturbed sites.
 3 Where appropriate in light of the planned long-term uses of reclaimed sites, the management
 4 plan will incorporate recreational or mixed uses. In general, however, the majority of the sites
 5 will be evaluated for restoration to native habitat due to the amount of terrain alteration and
 6 vegetation and habitat loss resulting from construction of the water conveyance facilities. At a
 7 minimum, the management plan will meet the following performance standards.

- 8 • All plantings will be native and indigenous to the area, and no invasive plant species will be
 9 used under any conditions.
- 10 • In areas to be used for agriculture, the management grading plan will mimic the preexisting
 11 landform pattern to the greatest degree possible, given geotechnical constraints.
- 12 • In areas of habitat restoration, the terrain will be designed and graded to be undulating,
 13 avoiding large, flat-sloped areas.
- 14 • In areas of proposed development, a combination of terrains may be implemented to
 15 encourage visual variety.
- 16 • All terrain will be designed and graded to be rounded, avoiding sharp angles and steep or
 17 abrupt grade breaks.
- 18 • Special attention will be paid to transitions between undisturbed and disturbed terrains to
 19 ensure that the transition appears as natural as possible and to blend the lines between the
 20 two for a natural, organic appearance.
- 21 • In addition, the site will be visually surveyed prior to any vegetation removal for the
 22 presence of rock outcroppings, downed trees, or similar features.
- 23 • Features such as live and downed trees salvaged during site preparation and excavation
 24 activities will be placed to mimic natural patterns during reclamation to provide visual
 25 congruity once revegetation plantings mature and to restore the habitat values they provide.

26 Implementation of this measure would be expected to result in successful management of
 27 borrow/spoils and RTM areas, thereby reducing the overall impact on the visual quality in the
 28 study area.

29 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

30 The BDCP proponents will restore barge unloading facility sites will to preconstruction
 31 conditions once the facilities are decommissioned and removed to minimize the impact on
 32 visual quality and character at these sites. Restoration of the decommissioned sites will meet the
 33 following performance standards.

- 34 • All disturbed terrain will be restored.
- 35 • Replacement plantings will be installed in areas where vegetation was removed.
 - 36 ○ All replacement plantings will be native and indigenous to the area.
 - 37 ○ No invasive plant species will be used under any conditions.

38 Implementation of this measure will result in restoration of the barge unloading facility sites.

1 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 2 **Extent Feasible**

3 The BDCP proponents will use aesthetic design treatments, where and to the extent feasible, to
 4 minimize the impact on existing visual quality and character in the study area associated with
 5 the introduction of water conveyance structures.

6 The BDCP proponents will evaluate similar, local well-designed water conveyance structures,
 7 including those with historic value and use these features as design precedent to develop
 8 designs for the intake facilities, pumping plants, control structures, fish screens, operable
 9 barriers, and bridges, so that the resultant design will complement the natural landscape, be
 10 aesthetically pleasing, and minimize the effects of visual intrusion of the BDCP facilities on the
 11 landscape, to the extent feasible.

12 Where no local design precedent exists, the BDCP proponents will research structure designs
 13 outside the local area. For example, the Freeport Regional Water Project intake facility design
 14 incorporates aesthetic design treatments that create a landmark feature in the landscape. The
 15 BDCP proponents will consider design details to ensure that all intake structures are
 16 complementary of one another so that these facilities do not create further visual discordance in
 17 the landscape.

18 The following minimum performance standards will apply.

- 19 • New structures will be painted with a shade that is two to three shades darker than the
 20 general surrounding area, unless aesthetic design treatments indicate another color
 21 selection with the intent to specifically improve aesthetics. Otherwise, colors shall be chosen
 22 from the BLM Standard Environmental Colors Chart CC-001: June 2008. Because color
 23 selection will vary by location, the BDCP proponents, working with the facility designers,
 24 will employ the use of color panels evaluated from key observation points during common
 25 lighting conditions (front versus backlighting) to aid in the appropriate color selection. The
 26 BDCP proponents will select colors for the coloring of the most prevalent season. Panels will
 27 be a minimum of 3 by 2 feet in dimension and will be evaluated from various distances, but
 28 within 1,000 feet, to ensure the best possible color selection. Refer to
 29 <http://www.blm.gov/bmp> for more information on this technique and other best
 30 management practices and techniques for visual screening.
- 31 ○ All paints used for the color panels and structures will be color matched directly from
 32 the physical color chart, rather than from any digital or color-reproduced versions of the
 33 color chart.
- 34 ○ Paints will be of a dull, flat, or satin finish only. Appropriate paint type will be selected
 35 for the finished structures to ensure long-term durability of the painted surfaces.
- 36 ○ The BDCP proponents will maintain the paint color over time.
- 37 • These methods will also be applied to transmission poles and chain link fencing.
- 38 ○ Transmission poles and towers, including substations, will be painted or powder coated
 39 with colors selected using the BLM selection techniques to make the structures recede
 40 into the visual landscape.

- 1 ○ Chain link fences will be plastic or vinyl coated with colors selected using the BLM
2 selection techniques to make chain link fences to appear more see-through than non-
3 treated, light grey fencing that acts as a visual barrier to a degree.
- 4 ○ Finishes will be selected for their ability to achieve the correct color selection,
5 durability, and environmental safety.
- 6 ● The BDCP proponents will implement aesthetic design features at concrete or shotcrete
7 structures that are highly visible to the public. These features may include mimicking
8 natural material (e.g., stone or rock surfacing) and integral color, in the same theme, to
9 reduce visibility and to better blend with the landscape.
- 10 ● The BDCP proponents will evaluate bridge crossing designs using lattice steel, consistent
11 with other bridges in the Delta. Such a structure would be less visually confining than
12 concrete structures, provide better visual access to points beyond, allow light to travel
13 through the structure, and may appear less like a visual barrier within the landscape.
- 14 ● The BDCP proponents will ensure that visible pipelines, guardrails, and signs will be of a
15 material or color that helps surfaces to blend better with the surroundings. These elements
16 will be constructed with low-sheen and non-reflective surface materials to reduce potential
17 for glare, and the use of glossy paints or surfaces would be avoided.

18 Implementation of this measure and application of the aesthetic design treatments for
19 alternative structure would help minimize the impact on visual quality from the development of
20 the water conveyance structures in the study area, using techniques that serve to make the
21 structures blend into the surrounding environment, to the extent possible. However, the overall
22 change in visual character would still be substantial because physical structures of this scale do
23 not presently exist.

24 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
25 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

26 The BDCP proponents will locate concrete batch plants and fuel stations away from sensitive
27 visual resources (i.e., state scenic highways) and receptors to minimize the impact on visual
28 quality. In addition, these sites will be restored after construction to minimize the long-term
29 impact on localized visual character. The relocation approach for the individual facilities is
30 described below. The BDCP proponents will incorporate these facility location changes into the
31 design plans prior to construction.

- 32 ● Relocate the concrete batch plants and fuel stations that are proposed to be adjacent to SR
33 160, north of Intake 2, so that these operations are set back from the state scenic highway.
34 These features will be located toward the east side of the intake, in closer proximity to the
35 shaft site.
- 36 ● In addition, the structures and storage piles associated with the concrete batch plants and
37 fuel stations on Tyler and Bacon Islands will be set as far west from the North Mokelumne
38 and Middle Rivers, as possible. The same principles will be applied to the concrete batch
39 plants and fuel stations along the canal alignment just south of Snodgrass Slough and on
40 Webb Tract north of False River.
- 41 ● Structures and storage piles associated with the concrete batch plants and fuel stations east
42 of Byron Highway will be set back off of the highway as much as possible and toward the

1 northern edge of the proposed sites. The same principles will be applied to the concrete
2 batch plant and fuel station along Willow Point Road.

- 3 • Relocate the concrete batch plant and fuel station proposed between Intakes 3 and to an
4 arrangement opposite each other along the agricultural access road, instead of adjacent to
5 one another. They will be placed in closer proximity to the existing development at this
6 location so that they appear to be more of a continuation of existing development.
- 7 • There are no suggested changes for the concrete batch plants and fuel stations to be located
8 1 mile south of the SR 84/SR 220 junction or along the canal alignment approximately 1
9 mile north of the Byron Highway.

10 All concrete batch plant and fuel station sites will be restored to preconstruction conditions
11 once the facilities are decommissioned and removed.

- 12 • All disturbed terrain will be restored.
- 13 • Replacement plantings will be installed in areas where vegetation was removed.
 - 14 ○ All replacement plantings will be native and indigenous to the area or will match
15 surrounding agricultural plantings.
 - 16 ○ No invasive plant species will be used under any conditions.

17 Implementation of this measure will minimize the impact on visual quality from the
18 construction and use of the concrete batch plant and fuel station facilities. In addition, this
19 measure will help restore the concrete batch plant and fuel station locations to a
20 preconstruction condition.

21 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project** 22 **Landscaping Plan**

23 The BDCP proponents will apply additional landscape treatments and use best management
24 practices as part of implementing the project landscaping plan (as set forth by DWR's WREM No.
25 30a requirements) to restore and maintain local character, improve aesthetics, and reduce the
26 visual scale of the proposed water conveyance elements in the study area.

27 In addition to the guidance set forth in DWR's WREM No. 30a, *Architectural Motif, State Water*
28 *Project*, the BDCP proponents will utilize landscaping treatments to visually enhance key
29 gateways, major thoroughfares, and scenic roadway corridors by using the following: street
30 trees, welcome signs, decorative lighting, and other streetscape design techniques. In addition,
31 native trees, shrubs, and grasslands will be planted to preserve the visual integrity of the
32 landscape, provide habitat conditions suitable for native vegetation and wildlife, and ensure that
33 a maximum number and variety of well-adapted plants are maintained.

34 The following practices will be adhered to in implementing the project landscaping plan.

- 35 • Design and implement low impact development (LID) measures that disperse and reduce
36 runoff by using such features as vegetated buffer strips between paved areas that catch and
37 infiltrate runoff, bioswales, cisterns, and detention basins. In addition, the BDCP proponents
38 will evaluate the potential use of pervious paving to improve infiltration and to reduce the
39 amount of surface runoff from entering waterways and the stormwater system. However,
40 LID measures will not be used where infiltration could result in adverse environmental
41 effects.

- 1 • Vegetative accents and screening will be used to aid in a perceived reduction in the scale
2 and mass of the built features, while accentuating the design treatments that will be applied
3 to built features. Plant selection will be based on its ability to screen built features and
4 provide aesthetic accents.
- 5 • Realignments of SR 160 and South River Road will be landscaped in a manner that visually
6 ties the new alignment in to the old alignment by implementing roadside landscaping that
7 helps achieve a continuation of the existing roadside vegetation while screening built
8 features.
- 9 • Landscape berms, combined with tree and shrub plantings will be used to help screen built
10 features from existing viewpoints by allowing for additional height. The landscape berms
11 will be constructed in a manner that has a more natural form, as opposed to one that is
12 highly regular and levee-like. The berms will be seeded with a native meadow erosion
13 control seed mix and be planted to comply with directions set forth below.
- 14 ○ One hundred percent of the species composition of open space areas will reflect species
15 that are native and indigenous to the study area. The species list will include trees,
16 shrubs, and an herbaceous understory of varying heights, as well as both evergreen and
17 deciduous types. Plant variety will increase the effectiveness of revegetated areas by
18 providing multiple layers, seasonality, diverse habitat, and reduced susceptibility to
19 disease.
- 20 • The use of native grass and wildflower seed in erosion control measures will be required
21 where such a measure would improve aesthetics.
- 22 ○ Wildflowers will provide seasonal interest to areas where trees and shrubs are removed
23 or grading has occurred.
- 24 ○ Species will be chosen that are native and indigenous to the area and for their
25 appropriateness to the surrounding habitat. For example, upland grass and wildflower
26 species will be chosen for drier, upland areas and wetter grass species will be chosen for
27 wetland areas.
- 28 ○ If not appropriate to the surrounding habitat, wildflowers will not be included in the
29 seed mix.
- 30 ○ Under no circumstances will invasive plant species be used in any erosion control
31 measures.
- 32 • Under no circumstances will any invasive plant species be used at any location.
- 33 • Vegetation will be planted within 2 years following project completion.
- 34 • Design of the landscaping plan will maximize the use of planting zones that do not need
35 irrigation, such as seeding with a native grassland and wildflower meadow mix, which
36 reduces or eliminates the need for a permanent irrigation system.
- 37 • If an irrigation system is required, an irrigation and maintenance program will be
38 implemented during the plant establishment period and carried on, as needed, to ensure
39 plant survival. Areas that are irrigated will use a smart watering system that evaluates the
40 existing site conditions and plant material against weather conditions to avoid overwatering
41 of such areas. To avoid undue water flows, the irrigation system will be managed in such a

1 manner that any broken spray heads, pipes, or other components are fixed within 1–2 days,
2 or the zone or system will be shut down until it can be repaired.

- 3 • All measures prescribed above to screen facilities will not act to degrade or eliminate scenic
4 vistas or be designed in a manner that negatively affects views from scenic roadways.
- 5 • These measures will not be implemented where implementation would constitute an
6 adverse effect on sensitive habitats or sensitive species.

7 Implementation of this measure will reduce the effects on local visual quality from introduction
8 of the water conveyance facilities.

9 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

10 **NEPA Effects:** Scenic vistas are mapped and included in Appendix Figure 17D-1. Once built,
11 permanent access roads and shaft sites would not adversely affect views available from scenic
12 vistas. Permanent access roads generally follow ROWs that have already previously been cleared to
13 serve as agricultural access routes and would be improved for BDCP-related activities. Because the
14 permanent access routes follow preexisting routes, they would not result in perceived visual
15 changes from scenic vistas.

16 Following completion of construction, shaft sites would only have low-profile access hatches to the
17 tunnels that would be close to the ground surface and could be seen from vistas along Lambert Road
18 (KOP 86), Twin Cities Road, Isleton Road (KOP 95), SR 12 (KOP 98), and SR 4. Mitigation Measure
19 AES-1e is available to address this effect.

20 The primary features that would affect scenic vistas subsequent to completion of construction of
21 Alternative 1A are Intakes 1–5, the intermediate forebay and Byron Tract Forebay, landscape effects
22 remaining from spoil/borrow and RTM areas, and permanent transmission lines. These features
23 would introduce visually dominant and discordant features in the foreground and middleground
24 views in vistas that would be very noticeable to all viewer groups. Scenic vistas that would be
25 affected are primarily views from roadways on levees and bridges that offer elevated vantages and
26 views that extend from the foreground to the background of the surrounding landscape in areas
27 with low to high landscape sensitivity levels. In addition, scenic vistas are available from ground-
28 level views where vegetation, infrastructure, and atmospheric haze do not limit and preclude such
29 views. Alternative 1A would result in a very noticeable effect on viewer experiences from scenic
30 vista opportunities areas that encompass a total of about 8.5 miles of scenic vistas along public
31 roads (SR 160 and CH E9). All facilities would require removal of visually important features such as
32 mature trees and shrubs and agricultural land, which are scenic elements that contribute to the
33 viewing experience from scenic vistas.

34 Intakes 1–5 would introduce large, multi-story industrial concrete and steel structures, pumping
35 plants, landscaping, fencing, and other similar anthropogenic features along an 8.5-mile area and
36 into rural vistas with riparian, riverine, and agricultural characteristics. KOPs falling within scenic
37 vistas that be affected by Intakes 1–5 include KOPs 15, 18, 20, 34, 41, 42, and 45. Each intake facility
38 would consist of the intake structure along the river and the intake pumping plant. The intake
39 structures on the river would range from 700–2,300 feet long (total structure length–intake and
40 transitions) by 40–60 feet wide and rise 55 feet from the river bottom to top of the structure. The
41 20-acre intake pumping plant facility would be built on a ground plane that is elevated 24–27 feet
42 above the surrounding landscape to avoid flooding. The facility would contain a structure that is 262
43 feet long by 98 feet wide by 58–73 feet tall, and there would be 70 to 85-foot-tall concrete surge

1 towers at Intakes 1–3. The design of the intakes and associated facilities could play a large part in
 2 helping to improve the quality of affected and degraded vista viewsheds. Landscaping that would be
 3 incorporated into the facility would help to slightly improve views. As seen in Figure 17-76a,
 4 *Existing and Simulated Views of Intake 3 East from SR 160 in January 2012*, the removal of a
 5 substantial amount of riparian vegetation along the east bank opens up the vista but also increases
 6 the visual prominence of the pumping plant in the landscape. The introduction of tall, steel 230 kV
 7 transmission lines visually contrasts to existing views where there are no transmission lines and in
 8 an area where transmission lines primarily consist of wooden utility poles. The pumping plant
 9 introduces a large building, similar in appearance to a warehouse facility, that is a focal point and
 10 visually discordant in scale and mass to the surrounding rural character within the vista. It also adds
 11 monotone solid color mass into a landscape where the natural colors of the landscape are earth-
 12 tones and more muted. Overall, the existing vista from KOP 34 on SR 160 toward Intake 3 would be
 13 substantially impaired by vegetation removal and introduction of the pumping plant and the Scenic
 14 Quality Rating would be reduced from a **D** to an **E**. A reduction in the Scenic Quality Rating
 15 associated with Intake 3 is representative of the effects that could occur to other vistas through the
 16 removal of vegetation, obscuring and limiting views beyond the foreground, and introducing large
 17 industrial features into a rural landscape and would be adverse (see discussions under 17.3.1.2 and
 18 17.3.1.3). However, as shown in Figure 17-76b, *Existing and Simulated Views of Intake 3 East from SR*
 19 *160 in July 2013*, fast-growing poplar or cottonwood trees that were newly planted in January 2012
 20 have since grown and would act to obscure portions of the pumping plant. However, the pumping
 21 plant would still be visually discordant in scale and mass to the surrounding rural character within
 22 the vista and the Scenic Quality Rating would be reduced from a **D** to an **E**. Note that, over time, the
 23 trees will continue to grow and views of Intake 3 from KOP 34 could be further limited.

24 Figure 17-77, *Existing and Simulated Views of Intake 2 West from SR 160*, shows an intake associated
 25 with the west alignment (Alternatives 1C, 2C, and 6C). However, this view is representative of how
 26 an intake under this alternative would look from CH E9 and could affect vista views from that
 27 roadway. The conversion of the riverbank that is grassy with riparian vegetation to the industrial
 28 looking on-bank intake is a stark visual and color contrast against the more natural colors and
 29 textures of a vegetated riverbank that is absent of structures. The pumping plant introduces a large
 30 warehouse type of building that is a focal point and visually discordant in scale and mass to the
 31 surrounding rural character within the vista. It also adds monotone solid color mass into a
 32 landscape where the natural colors of the landscape are earth-tones and more muted. The pumping
 33 plant and on-bank intake would limit and detract from the visual quality of views beyond the
 34 foreground. The introduction of tall, steel 230 kV transmission lines visually contrasts to existing
 35 views of wooden utility poles. In addition, at a closer distance, views of available sky would be
 36 interrupted by the transmission lines and pumping plant. Overall, the existing vista from KOP 15 on
 37 SR 160 toward Intake 2 West, which would be representative of views looking toward the east bank
 38 of the river from CH E9, would be substantially impaired by vegetation removal and introduction of
 39 the pumping plant and the Scenic Quality Rating would be reduced from a **C** to an **E**. A reduction in
 40 the Scenic Quality Rating associated with Intake 2 West is representative of the effects that could
 41 occur to other vistas through the removal of vegetation, obscuring and limiting views beyond the
 42 foreground, and introducing large industrial features into a rural landscape, and this effect would be
 43 adverse (see discussions under 17.3.1.2 and 17.3.1.3).

44 Scenic vistas that would be affected by the intermediate forebay include those available from
 45 Lambert Road (KOP 86) and SR 160 (KOPs 41, 45, and 54). The intermediate forebay would be
 46 visible in the foreground from both of these scenic vistas, would encompass a 760-acre water

1 surface area, and include a 92-acre pumping plant facility that would house a 76-foot tall structure.
 2 This forebay would convert agricultural lands to a large, geometrically shaped water body that
 3 would conflict with the existing forms, patterns, colors, and textures associated with agricultural
 4 lands. The water surface of the intermediate forebay may be partially visible in vistas from vantages
 5 that are elevated on levees, such as from where Lambert Road crosses over Snodgrass Slough.
 6 However, the majority of views would be from the ground-level and would be of the berms that
 7 would prevent views of the water surface within the vista. As seen in Figure 17-79, *Existing and*
 8 *Simulated Views of Intermediate Forebay from SR 160*, the scenic vista across agricultural fields from
 9 SR 160 is fairly open but contains existing transmission lines. The forebay embankments would be
 10 tall enough to limit views of the existing patchwork of agricultural field it would occupy and the tree
 11 line on the horizon. The intermediate forebay embankments would add a man-made visual massing
 12 and the embankments would have a visible geometric shape. However, because embankments are
 13 approximately 0.5 mile away from both SR 160 and Lambert Road, the distance would reduce the
 14 apparent scale of the embankments, allowing them to blend somewhat with the grass field in the
 15 foreground. Overall, the existing vista from KOP 45 on SR 160 toward the intermediate forebay
 16 would alter and reduce the available views of agricultural lands and background views in the vista
 17 but would not substantially reduce the Scenic Quality Rating which would remain an **E**. The effect of
 18 the forebay on the scenic quality would therefore not be adverse. The Byron Tract Forebay would
 19 have a similar or more prominent effect on scenic vistas available from Lindemann Road depending
 20 on location. Views from Lindemann Road that are closer to Herdlyn Road would be adversely
 21 affected because they would be in closer proximity to and would have more direct views of the
 22 forebay (KOP 107). The embankments would be prominent features that would replace agricultural
 23 fields and the water surface could be visible. Views from Lindemann Road that are closer to Rivers
 24 End Marina & Storage would be partially or fully obstructed by intervening roadside vegetation and
 25 infrastructure. The Byron Tract Forebay would encompass 600 acres. However, while it would
 26 convert a large area of agricultural land, the forebay in this location would not an adverse effect on
 27 the landscape intermediate forebay due to the predominance of the existing adjacent Clifton Court
 28 Forebay and other water conveyance features.

29 The spoils/borrow area south of the intermediate forebay would result in a large-scale landscape
 30 effect that would be within the scenic vistas available from Lambert Road, further compounding the
 31 effect on scenic vistas from this location (KOP 86). The spoil/borrow and RTM area between Intakes
 32 1 and 2 would result in a contiguous, large-scale landscape effect that would be included within the
 33 two scenic vistas available from SR 160 between these two intakes (KOP 15). The RTM area near
 34 Isleton Road would not be visible from SR 160 because the work area would be across the river at a
 35 lower ground elevation than the raised roadway, and the RTM area would not be visible because of
 36 intervening vegetation along SR 160 and Isleton Road (KOP 95). It would be visible from Isleton
 37 Road, though. The RTM areas on Tyler, Bacon, and Victoria Islands may be visible from vista vantage
 38 points; however, there is generally a lack of nearby sensitive viewers, and most views of these areas
 39 are in passing from rural roadways and SR 4. Alterations at these locations would result in sunken
 40 or elevated landforms that would be introduced into a landscape that is currently predominantly
 41 flat. These features would be visually discordant with the area's existing forms, patterns, colors, and
 42 textures associated with views from scenic vistas of agricultural lands in the study area.

43 Most of the transmission lines would follow access roads constructed for the BDCP conveyance
 44 facilities or other existing access roads and roadways that are outside the immediate area (KOPs 15,
 45 16, 18, 19, 20, 34, 41, 42, 54, 86, 89, 95, 98, and 255). Once the proposed 230 kV electrical power
 46 transmission lines are constructed, tall steel lattice structures that would be highly visible landscape

1 features would contrast strongly with their surroundings. The 69 kV electrical power transmission
 2 lines would also be larger than wood-poled transmission lines commonly seen in the Delta. While
 3 wood-poled transmission lines are part of most existing views, new 69 and 230 kV transmission
 4 lines and their cleared ROWs would adversely affect the existing visual character by introducing
 5 large towering structures in a linear pattern that appear to march through the landscape.

6 The effects of permanent access roads on scenic vistas would not be adverse. The effects of shaft site
 7 access hatches on scenic vistas could be adverse. The large scale of intakes, the visual presence of
 8 large-scale borrow/spoil and RTM area landscape effects, and the presence of new transmission
 9 lines may result in adverse effects on scenic vistas. Overall, effects on scenic vistas associated with
 10 Alternative 1A would be adverse. Mitigation Measures AES-1a, AES-1c, and AES-1e are available to
 11 address these effects.

12 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 13 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
 14 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
 15 and transmission lines would result in significant impacts on scenic vistas because construction and
 16 operation would result in a reduction in the Scenic Quality Rating in some locations and introduce
 17 dominant visual elements that would result in noticeable changes in the visual character of scenic
 18 vista viewsheds in the study area. These changes would not blend, would not be in keeping or would
 19 be incompatible with the existing visual environment, and could be viewed by sensitive receptors or
 20 from public viewing areas.

21 Mitigation Measure AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 22 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 23 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 24 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 25 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 26 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 27 hatches to less than significant. However, the impacts on scenic vistas associated with other
 28 structures would not be reduced to a less-than-significant level because even though mitigation
 29 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 30 level of the impact to less than significant in all instances. In addition, the size of the study area and
 31 the nature of changes introduced by the alternative would result in permanent changes to the
 32 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 33 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 34 with Alternative 1A would be significant and unavoidable.

35 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 36 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 37 **Transmission Lines and Underground Transmission Lines Where Feasible**

38 Please refer to Mitigation Measure AES-1a under Impact AES-1.

39 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 40 **Material Area Management Plan**

41 Please refer to Mitigation Measure AES-1c under Impact AES-1.

1 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 2 **Extent Feasible**

3 Please refer to Mitigation Measure AES-1e under Impact AES-1.

4 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 5 **Construction of Conveyance Facilities**

6 **NEPA Effects:** Conveyance facilities under Alternative 1A would result in an overall noticeable effect
 7 on viewers relative to their current experience and enjoyment of the study area's scenic resources
 8 along SR 160 and River Road, where the landscape sensitivity level is high (KOPs 1, 4, 15, 18, 20, 34,
 9 41, 45, 54, and 55). All five intakes, the spoils/borrow and RTM area north of Intake 2, and the
 10 intermediate forebay would be immediately and prominently visible in the foreground from SR 160,
 11 including construction activities described in Impact AES-1. These conveyance facility components
 12 would introduce visually dominant and discordant features into views available from scenic
 13 highways, and these elements would be very noticeable to all viewer groups.

14 As seen in Figure 17-76a, *Existing and Simulated Views of Intake 3 East from SR 160 in January 2012*,
 15 the removal of a substantial amount of riparian vegetation along the east bank acts to increase the
 16 visual prominence of the pumping plant in the landscape. Figure 17-76b, *Existing and Simulated*
 17 *Views of Intake 3 East from SR 160 in July 2013*, shows how fast-growing poplar or cottonwood trees
 18 that were newly planted in January 2012 have since grown and would act to obscure portions of the
 19 pumping plant. The introduction of tall, steel 230 kV transmission lines visually contrasts to existing
 20 views where there are no transmission lines and in an area where transmission lines primarily
 21 consist of wooden utility poles and would result in adverse visual effects. Overall, existing views
 22 from KOP 34 on SR 160 toward Intake 3 would also be substantially impaired by vegetation removal
 23 and introduction of the pumping plant and the Scenic Quality Rating would be reduced from a **D**
 24 to an **E**. In Figure 17-77, *Existing and Simulated Views of Intake 2 West from SR 160*, the pumping plant
 25 has the same visual effect as shown in Figures 17-76a and 17-76b because it introduces a large-scale
 26 building, similar in appearance to a warehouse facility, that is a focal point and visually discordant in
 27 scale and mass to the surrounding rural character. It also adds monotone solid color mass into a
 28 landscape where the natural colors of the landscape are earth-tones and more muted. The Scenic
 29 Quality Rating for KOP 15 would be reduced from a **C** to an **E** for Intake 2 West. A reduction in the
 30 Scenic Quality Ratings associated with Intakes 3 and 2 West are representative of the effects that
 31 would occur as a result of all intakes on SR 160 at each location through the removal of vegetation,
 32 obscuring and limiting views beyond the foreground, and introducing large industrial features into a
 33 rural landscape and this effect would be adverse (see discussions under 17.3.1.2 and 17.3.1.3). Each
 34 intake would result in an adverse visual effect on views from SR 160 and adverse effects on SR 160
 35 would be substantially compounded by the presence of each additional intake to dramatically alter
 36 views associated with SR 160.

37 Similarly, as seen in Figure 17-78, *Existing and Simulated Views of Intake 4 East from SR 160*, a
 38 substantial amount of riparian vegetation along the east bank would be removed and landscaping
 39 associated with the residences along SR 160 would no longer be present. The removal of vegetation
 40 along the river serves to remove screening of the pumping plant and intake that could have been
 41 provided by that vegetation. The realigned roadway slightly increases the prominence of the
 42 roadway surface, but removal of roadside vegetation is what increases the visual prominence of the
 43 roadway. The pumping plant introduces a large-scale building, similar in appearance to a warehouse
 44 facility, that is a focal point and visually discordant in scale and mass to the surrounding smaller

1 scale rural structures. It also adds monotone solid color mass into a landscape where the colors of
 2 buildings do not detract from the viewshed because vegetation screens the buildings, softening their
 3 appearance and contributing to a unified view. However, the large scale of the pumping plant,
 4 combined with vegetation removal, precludes unified views with the surrounding landscape. The
 5 on-bank intake is not highly visible from this vantage, due to distance, the bend in the river, and
 6 vegetation on the riverbank that helps to provide some screening. Overall, existing views from KOP
 7 45 on SR 160 toward Intake 4 would be substantially impaired by vegetation removal, roadway
 8 realignment, and introduction of the pumping plant and the Scenic Quality Rating would be reduced
 9 from a **C** to an **E**. This effect would be adverse (see discussion under 17.3.1.2 and 17.3.1.3).

10 The intermediate forebay would be visible in foreground views across agricultural fields from SR
 11 160 where the view is fairly open but contains existing transmission lines. As described under
 12 Impact AES-3 and shown in Figure 17-79, *Existing and Simulated Views of Intermediate Forebay from*
 13 *SR 160*, the forebay embankments would be tall enough to limit views of the existing patchwork of
 14 agricultural field it would occupy and the tree line on the horizon. The intermediate forebay
 15 embankments would add a man-made visual massing and the embankments would have a visible
 16 geometric shape. However, because embankments are approximately 0.5 mile away from SR 160,
 17 the distance would reduce the apparent scale of the embankments, allowing them to blend
 18 somewhat with the grass field in the foreground. Overall, the existing view from KOP 45 on SR 160
 19 toward the intermediate forebay would alter and reduce the available views of agricultural lands
 20 and background views but would not substantially reduce the Scenic Quality Rating, which would
 21 remain an **E**. The effect of the forebay on the scenic quality from a state scenic highway would
 22 therefore not be adverse (see discussions under 17.3.1.2 and 17.3.1.3).

23 Spoil and borrow areas and RTM area between Intakes 1 and 2 would result in a large-scale
 24 landscape effect that would also alter the agrarian visual character and result in adverse visual
 25 effects when seen from SR 160. The RTM area near Isleton Road would not be visible from SR 160
 26 because the work area would be across the river at a lower ground elevation than the raised
 27 roadway, and the RTM area would not be visible because of intervening vegetation along SR 160 and
 28 Isleton Road.

29 Implementation of this alternative would require removal of visually important features such as
 30 mature trees and shrubs and agricultural land, which are scenic elements that contribute to the
 31 viewing experience available to travelers along scenic highways in the study area. These features
 32 would be replaced by multi-story industrial concrete and steel structures, multiple-acre mounds of
 33 dirt, earthen embankments, and paved areas associated with the five intake facilities, pumping plant
 34 pads elevated 30 feet above the surrounding landscaping, fencing and security lights, and new
 35 access roads. These visual elements would conflict with the existing forms, patterns, colors, and
 36 textures along River Road and SR 160; would dominate riverfront views available from SR 160; and
 37 would alter broad views and the general nature of the visual experience presently available from
 38 River Road and SR 160 and would result in adverse effects. Mitigation Measures AES-1a, AES-1c, and
 39 AES-1e are available to address these adverse effects.

40 **CEQA Conclusion:** Because visual elements associated with this alternative would conflict with the
 41 existing forms, patterns, colors, and textures along River Road and SR 160; would dominate
 42 riverfront views available from SR 160; and would alter broad views and the general nature of the
 43 visual experience presently available from River Road and SR 160 (thereby permanently damaging
 44 the scenic resources along a scenic highway), these impacts are considered significant. Mitigation
 45 Measures AES-1a, AES-1c, and AES-1e would help reduce these impacts through the application of

1 aesthetic design treatments to all structures, to the extent feasible. However, impacts on visual
 2 resources resulting from damage to scenic resources that may be viewed from a state scenic
 3 highway would not be reduced to a less-than-significant level because even though mitigation
 4 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 5 level of the impact to less than significant in all instances. In addition, the size of the study area and
 6 the nature of changes introduced by the alternative would result in permanent changes to the
 7 regional landscape such that there would be noticeable to very noticeable changes to the visual
 8 character of a scenic highway viewshed that do not blend or are not in keeping with the existing
 9 visual environment. Thus, overall, this impact would be significant and unavoidable.

10 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 11 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 12 **Transmission Lines and Underground Transmission Lines Where Feasible**

13 Please refer to Mitigation Measure AES-1a under Impact AES-1.

14 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 15 **Material Area Management Plan**

16 Please refer to Mitigation Measure AES-1c under Impact AES-1.

17 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 18 **Extent Feasible**

19 Please refer to Mitigation Measure AES-1e under Impact AES-1.

20 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 21 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

22 **NEPA Effects:** The following NEPA effects would result from the introduction of new sources of
 23 daytime and nighttime glare and nighttime lighting.

24 ***Daytime and Nighttime Glare***

25 BDCP conveyance facilities would result in new sources of glare if they were made of materials that
 26 easily reflect light. Intakes 1–5 and their associated pumping plants, surge towers, and facilities and
 27 the pumping plant at the intermediate forebay would create very noticeable effects relating to light
 28 and glare. This is illustrated in the simulations showing intake facilities in Figures 17-76 through 17-
 29 78, where light building colors over a large surface area would reflect off of those surfaces and
 30 increase glare, especially when combined with the removal of vegetation that absorbs light, provides
 31 shade, and screens glare. Sunlight would reflect off the new water surfaces of the forebay, creating
 32 new sources of glare where none presently exists. In addition, the use of nighttime lighting,
 33 described below, would result in nighttime glare of the lights reflecting off water surfaces. Because
 34 there are a large number of viewers in and around the waterways, intake structures, and forebay,
 35 effects associated with glare are considered adverse. Conversely, as vegetation and waterfowl
 36 become established following completion of the new forebays, some of these net visual impacts may
 37 be diminished.

1 **Nighttime Lighting**

2 Construction of each intake structure would take up to 4 years to complete and would occur Monday
 3 through Friday for up to 24 hours per day. As discussed in AES-1, dewatering near intakes, pumping
 4 plants, and certain pipeline construction areas and north of the intermediate forebay would take
 5 place 7 days per week and 24 hours per day. Evening and nighttime construction activities would
 6 require the use of extremely bright lights, and this would negatively affect nighttime views of and
 7 from the work area. Nighttime construction could also result in headlights flashing into nearby
 8 residents' homes when construction vehicles are turning onto or off of construction access routes.
 9 Proposed surge towers would require the use of safety lights that would alert low-flying aircraft to
 10 the presence of these structures because of their height.

11 Establishment of BDCP facilities in the Delta would require the use of safety lighting once built.
 12 Lighting equipment associated with BDCP facilities would increase the amount of nighttime lighting
 13 in the Delta above existing ambient light levels. In particular, security lighting for Intakes 1–5 and
 14 their associated pumping plants and facilities would create very noticeable effects relating to
 15 increased nighttime light at those locations. As described in Chapter 3, *Description of Alternatives*,
 16 lighting would be designed in accordance with guidance given by DWR's WREM No. 30a,
 17 *Architectural Motif, State Water Project* and through coordination with local agencies through an
 18 architectural review process. This guidance is set forth as follows.

19 All artificial outdoor lighting is to be limited to safety and security requirements. All lighting is to
 20 provide minimum impact on the surrounding environment and is to be shielded to direct the light
 21 only towards objects requiring illumination. Lights shall be downcast, cut-off type fixtures with non-
 22 glare finishes set at a height that casts low-angle illumination to minimize incidental spillover of light
 23 onto adjacent properties, open spaces or backscatter into the nighttime sky. Lights shall provide good
 24 color rendering with natural light qualities with the minimum intensity feasible for security, safety
 25 and personnel access. All outdoor lighting will be high pressure sodium vapor with individual
 26 photocells. Lighting will be designed per the guidelines of the Illuminating Engineering Society (IES).
 27 Additionally, all lights shall be consistent with energy conservation and are to be aesthetically
 28 pleasing. Lights will have a timed on/off program or will have daylight sensors. Lights will be
 29 programmed to be on whether personnel is present or not.

30 Although the lighting would be designed to be shielded and oriented in such a manner as not to
 31 subject the immediate surroundings to extremes in the levels of light, these types of light generate
 32 an ambient nighttime luminescence that is visible for substantial distances from a large portion of the
 33 Delta. This glow contrasts with the rural character. Such a change would be particularly noticeable
 34 in rural areas where ambient light levels are currently low and there are nearby viewers. Because
 35 the study area currently experiences low levels of light because there are fewer light/glare
 36 producers than are typical in urban areas, and because there are a larger number of viewers in and
 37 around the waterways, intake structures, and intermediate forebay, effects associated with
 38 nighttime light are considered adverse. Mitigation Measures AES-4a through AES-4c are available to
 39 address these effects.

40 **CEQA Conclusion:** The impacts associated with light and glare under Alternative 1A are significant
 41 because there are a larger number of viewers in and around the waterways, intake structures, and
 42 intermediate forebay; BDCP facilities would increase the amount of nighttime lighting in the Delta
 43 above existing ambient light levels; and the study area currently experiences low levels of light
 44 because there are fewer light/glare producers than are typical in urban areas. Mitigation Measures
 45 AES-4a through AES-4c would help reduce these impacts by limiting construction to daylight hours
 46 within 0.25 mile of residents, minimizing fugitive light from portable sources used for construction,

1 and installing visual barriers along access routes, where necessary, to prevent light spill from truck
 2 headlights toward residences; however, these mitigation measures would not reduce impacts to a
 3 less-than-significant level because even though mitigation measures would reduce some aspects of
 4 the impact, it is not certain the mitigation would reduce the level of the impact to less than
 5 significant in all instances. In addition, the size of the study area and the nature of changes
 6 introduced by the new light and glare sources would result in permanent changes to the regional
 7 landscape such that there would be noticeable changes to the visual character that do not blend or
 8 are not in keeping with the existing visual environment. Thus, the new sources of daytime and
 9 nighttime light and glare associated with Alternative 1A would result in significant and unavoidable
 10 impacts on public views in the project vicinity.

11 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 12 **Residents**

13 The BDCP proponents will minimize the effect of nighttime construction light and glare on
 14 nearby residences by limiting construction hours within 0.25 mile of residents.

- 15 • Construction activities scheduled to occur between 7 a.m. or 7 p.m. will not take place before
 16 or past daylight hours (which varies according to season) within 0.25 mile of sensitive
 17 residential receptors.

18 Implementation of this mitigation measure will eliminate use of high-wattage lighting sources to
 19 operate in the dark and would minimize introduction of new nighttime light and glare sources in
 20 these areas to the extent feasible.

21 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 22 **Construction**

23 The BDCP proponents will minimize fugitive light from portable lighting sources used during
 24 construction by adhering to the following practices.

- 25 • At a minimum, project-related light and glare will be minimized to the maximum extent
 26 feasible, given safety considerations.
- 27 • Color-corrected halide lights will be used.
- 28 • Portable lights will be operated at the lowest allowable wattage and height and will be
 29 raised to a height no greater than 20 feet.
- 30 • All lights will be screened and directed down toward work activities and away from the
 31 night sky and nearby residents to the maximum extent safely possible.
- 32 • The number of nighttime lights used will be minimized to the greatest extent possible.

33 Implementation of this measure will reduce—to the extent feasible as governed by site-specific
 34 safety requirements—the overall amount of new daytime and nighttime light and glare
 35 introduced to the project vicinity during construction.

1 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 2 **to Prevent Light Spill from Truck Headlights toward Residences**

3 BDCP proponents will evaluate construction routes and identify portions of access routes where
 4 the use of visual barriers would minimize the introduction of new light and glare from
 5 construction truck headlights and the impact on nearby residents.

6 The BDCP proponents will install a visual barrier along portions of access routes where
 7 screening would prevent excessive light spill toward residents from truck headlights being used
 8 during nighttime construction activities. These visual barriers will meet the following
 9 performance criteria.

- 10 • The visual barrier will be a minimum of 5 feet high and will provide a continuous surface
 11 impenetrable by light. This height may be obtained by installing a temporary structure, such
 12 as fencing (e.g., chain link with privacy slats) or a semi-permanent structure, such as a
 13 concrete barrier (e.g., a roadway median barrier or architectural concrete wall system)
 14 retrofitted with an approved visual screen, if necessary, to meet the required height.
- 15 • The visual barriers will be of a material or have a color treatment appropriate for the
 16 location and traffic safety requirements. The use of glossy materials will be avoided.

17 Implementation of this measure will minimize the extent of construction truck headlight glare
 18 intruding into nearby residential areas.

19 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

20 **NEPA Effects:** Once in operation, visible maintenance activities on the intakes, tunnels, and forebays,
 21 and transmission lines would be required periodically. Intakes would require painting, cleaning, and
 22 repairs. These activities could be visible from the water or land. Forebays would be dredged to
 23 remove sediment at approximately 50-year intervals and embankments would receive vegetation
 24 removal and repairs. These activities would be visible from the area surrounding the forebays.
 25 Tunnels would require periodic inspection and would have vehicles parked near shaft sites while
 26 tunnels are accessed for inspection. Transmission lines would require periodic vegetation removal
 27 within the ROWs. The greatest visual effects resulting from operations would be maintenance of the
 28 intakes and dredging of the forebays. However, these temporary maintenance activities are
 29 anticipated to occur within a short period of time, and effects would not be adverse.

30 **CEQA Conclusion:** Maintenance of the conveyance facilities (i.e., intakes, tunnels, forebays and
 31 transmission lines) would be required periodically and would involve painting, cleaning, and repair
 32 of structures; dredging at forebays (at approximately 50-year intervals); vegetation removal and
 33 care along embankments; tunnel inspection; and vegetation removal within transmission line ROWs.
 34 These visible maintenance activities would be temporary, intermittent, and short-term impacts and
 35 would be considered less than significant. Maintenance and operation of Alternative 1A, once
 36 constructed, would not result in further substantial changes to the existing natural viewshed or
 37 terrain, alter existing visual quality of the region or eliminate visual resources, or obstruct or
 38 permanently reduce visually important features. Thus, overall, Alternative 1A would have a less-
 39 than-significant impact on existing visual quality and character during maintenance and operation
 40 of the facilities in the study area. No mitigation is required.

1 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during**
 2 **Implementation of CM2–CM22**

3 Under Alternative 1A, CM3 (natural communities protection and restoration) would be the
 4 mechanism to preserve lands to aid in implementing measures CM4–CM11. CM12 (methylmercury
 5 management), CM13 (invasive aquatic vegetation control), and CM22 (avoidance and minimization
 6 measures) would be integrated into site-specific restoration designs and operations under CM3–
 7 CM11 (discussed below) and would appear to be an integrated part of those measures and not
 8 independent visual features. CM14 (operation of the Stockton Deep Water Ship Channel Aeration
 9 Facility), CM17 (illegal harvest reduction), CM19 (urban stormwater treatment), CM20 (recreational
 10 users invasive species program) are management measures that would not result in changes to the
 11 visual environment. Thus, CM14, CM17, CM19, and CM20 are not discussed further.

12 ***Existing Visual Quality and Character***

13 Under Alternative 1A, CM2 could introduce many features that would be visible in the landscape;
 14 these are described in Chapter 3, *Description of Alternatives*. These features include fish
 15 management facilities (e.g., screens, ladders, ramps, barriers); realignment of waterways; additional
 16 hydrologic monitoring stations; a floodplain fish rearing pilot project at Knaggs Ranch; support
 17 facilities (operations buildings, parking lots, access facilities such as roads and bridges) necessary to
 18 provide safe access for maintenance and monitoring; modification, removal, and construction of
 19 berms, levees, and water control structures. These actions have the potential to have adverse visual
 20 effects because of their proximity to sensitive receptors, duration of construction activities, and
 21 changes to the visual environment resulting from these proposed actions.

22 The Yolo Bypass, under CM2, would also be flooded for longer periods to improve habitat and
 23 spawning for covered fish species and to reduce stranding. While the increase in duration of
 24 flooding is not known, it is anticipated that there would not be an adverse effect on visual resources
 25 because the flooding, which is an existing visual condition, would occur during the normal flood
 26 season of the bypass and just extend that season. Therefore, the extended flood duration is not
 27 considered adverse.

28 CM4–CM11 would result in the conversion of primarily agricultural lands to restored or enhanced
 29 habitat. Activities associated with the implementation of restoration and habitat enhancement
 30 would take place over 40 years across all conservation measures, often during a relatively short
 31 window each year, and the overall intensity and duration of each action would vary based on the
 32 individual project. CM15 (predator control) may result in temporary, localized changes by removing
 33 predator hiding spots, modifying channel geometry, physically removing predators, and utilizing
 34 other control methods as dictated by site-specific conditions. This could result in physical changes to
 35 the visual environment at site-specific locations that could be visible to water- and land-based
 36 recreationists and other viewer groups, based on location. This may have beneficial or adverse
 37 effects based on the size of proposed projects and pre-and post-project conditions (e.g., if
 38 restoration is implemented and improves pre-project conditions or if natural vegetation is removed
 39 and replaced with riprap which would degrade pre-project conditions). CM16 (nonphysical fish
 40 barriers) would use sound, light, and bubbles at Old River, the Delta Cross Channel, and Georgiana
 41 Slough and, potentially, at Turner Cut, Columbia Cut, the Delta-Mendota Canal intake, and Clifton
 42 Court Forebay to direct fish passage. The lights and bubbles may be visible to water-based
 43 recreationists, especially at dusk and night, and sound (if audible) could attract viewers' attention
 44 toward the nonphysical barriers. Small scale changes may be visible on the banks or in the water to

1 be used for anchoring that could result in adverse visual effects. CM18 (conservation hatcheries)
2 would result in visual changes to the environment by building a new hatchery that consists of a
3 facility on the edge of the Sacramento River and a larger supplementation production facility nearby.
4 This would require conversion of existing land uses along the river and nearby to a built facility.
5 CM21 (nonproject diversions) would result in changes to the visual environment due to removal of
6 individual diversions; consolidation of multiple unscreened diversions to a single or fewer screened
7 diversions placed in lower quality habitat; relocation of diversions from high quality to lower quality
8 habitat, in conjunction with screening; and reconfiguration and screening of individual diversions in
9 high quality habitat. This could result in the removal and restoration at some locations that would
10 result in beneficial effects or could introduce new structures where none presently exist that could
11 be adverse.

12 Presently, it is not uncommon for heavy equipment to be seen, intermittently, for existing levee
13 maintenance, agricultural, and dredging operations; site-specific construction; and use in managing
14 wetlands and other land uses. Implementation of restoration and enhancement features would also
15 introduce considerable heavy equipment and associated vehicles, including dozers, graders,
16 scrapers, and trucks, into the viewshed of all viewer groups in the vicinity. Construction may include
17 the creation of new levees; breeching existing levees; the creation of habitat levees; increasing
18 connectivity between marshes and waterways; grading; planting; and redirecting intakes,
19 discharges, and outfalls. In addition, acquiring public and private property to restore or enhance
20 lands could displace occupants and would require infrastructure improvements such as roadways,
21 parking lots, and utilities. These actions may also include the construction of new public features
22 such as interpretive facilities and restrooms at some locations. These proposed actions would create
23 changes in views of and from the study area throughout the construction period, which may last
24 longer than 2 years depending on the specific project and effort required for construction. Because
25 of the unknown location of site-specific restoration activities, potential presence of sensitive
26 viewers, the potential for construction periods to last longer than 2 years, and varying intensity of
27 construction, effects associated with implementation of these conservation measures are considered
28 adverse.

29 Implementation of restoration actions and conservation measures under Alternative 1A would have
30 a noticeable effect on the visual character and quality of the study area and its surroundings.
31 Locations that are currently characterized by physical features associated with agricultural activities
32 would be altered through the establishment of new wetlands, marshes, or restored riparian
33 corridors. These areas may be denuded of vegetation, or may appear to be so from a distance
34 because of immature planted vegetation that would be similar in appearance to tilled or newly
35 planted agricultural fields. The sites would be in a transitional state, and over a period of from one to
36 several years, plant species would mature and vegetation would recolonize the sites. Because these
37 sites would be scattered throughout the conservation zones, they would not create a visual
38 imposition on the landscape or be perceived as a centralized, large-scale visual change. In addition,
39 restored/enhanced sites would increase the amount of native vegetative communities that attract
40 wildlife, thus befitting the visual quality and diversity of the study area. The visual characteristics of
41 these new landscapes would be consistent with other natural marsh or wetland areas of the Delta. In
42 this sense, the BDCP would have a beneficial effect on the visual character and quality of the
43 restoration areas and their surroundings.

1 **Scenic Vistas**

2 Under Alternative 1A, CM2 has the potential to visually alter scenic vistas depending on the location
3 of various modifications, such as levee construction or removal. CM4–CM11 would result in the
4 conversion of primarily agricultural lands to restored or enhanced habitat. CM16, CM18, CM15, and
5 CM21 have the potential to introduce visually discordant features into scenic vistas, if they are
6 located within a vista viewshed. Once constructed, large-scale changes to scenic vistas would result
7 from conversion of agriculture lands to restored/enhanced areas that have more topographic
8 variation and variable vegetative cover. Because exact locations of restoration/enhancement sites
9 have not been identified, effects on site-specific scenic vistas cannot be determined. However, views
10 of the large areas proposed for restoration/enhancement could likely change from agricultural or
11 developed uses to areas with more natural features such as marshes and wetlands.

12 Depending on the location, the effect on scenic vistas could be beneficial or adverse. Beneficial
13 effects would occur where flat agricultural lands and row crops are replaced by restored wetlands
14 and riparian vegetation, because natural areas are rarer scenic features in the Delta and such a
15 change would increase visual diversity. In general, wetlands would provide excellent vista
16 opportunities because the restored vegetation cover would provide visual interest and would not
17 block distant background views. However, at some sites, restoration/enhancement of agricultural
18 lands to riparian forest could block long-distance vistas from scenic vista areas. For example,
19 riparian forest plantings installed along a river segment where roadway travelers currently have
20 open vistas of the waterway would mature and result in more restricted views of the river and vistas
21 beyond. Restoration/enhancement actions could also result in the creation of new scenic vistas,
22 perhaps through the removal of existing agricultural tree rows and the establishment of vista points
23 at specific locations or viewing opportunity areas along newly created recreational trails.

24 After completion of construction activities necessary for restoration, areas surrounding the
25 restored/enhanced area may be denuded of vegetation, or appear to be so from a distance because
26 of immature planted vegetation would be similar in appearance to tilled or newly planted
27 agricultural fields. The sites would be in a transitional state, and over a period of one to several
28 years, plant species would mature and vegetation would recolonize the sites. The sites would be
29 scattered throughout the conservation zones so would not create a visual imposition on the
30 landscape or be perceived as a centralized, large-scale visual change. In addition, restored/enhanced
31 sites would increase the amount of native vegetative communities that attract wildlife, thus helping
32 to improve the visual quality and diversity of the restored areas. The visual characteristics of these
33 restored/enhanced landscapes would be similar to other areas of the Delta that are in a natural
34 marsh or wetland state and more limited in extent than the widespread areas of agricultural
35 development. In this sense, the BDCP would have an overall beneficial effect related to the
36 enhancement and creation of scenic vistas in the Delta. However, site-specific restoration
37 information and plans need to be developed before the site-specific effects on scenic vistas can be
38 determined.

39 **Scenic Highways**

40 No restoration actions are expected to be established in areas along SR 160. However, it is possible
41 that actions proposed for some areas would be visible in the middleground and background views
42 from SR 160. These areas are: the portions of CZ 3 on the west side of the Sacramento River that
43 extends from Sacramento to the confluence with the Yolo Bypass; CZ 5, on the east/south side of the
44 Sacramento River that extends from Intake 1 to Pittsburg; and CZ 10, just south of CZ 5 and spanning

1 both sides of SR 4 near Antioch. In addition, CZ 7 would be visible in the middleground and
2 background views from I-580, which is a state-designated scenic route in San Joaquin County. CM15,
3 CM16, CM18, and CM21 have the potential to introduce visually discordant features as viewed from
4 scenic highways, if they are located within the viewshed of a scenic highway. During the near term,
5 changes to the visual environment resulting from vegetation removal may be noticeable to travelers
6 along these routes. These areas may be denuded of vegetation, or appear to be so from a distance
7 because of immature planted vegetation that would be similar in appearance to tilled or newly
8 planted agricultural fields. The sites would be in a transitional state, and over a period of one to
9 several years, plant species would mature and vegetation would recolonize the sites. The sites
10 would be scattered throughout the conservation zones so would not create a visual imposition on
11 the landscape or be perceived as a centralized, large-scale visual change. In addition,
12 restored/enhanced sites would increase the amount of native vegetative communities that attract
13 wildlife, thus helping to improve the visual quality and visual diversity of the restoration area. Due
14 to the distance, changes associated with restoration activities would not affect the visual quality
15 along these scenic highway corridors and would not result in adverse effects.

16 ***Light and Glare***

17 The intent of the restoration actions would be to establish native vegetation along riparian corridors
18 by allowing inundation of areas or by converting existing agricultural lands to tidal wetlands. Given
19 the nature of CM2–CM22, only a few new project-related sources of light and glare would be
20 expected to result from their implementation. Restored areas would largely be natural habitat areas.
21 CM16 and CM18 have the potential to introduce new lighting sources through project features while
22 it is not likely that CM15 and CM21 would introduce new sources of light. Limited lighting could be
23 installed at some facilities, such as flood gates/pumping facilities, operations buildings, and visitor
24 facilities. At this time, it is not known where these facilities would be proposed; however, it is
25 anticipated that there would be a very limited number of such facilities and that the lighting would
26 be reduced to the minimum necessary to provide safety and security and that effects would not be
27 adverse.

28 ***Summary***

29 ***NEPA Effects:*** There may be site-specific, localized adverse visual effects. These conservation
30 measures would alter the Delta landscape by incrementally, and substantially, introducing elements
31 into the study area over time. This could pave the way for the gradual transition of a much valued
32 cultural and regional landscape and make it easier for other similar projects to be implemented over
33 time because of the devalued baseline conditions, compared to Existing Conditions, if conservation
34 measures are not planned and implemented in a manner that protects visual resources. CM2–CM22,
35 when combined with CM1, could substantially alter the visual character of the study area, which is
36 strongly identified by its agricultural and water-based Delta landscapes and communities. These
37 landscapes and communities could be adversely affected by the introduction of discordant visual
38 features, removal of existing buildings and landscape elements of value, and through the potential
39 for indirect impacts associated with other development potentially setting a precedent for other
40 development to occur. All of these effects would alter the visual character of the existing regional
41 landscape. While many planning and regulatory documents recognize the unique visual resources of
42 the Delta and the importance of this regional visual landscape as a shared and endangered resource,
43 there is no comprehensive planning or regulatory document to aid in the preservation of this
44 resource and to serve as guidance for development within this landscape.

1 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a through AES-4c are
2 available to address effects from habitat restoration and enhancement actions under CM2–CM22. In
3 addition, Mitigation Measures AES-6a and AES-6b are available to help reduce adverse visual effects.
4 Upon development of site-specific design information and plans, additional mitigation measures
5 may be identified to address action-specific adverse effects. However, each individual project under
6 CM2–CM22 would undergo the environmental compliance process that would be used to determine
7 what additional mitigation measures, would be deemed appropriate to reduce adverse effects and to
8 assess compliance with relevant regulations. Finally, Mitigation Measure AES-6c is available to help
9 inventory, classify, and protect the unique visual landscape of the Delta.

10 **CEQA Conclusion:** Implementation of conservation measures under Alternative 1A has the potential
11 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
12 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
13 and character would be significant where use of large numbers of heavy construction equipment,
14 changes in topography, and introduction of new structures or facilities where none presently exist
15 would take place in the vicinity of sensitive receptors. However, because a number of factors that
16 would determine the level of change are unknown—the location of site-specific restoration
17 activities, potential presence of sensitive viewers, potential for construction periods to last longer
18 than 2 years, and varying intensity of construction—impacts associated with implementation of
19 these conservation measures (CM2–CM22) on visual quality and character, scenic vistas, and light
20 and glare sources, are considered significant. Because of the distance of implemented conservation
21 measures from scenic highways, changes associated with these activities would not affect the visual
22 quality along these scenic highway corridors and this impact would be less than significant. Site-
23 specific restoration information and plans need to be developed before the site-specific effects on
24 the existing visual character, scenic vistas, and light and glare can be determined.

25 Several mitigation measures are available to minimize the impacts on visual quality and character in
26 the study area that could result from implementation of CM2–CM22. As summarized below, these
27 measures could be applied to individual restoration projects or actions as appropriate for the site-
28 specific conditions and design considerations. In addition, each restoration project or action would
29 undergo an environmental compliance process that would be used to determine what additional
30 mitigation measures would be deemed appropriate to reduce significant effects. Mitigation
31 Measures AES-1a through AES-1g could be applied to minimize impacts by locating new
32 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
33 needed where feasible, installing visual barriers between construction work areas and sensitive
34 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
35 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
36 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
37 visual resources and receptors and restoring the sites upon removal of facilities, and using best
38 management practices to implement a project landscaping plan. Mitigation Measures AES-4a
39 through AES-4c could be used to reduce the effects of new light and glare sources by limiting
40 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
41 sources used for construction, and installing visual barriers along access routes, where necessary, to
42 prevent light spill from truck headlights toward residences. In addition, Mitigation Measures AES-6a
43 and AES-6b would further minimize impacts on visual resources by undergrounding new or
44 relocated utility lines, where feasible, and through an evaluation of an afterhours low-intensity and
45 lights off policy. Finally, implementation of Mitigation Measure AES-6c would provide a strategy for
46 the protection of the unique visual landscape of the Delta.

1 While some of these conservation measures could result in beneficial impacts through the
 2 restoration of natural habitat and mitigation measures would reduce the severity of impacts, it is
 3 unknown whether they would be reduced to a less-than-significant level because of uncertainties
 4 associated with future implementation of Conservation Measures 2–22. In addition, the size of the
 5 study area and the nature of changes introduced by these conservation measures would result in
 6 permanent changes to the regional landscape such that there would be noticeable changes to the
 7 visual character that may or may not blend with or be in keeping with the existing visual
 8 environment. Thus, implementation of these conservation measures would result in significant and
 9 unavoidable impacts on the existing visual quality and character in the study area.

10 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 11 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 12 **Transmission Lines and Underground Transmission Lines Where Feasible**

13 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 14 Alternative 1A.

15 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 16 **Sensitive Receptors**

17 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 18 Alternative 1A.

19 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 20 **Material Area Management Plan**

21 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 22 Alternative 1A.

23 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

24 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 25 Alternative 1A.

26 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 27 **Extent Feasible**

28 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 29 Alternative 1A.

30 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 31 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

32 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 33 Alternative 1A.

34 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 35 **Landscaping Plan**

36 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 37 Alternative 1A.

1 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 2 **Residents**

3 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 6 **Construction**

7 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 8 Alternative 1A.

9 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 10 **to Prevent Light Spill from Truck Headlights toward Residences**

11 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 12 Alternative 1A.

13 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

14 BDCP proponents will underground new or relocated utility lines, where feasible, to reduce or
 15 improve adverse visual effects associated with the visual intrusion of such features in the
 16 landscape. New or relocated utility lines will not be underground where undergrounding would
 17 constitute an adverse effect on sensitive habitats or sensitive species or require the removal of
 18 healthy native trees that would fall under the definition of a native heritage tree. For the
 19 purpose of this mitigation measure, a native heritage tree is defined for this project using
 20 guidance set forth in the City of Sacramento Heritage Tree Ordinance, as follows.

- 21 • Any tree of any species with a trunk circumference of one hundred (100) inches or more,
 22 which is of good quality in terms of health, vigor of growth and conformity to generally
 23 accepted horticultural standards of shape and location for its species.
- 24 • Any native *Quercus* species, *Aesculus California*, or *Platanus Racemosa*, having a
 25 circumference of 36-inches or greater when a single trunk, or a cumulative circumference of
 26 36-inches or greater when a multi-trunk, which is of good quality in terms of health, vigor of
 27 growth and conformity to generally accepted horticultural standards of shape and location
 28 for its species.
- 29 • Any tree 36-inches in circumference or greater in a riparian zone. The riparian zone is
 30 measured from the centerline of the water course to 30-feet beyond the high water line (City
 31 of Sacramento 2012).

32 Other trees may also be protected, as deemed appropriate by BDCP proponents to be of special
 33 historical or environmental value or of significant community benefit.

34 Implementation of this measure, where possible, will avoid the introduction of new
 35 aboveground utility lines and result in an improved view in areas where existing utility lines
 36 could be relocated underground.

1 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
 2 **Lights Off Policy**

3 The BDCP proponents will evaluate measures and develop and implement of a commercial and
 4 public buildings lighting policy to minimize the impact of building lighting on nearby sensitive
 5 viewers. The policy will include the following performance standards.

- 6 • Require building design to include low-intensity interior safety lighting for use during
 7 afterhours. This practice would decrease the amount of nighttime light that would occur
 8 from using standard interior lighting as safety lighting.
- 9 • Prevent unnecessary overuse of interior nighttime lighting, requiring that offices and
 10 businesses implement a “lights-off” policy. This practice requires that all non-safety lighting
 11 be turned off at night (such as in offices and hallways), after business hours. This standard
 12 can be accomplished through use of movement activated lighting systems.
- 13 • Prohibit use of harsh mercury vapor or low-pressure sodium bulbs.

14 Such a policy can greatly reduce the amount of nighttime light pollution that is created by
 15 standard office and business practices.

16 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
 17 **Plan for the Delta and Study Area**

18 The BDCP project proponents will work with federal, state, and local stakeholders to implement
 19 a visual resources management plan for the Delta and study area. The visual resources
 20 management plan will be developed based on the following considerations and performance
 21 standards.

- 22 • The purpose of the visual resources management plan will be to protect and enhance the
 23 visual landscape and will not serve as a mechanism to allow for undue development or to
 24 facilitate advanced development of the Delta and study area.
- 25 • The visual resources management plan will implement a prescribed methodology for
 26 inventorying and classifying all visual landscapes within the study area. This methodology
 27 will utilize measures similar to BLM and USDA Forest Service inventorying techniques or
 28 will develop its own methodology for inventorying study area visual landscapes. This
 29 methodology will incorporate a quantifiable measure of visual landscapes that can be used
 30 to determine areas for preservation, enhancement, and smart development, and to measure
 31 and monitor visual effects on the study area landscape over time. This inventory will include
 32 an inventory of viewer groups and viewer responses to adequately identify publicly valued
 33 visual landscapes.
- 34 • The inventory of visual landscapes within the study area will be used as a tool to preserve
 35 the visual landscape and to guide smart growth and development.
- 36 • The visual resources management plan will implement regulatory language to protect visual
 37 resources of the study area, based on preserving important and sensitive visual landscapes.
 38 It will also identify design and management measures for avoidance of adverse effects.
- 39 • The visual resources management plan will identify and facilitate the preservation of
 40 sensitive visual landscapes through the planning and establishment of scenic easements and
 41 official federal and/or state designation for the protection of scenic resources (e.g., historic

- 1 and/or scenic trails, designated scenic areas, scenic highways/byways, and wild and scenic
2 rivers).
- 3 • The visual resources management plan will serve to encourage the integrated use of
4 environmental design arts, as outlined in Section 102(A) of NEPA, so that projects within the
5 study area are designed to be self-mitigating instead of waiting until the environmental
6 analysis process to establish design measures that mitigate a project's visual effects.
 - 7 • The visual resources management plan will recognize and work with the evolving visual
8 landscape as it relates to climate change and sea level rise. It will establish proactive design
9 and management measures that protect the evolving landscape and visual integrity of the
10 study area and will not facilitate reactive design and management measures that could
11 adversely alter the visual landscape of the study area.
 - 12 • The visual resources management plan for the study area will be an adaptive management
13 tool and will undergo periodic updates every 20 years.
 - 14 • CM2–CM22 will comply with this visual resources management plan.

15 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
16 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
17 **Addressing Aesthetics and Visual Resources**

18 **NEPA Effects:** Constructing conveyance facilities (CM1) and implementing CM2–CM22 under
19 Alternative 1A could result in the potential for incompatibilities with plans and policies related to
20 preserving the visual quality and character of the Delta. A number of plans and policies that coincide
21 with the study area boundaries provide guidance for visual resource issues as overviewed in *Section*
22 *17.2, Regulatory Setting*. This overview of plan and policy compatibility evaluates whether
23 Alternative 1A is compatible or incompatible with such enactments, rather than whether impacts
24 are adverse or not adverse or significant or less than significant. If the incompatibility relates to an
25 applicable plan, policy, or regulation adopted to avoid or mitigate visual effects, then an
26 incompatibility might be indicative of a related significant or adverse effect under CEQA and NEPA,
27 respectively. These physical effects of Alternative 1A on visual resources are addressed in Impacts
28 AES-1 through AES-6, above. The following is a summary of compatibility evaluations related to
29 visual resources for plans and policies relevant to the BDCP.

30 **Conveyance Facilities**

- 31 • The Sierra Resource and Cosumnes River Preserve Management Plans protect the Cosumnes
32 River Preserve. Views within the Cosumnes River Preserve would not be affected by Alternative
33 1A because it is located east of I-5 and public views of the project site available from trails are
34 obscured by riparian vegetation and I-5.
- 35 • The Suisun Marsh is protected by the San Francisco Bay Conservation and Development
36 Commission Suisun Marsh Protection Plan. The eastern boundary of the Suisun Marsh extends
37 to Collinsville Road in southern Solano County and falls within the westernmost portion of the
38 study area. Views from Suisun Marsh would not be affected by this alternative because project
39 features would be obscured by distance, the Altamont Hills, and intervening trees,
40 infrastructure, and development.
- 41 • EBRPD parks within the study area include Browns Island, Antioch/Oakley Shoreline, and Big
42 Break Parks (East Bay Regional Park District 2013b). Views from these parks would not be

1 affected by this alternative because project features would be obscured by distance, the
2 Altamont Hills, and intervening trees, infrastructure, and development.

- 3 ● The cities of Antioch, Brentwood, Oakley, Sacramento, Lathrop, Stockton, Tracy, Rio Vista,
4 Suisun City, and West Sacramento would not be affected by this alternative because there are no
5 project features within or visible from these cities. Therefore, this alternative would be
6 consistent with the protection of visual resources covered under those general plans.
- 7 ● The Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992, Delta Protection
8 Commission Land Use and Resource Management Plan for the Primary Zone of the Delta, Delta
9 Plan, Brannan Island and Franks Tract State Recreation Areas General Plan are all focused on
10 the protection of resources, including visual resources, within the Delta. While constructing and
11 operating conveyance facilities under this alternative are intended to provide ecosystem
12 benefits in the Delta, constructing these conveyance elements could be considered incompatible
13 with measures to protect the unique visual environment of the Delta because agricultural lands
14 and riverbanks would be converted to other uses and the scale of construction would result in
15 changes to the landscape that may be considered disruptive to the current Delta environment
16 and visual quality.
- 17 ● Contra Costa, Sacramento, San Joaquin, and Solano Counties all have policies to preserve and
18 protect the scenic qualities of the Delta as summarized in *Section 17.2 Regulatory Setting*. In
19 addition, Alameda, Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties are focused
20 on the protection of visual resources and preserving agricultural lands. The general plans for
21 these counties include policies for the protection of visual resources, trees, waterways, and
22 landscaping and for avoiding impacts such as the alteration of landforms and the introduction of
23 utilities and new sources of light. These policies seek to minimize visual impacts and enhance
24 scenic qualities and also encourage placing utility lines underground. The conversion of
25 agricultural lands and riverbanks to intake facilities, conveyance facility changes and
26 introduction of new lighting and transmission lines where none presently exist would
27 substantially alter the landscape and could be considered incompatible with local policies aimed
28 at protecting visual resources in these counties. Potential incompatibilities with Sacramento
29 County and San Joaquin County policies would be most likely because most of the project
30 features occur in these counties. Alameda and Contra Costa Counties have much smaller
31 portions of project features that surround the Clifton Court Forebay. Yolo County would be
32 affected by intakes located on the east bank of the Sacramento River that would affect views
33 from South River Road. Alternative 1A would not be incompatible with Solano County policies
34 because conveyance facilities would not be located in this area.

35 **Other Conservation Measures**

- 36 ● The Yolo Bypass would be altered under CM2. Views of and from South River Road would not be
37 affected. However, new fish screens, ladders, ramps, barriers, realignment of waterways,
38 additional hydrologic monitoring stations, fish rearing pilot project at Knaggs Ranch, operations
39 buildings, parking lots, access facilities such as roads and bridges, and modification, removal,
40 and construction of berms, levees, and water control structures would result in changes to the
41 landscape that may be incompatible with the Yolo County General Plan Policies LU-3.7, CC-1.2,
42 CC-1.3, and CC-1.4 that protect scenic areas, the rural landscape character, and the night sky.
- 43 ● CM4–CM11 would result in the conversion of primarily agricultural lands to restored or
44 enhanced habitat across all 11 CZs, with specific focus on ROAs (refer to Figure 3-1). Therefore,

1 associated regulations may apply. Restored areas would largely be natural habitat areas.
 2 Alterations such as channel and levee modifications, landform alteration from dredge spoil
 3 placement, and floodplain lowering could change the visual landscape. Restoring areas and
 4 views to natural, native habitat would likely be beneficial and would increase visual diversity.
 5 However, converting agricultural lands may be incompatible with one or more regulation
 6 protecting visual resources, although it may facilitate regulations set in place to protect and
 7 restore the Delta. If facilities, such as buildings, parking lots, or roads, are built, they would also
 8 have the potential to be incompatible with relevant regulations that protect scenic areas, the
 9 landscape character, the night sky, and the Delta.

- 10 • CM15 and CM21 would occur across all 11 CZs and could result in physical changes to the visual
 11 environment at a number of locations and where relevant regulations may apply. This may have
 12 beneficial or adverse effects based on the size of proposed projects and pre-and post-project
 13 conditions (e.g., if restoration is implemented and improves pre-project conditions or if natural
 14 vegetation is removed and replaced with rip rap or a new diversion structure that degrades pre-
 15 project conditions). Vegetation removal and replacement with rip rap or a diversion structure
 16 could be incompatible with relevant regulations that protect scenic areas,
 17 the landscape character, the night sky, and the Delta.
- 18 • CM16 could use sound, light, and bubbles at the head of the Delta Cross Channel and Georgiana
 19 Slough in Sacramento County; Old River, Turner Cut, and Columbia Cut in San Joaquin County,
 20 the Delta-Mendota Canal intake in Alameda County; and Clifton Court Forebay in Contra Costa
 21 County to direct fish passage. Small scale changes may be visible on the banks or in the water
 22 used for anchoring that could result in adverse visual effects, but it is anticipated that these
 23 changes would be consistent with County general plan policies that protect visual resources.
- 24 • Building a new hatchery that consists of a facility on the edge of the Sacramento River and a
 25 larger supplementation production facility nearby, through CM18, would result in visual
 26 changes and conversion of existing land uses along and near the river would be required to
 27 build facilities. These facilities could be located in Sacramento, Yolo, or Solano Counties and also
 28 fall within the Delta. Therefore, corresponding regulations may apply. The size and locations of
 29 these facilities are unknown, but it is likely that conversion of existing land uses, and potentially
 30 undeveloped land would alter the visual character along the Sacramento River and would be
 31 incompatible with one or more plans or policies for the protection of visual resources in these
 32 regions.

33 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
 34 physical consequence to the environment. The physical effects they suggest are discussed in impacts
 35 AES-1 through AES-6, above, and no additional CEQA conclusion is required related to the
 36 compatibility of Alternative 1A with relevant plans and policies.

37 **17.3.3.3 Alternative 1B—Dual Conveyance with East Alignment and** 38 **Intakes 1–5 (15,000 cfs; Operational Scenario A)**

39 Table 17D-2 in Appendix 17D, *Permanent Impacts after Construction is Complete*, describes the
 40 existing visual characteristics and the BDCP-related permanent effects of Alternative 1B on visual
 41 quality and character, scenic vistas, scenic roadways, and from light and glare sources after
 42 construction is complete and identifies the overall effect on viewers. Appendix E, *Permanent*
 43 *Features*, identifies the viewer groups and viewing locations that would be affected by permanent
 44 alternative features. Construction of all structural components under Alternative 1B could

1 potentially occur over a period of 9 years. However, construction of each individual facility would be
 2 phased within that period and would occur over a shorter period. The estimated construction times
 3 for individual features are included below. The duration and schedule for construction of the water
 4 conveyance facilities (CM1) is provided in Appendix 3C, *Construction Assumptions for Water*
 5 *Conveyance Facilities*. In addition, Appendix 22A details the construction schedules and defines the
 6 length and sequence of each construction phase.

7 **Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during** 8 **Construction of Conveyance Facilities**

9 Under Alternative 1B, effects related to Intakes 1–5 would be the same as those discussed under
 10 Alternative 1A, Impact AES-1, because they would be built in the same locations (see Figures 17-76
 11 through 17-78 and Mapbook Figure M3-2). The primary conveyance, however, would be a lined or
 12 unlined canal in the east delta rather than pipelines/tunnels and there would be no intermediate
 13 forebay. After construction, areas surrounding Intakes 1–5, canals, spoil/borrow areas, RTM areas
 14 (tunnel siphons), and shaft sites may be denuded of vegetation for a short period of time until the
 15 landscaping plans designed under WREM No. 30a are implemented. Once installed, the landscape
 16 would still appear to be denuded of vegetation or to have little vegetative cover because immature
 17 landscaping would be similar in appearance to tilled or newly planted agricultural fields.

18 Because of the long-term nature of construction, proximity to sensitive receptors, razing of
 19 residences and agricultural buildings, removal of vegetation, changes to topography through
 20 grading, and addition of large-scale industrial structures where none presently exist, this effect on
 21 existing visual quality and character of the study area is considered adverse.

22 Effects related to construction of access roads and transmission lines would occur within a 2-year
 23 period under this alternative and would be the same as those described for Alternative 1A, Impact
 24 AES-1, because the relevant components would be similar under both alternatives. However,
 25 substantial differences associated with other facilities are described below.

26 **Canals**

27 Construction of canals and pumping plants would introduce considerable heavy equipment—
 28 excavators, graders, dozers, sheepsfoot rollers, dump trucks, and end loaders, in addition to support
 29 pickups and water trucks—into the viewshed of all viewer groups in the vicinity. Work areas would
 30 be situated adjacent to the intake sites and would be used for staging, temporary field offices,
 31 worker parking, equipment and materials laydown and storage, and to support other construction-
 32 related needs. Canal construction would be performed in a linear pattern over a 5-year period and
 33 would occur primarily Monday through Friday for up to 24 hours per day. In addition, because of the
 34 relatively high groundwater level along the canal alignment, dewatering would be necessary to
 35 provide a dry workspace for excavation of the canal foundation. Dewatering would take place 7 days
 36 per week and 24 hours per day and would be initiated 1–4 weeks prior to excavation. Dewatering
 37 would continue until excavation is completed and the construction site is protected from areas with
 38 high groundwater levels (Chapter 3, *Description of Alternatives*). Construction of the canal would
 39 require that properties be acquired, resulting in the relocation of residences and razing of buildings
 40 on affected properties during construction. This effect is most prominent between Intake 1 and
 41 West Walnut Grove Road, near I-5 (KOP 74, 86, 113, 115, 119, and 120). South of West Walnut Grove
 42 Road fewer residences and buildings would be acquired and razed (KOPs 124, 136, 140, 141, 152,
 43 and 154). In addition, residences and businesses may experience loss of landscaping, fencing, or

1 other landscape features of personal importance. Such losses would further evoke negative visual
 2 perceptions of the conveyance facilities. Scattered rural residences are present on CH E9 and SR 160,
 3 along both banks of the river throughout the corridor between where the canals would be built;
 4 construction would take place near or directly adjacent to some of these homes (KOPs 1, 3, 4, 15, 18,
 5 20, 34, 41, and 49). The areas between Clarksburg and Hood have a higher concentration of
 6 residential viewers and are also near the intakes (KOPs 12, 72, 73, and 74). South of Lambert Road,
 7 the canal alignment jogs to the east and runs closer to I-5, allowing direct foreground and
 8 middleground views of construction from the interstate. This is generally the case until the northern
 9 limits of Stockton where I-5 enters the city and veers away from the alignment, which continues
 10 south until it jogs west after it crosses SR 4. The canal would also be visible from the Amtrak San
 11 Joaquin Oakland to Bakersfield route as it crosses by the canal near Holt. The canal would be seen by
 12 passengers sitting in window seats on the north and south sides of the train. The canal would dead
 13 end to the north and south of the railway and siphon under the tracks. While trains would pass by at
 14 a high rate of speed, the canal would be a unique and prominent feature that would draw viewers'
 15 attention as they pass by the feature that would appear as a brief pinch point in views.

16 Transmission lines following the canals would introduce tall, lattice steel structures that would
 17 draw more attention to the linearity of the canal and its industrial nature. Recreationists on local
 18 roadways and waterways, roadway users on local roadways, and nearby businesses would have
 19 direct views of canal construction. The landscape sensitivity level ranges from low to high and
 20 effects on these viewers would be substantial, especially for residences that would experience
 21 disruptive construction activities.

22 As seen in Figure 17-81, *Existing and Simulated Views of the East Canal from I-5 at Lambert Road*,
 23 construction of the canal would convert agricultural lands to a water conveyance facility and would
 24 require the removal of landscaping, vegetation, and structures and would introduce the raised canal
 25 embankments into the viewshed, as illustrated in "Simulated View". The canal would be located 1.9
 26 miles away from I-5, decreasing the visual prominence of the canal embankments due to distance.
 27 However, the embankments would appear larger the closer they get to I-5, as seen in the simulation
 28 when comparing the embankment on the left side of the photo to the right side of the photo, where
 29 the canal would be farther away. The canal would be most prominent near Twin Cities Road where
 30 the nearest embankment would be 0.75 mile away. The canal would limit views to trees on horizon
 31 line. In addition, the introduction of tall, steel 230 kV transmission lines paralleling the canal would
 32 add to the amount of utility lines seen from I-5. Overall, existing views from KOP 113 on I-5 toward
 33 the canal would be impaired by the removal of the buildings and vegetation and introduction of the
 34 canal and transmission lines and the Scenic Quality Rating would be reduced from an **E** to an **F**. This
 35 effect would be adverse (see discussion under 17.3.1.2 and 17.3.1.3).

36 As seen in Figure 17-82, *Existing and Simulated Views of the East Canal from SR 12*, construction of
 37 the canal would displace agricultural lands and agrarian infrastructure and require the removal of
 38 vegetation. The canal would introduce a prominent visual massing into viewshed, as illustrated in
 39 "Simulated View". The canal embankments would limit views to the foreground and prevent views
 40 to the middleground. Trees lining SR 12 would also be removed to allow for construction. The
 41 roadway surface would be more visible as it ascends to bridge over the canal. In addition, the
 42 introduction of tall, steel 69 kV transmission lines add to the amount of utility lines present and
 43 visually contrasts to existing views where the existing transmission lines consist of wooden utility
 44 poles. Overall, existing views from KOP 128 on SR 12 toward the canal would be impaired by the
 45 removal of the agrarian structures and vegetation and introduction of the canal, bridging over the
 46 canal, and transmission lines that would alter the visual character of the roadway corridor. While

1 the visual character would be lowered, the Scenic Quality Rating would remain an **E**. The effect of
 2 the east canal on the scenic quality would therefore not be adverse at this location (see discussions
 3 under 17.3.1.2 and 17.3.1.3).

4 As seen in Figure 17-83, *Existing and Simulated Views of the East Canal from SR 4*, construction of the
 5 canal would displace agricultural lands. The canal would introduce a visual massing into viewshed,
 6 as illustrated in “Simulated View”. The canal embankments would limit views to the foreground and
 7 prevent views to the middleground. Infrastructure and buildings in the foreground of this view act
 8 to screen views of the canal and are foreground focal points that draw attention somewhat away
 9 from focusing on the canal. The roadway surface would be more visible as it ascends to bridge over
 10 the canal. In addition, the introduction of tall, steel 69 kV transmission lines add to the amount of
 11 utility lines present and visually contrasts to existing views where the existing transmission lines
 12 consist of wooden utility poles. Overall, existing views from KOP 114 on SR 4 toward the canal
 13 would be impaired by the alteration of agricultural lands and introduction of the canal, bridging
 14 over the canal, and transmission lines that would alter the visual character of the roadway corridor.
 15 While the visual character would be lowered, the Scenic Quality Rating would remain an **F**. The
 16 effect of the east canal on the scenic quality would therefore not be adverse at this location (see
 17 discussions under 17.3.1.2 and 17.3.1.3).

18 Earthmoving activities would result in the removal of mature vegetation and large-scale, linear
 19 topographical changes to areas that are presently flat. The canal would dissect numerous parcels,
 20 disrupting the continuity of rural land and affecting free-flowing visual access from lands on either
 21 side of the canal. Earthmoving activities and associated heavy equipment and vehicles would be
 22 readily visible throughout construction and have the potential to create slowly moving dust clouds
 23 that would attract attention from visual receptors and reduce the availability of short-range views.
 24 As set forth in Chapter 22, *Air Quality and Greenhouse Gases*, the BDCP proponents have identified
 25 several environmental commitments (Appendix 3B, *Environmental Commitments*) to reduce
 26 emissions of construction-related criteria pollutants, including basic and enhanced fugitive dust
 27 control measures and measures for entrained road dust that would help to reduce the creation of
 28 dust clouds that would negatively affect short-range views.

29 Canals, along with intakes, bridge crossings, and spoil/borrow and RTM areas would compound
 30 effects on available views in the study area. These views would be greatly altered by the presence of
 31 a large-scale, concrete lined and water filled channel traversing through the landscape between the
 32 intakes that would introduce a visually dominant conveyance facility that would be very noticeable
 33 within available views. Because the scale of landscape level changes, long-term nature of
 34 construction, proximity to sensitive receptors, removal of vegetation, and changes to topography
 35 through grading, would reduce the visual quality in some locations along the canal and result in
 36 noticeable changes that could be viewed by sensitive receptors and from public viewing areas, this
 37 effect on existing visual quality and character would be adverse.

38 **Forebays**

39 Under Alternative 1B, the intermediate forebay would not be constructed. The Byron Tract Forebay
 40 would take 3.5 years to construct and would encompass 600 acres (same as Alternative 1A). Other
 41 than the construction timeframe, the visual effects of construction would be the same as those
 42 described for Alternative 1A, Impact AES-1 because the proposed components would be similar
 43 under both alternatives. Because of the large footprint of the forebay, proximity to sensitive
 44 receptors, razing of residences and agricultural buildings, removal of vegetation, and changes to

1 topography through grading, construction of the forebay would result in noticeable changes that
 2 could be viewed by sensitive receptors and from public viewing areas, this effect on visual quality
 3 and character would be adverse.

4 ***Bridges***

5 Nineteen bridge crossings would be constructed under Alternative 1B along the conveyance
 6 alignment within a 2-year period. Bridges would be built on a residential access road south of Intake
 7 2 and west of North Stone Lake; on River/Scribner, Lambert, Dierssen, Twin Cities, West Barber,
 8 West Walnut Grove, West Peltier, West Woodbridge, North Grand, West Eight Mile, West McDonald,
 9 West Kingston School, Cal Pack, and Clifton Court Roads; on SR 12 and SR 4; and on Tracy Boulevard
 10 (KOPs 73, 86, 115, 119, 120, 124, 141, 152, and 154). Construction activities would introduce
 11 considerable heavy equipment and associated vehicles, including dozers, graders, scrapers, and
 12 trucks, into the viewsheds of public roadways and residential and commercial properties. Safety and
 13 directional signage would also be a visible element. Nearby residences and businesses would have
 14 construction occurring in close proximity to them and some residences would have construction
 15 activities occurring directly adjacent to their properties. The landscape sensitivity level near
 16 residences is moderate to high, and effects on these viewers are substantial, especially because they
 17 would experience disruptive construction activities. In addition, residences may experience loss of
 18 landscaping, fencing, or other landscape features of personal importance, further evoking negative
 19 visual perceptions of these components. Some of these bridges would be constructed in areas where
 20 residences would be acquired and razed to construct the canal.

21 Bridges would create opportunities for views to the surrounding area, but would also introduce
 22 noticeable elevated structures and raised visual masses that would disrupt the continuity of views
 23 by preventing free flowing access from lands on either side of the bridges. This disrupted access
 24 would be both physical and visual. However, because the bridges are on existing roadways, they
 25 would be co-dominant visual features. Effects on roadway users would not be substantial because of
 26 the brief periods that they are in visual contact with the bridge site and because of familiarity with
 27 construction along roadways in the region. Effects on recreationists would not be substantial
 28 because of the brief periods that they are in visual contact with the bridge site. Nevertheless,
 29 construction of bridges would introduce a noticeable change from public viewing areas and could
 30 result in an adverse effect on existing visual quality and character in the study area.

31 ***Spoil and Borrow Areas***

32 Effects related to spoil/borrow areas are similar to those described for Alternative 1A, Impact AES-
 33 1. However, under Alternative 1B, the extent of spoil/borrow areas would be much greater due to
 34 the amount of excavation required and the area needed to store excess spoils from canal
 35 construction (KOPs 45, 54, 55, 86, 103, 106, 119, 140, 141, 152, and 154). Spoil/borrow areas would
 36 take up a much greater area between Intake 1 and Dierssen Road. Under Alternative 1B, there would
 37 be a total of 1,931 acres within this area as compared to a total of 372 acres under Alternative 1A.
 38 These changes would have a much greater effect on available views from SR 160 and near the towns
 39 of Clarksburg and Hood, which have a higher concentration of residential, recreational, and roadway
 40 viewers. Because spoil/borrow areas between Dierssen Road and Terminous Tract (595 acres)
 41 generally hug the canal alignment, they would appear to be a visual extension of canal construction.
 42 Spoil/borrow areas south of Terminous Tract, from King Island to Byron Tract Forebay (8,142
 43 acres), would cover large areas of land, similar to those in the northern portion of the alignment.
 44 There are fewer sensitive visual receptors in this area, but some residential, recreational,

1 commercial, and roadway viewers are present. In addition, railway viewers would be able to see the
 2 spoil/borrow areas located to the north and south of the railway near Holt. These areas would be
 3 seen by passengers sitting in window seats on the north and south sides of the train. While trains
 4 would pass by at a high rate of speed, the landscape effects would be unique and prominent features
 5 that would draw viewers' attention as they pass by them. Spoil/borrow areas would result in large-
 6 scale, sunken or elevated landscape effects that would alter the existing visual character of a
 7 landscape that is predominantly flat. Under Alternative 1B there would be a total of 10,667 acres of
 8 land affected by spoil/borrow areas compared to a total of 1,185 acres under Alternative 1A. In
 9 addition to spoils/borrow in the study area, offsite borrow sites may be needed to provide suitable
 10 materials for intake pipeline foundations, berms around RTM storage areas and canal embankments.
 11 It is not known how much import material would be needed and where it would come from. It is
 12 assumed that effects at import borrow sites would be similar in scale and have similar adverse
 13 visual effects to those within the study area.

14 Overall, recreationists on local roadways, roadway users on local roadways, residents, and nearby
 15 businesses would have direct views of construction activities taking place at spoil/borrow areas.
 16 Impacts on these viewers would be substantial and introduce noticeable to very noticeable changes
 17 that do not blend and are not in keeping or are incompatible with the existing visual environment,
 18 especially for residences that would experience disruptive construction activities near their homes.
 19 Because of the scale of landscape-level changes, long-term nature of construction, proximity to
 20 sensitive receptors, removal of vegetation, and changes to topography through grading, and the
 21 introduction of noticeable changes that could be viewed by sensitive receptors and from public
 22 viewing areas, this effect on existing visual quality and character would be adverse.

23 ***Resuable Tunnel Material Areas***

24 RTM areas would be greatly reduced under this alternative but would be needed to store excess
 25 material from tunnel siphon boring under Snodgrass Slough and the Mokelumne River, near Twin
 26 Cities Road (274 acres); the San Joaquin River near Stockton (137 acres); and near the Byron Tract
 27 Forebay (28 acres). The RTM area near Twin Cities Road would mostly be visible from scattered
 28 rural residences, local roadways, and I-5 to the east (KOP 113 and 119). The RTM area near the San
 29 Joaquin River would mostly be visible from West Rindge Road, a levee road, on Rindge Tract. This
 30 area generally lacks sensitive land-based viewers that would see the area, and the levee obscures
 31 water-based views. The RTM area near Byron Tract Forebay lacks sensitive viewers. RTM areas
 32 would be in use for close to 7.5 years; operations at these locations would take place Monday
 33 through Friday for up to 24 hours per day. If evening and nighttime construction activities are
 34 conducted they would require the use of extremely bright lights, which would adversely affect
 35 nighttime views of and from the construction area. Under Alternative 1B there would be a total of
 36 438 acres of land affected by RTM areas compared to a total of 1,549 acres under Alternative 1A.
 37 Because the long-term nature of construction, proximity to sensitive receptors, and changes to
 38 topography through grading would introduce noticeable changes that could be viewed by sensitive
 39 receptors and from public viewing areas, this effect on visual quality and character would be
 40 adverse.

41 ***Shaft Sites***

42 Effects related to shaft sites are similar to those described for Alternative 1A, Impact AES-1 (see
 43 Figure 17-80). However, Under Alternative 1B, there would be fewer shaft sites because there would
 44 be only three main tunnel siphons, under Snodgrass Slough and the Mokelumne River, near Twin

1 Cities Road; the San Joaquin River near Stockton; and near the Byron Tract Forebay, as described
2 above under *Reusable Tunnel Material Areas*.

3 **Transmission Lines**

4 Proposed transmission line corridors are shown in Figure M3-2. The effects of 12 kV, 69 kV and 230
5 kV transmission lines would be similar under Alternative 1B to those under Alternative 1A, Impact
6 AES-1 (see Figures 17-76, 17-77, and 17-80). The permanent transmission lines would be located in
7 areas in where the landscape sensitivity levels range from low to high (KOPs 1, 3, 4, 15, 16, 18, 19,
8 20, 26, 30, 34, 41, 42, 49, 54, 72, 73, 86, 103, 107, 108, 115, 119, 120, 124, 136, 140, 141, 152, and
9 154). Temporary power would be supplied by 69 kV transmission lines that would tap into the
10 Hood, New Hope, Terminous, Stagg, North Hooper Street, and Herdlyn Substations and would run
11 parallel to existing transmission corridors. Two of these 69 kV transmission line tie-ins for
12 temporary power would enter the Stockton city limits. One would traverse through Brookside and
13 be located north of West March Lane and tie into the Stagg Substation west of Feather River Drive.
14 The other would traverse through Rough and Ready Island, north of West Fyffe Street and tie into an
15 existing substation east of North Hooper Street. These temporary lines would be visible to a large
16 number of viewers in all viewer groups but the transmission lines would be in keeping with the
17 existing visual character of the transmission corridor. In addition to the 69 kV transmission lines, 12
18 kV lines would supply temporary power by tapping into existing transmission routes, or the newly
19 constructed 69 kV lines, extending power to construction sites. These would be new lines and would
20 generally not run parallel to existing transmission corridors.

21 Permanent power would be supplied by the Banks Substation near the Banks pumping plant.
22 Permanent 230 kV transmission lines shown on Figure 3-25, indicated by the S-E1 (East) line for
23 Alternative 1B, would travel from the south to north. The line would parallel existing transmission
24 corridors south of SR 4 and then turn north and cross SR 4, after which it would not parallel an
25 existing transmission corridor. It would travel north for 1.5 miles and would introduce a
26 transmission corridor into the landscape where none presently exists. New permanent 69 kV lines
27 would start at the northern terminus of the 230 kV lines, at a new switchyard at the intermediate
28 pumping plant north of Holt, and parallel the canal to supply power to the intakes. Effects at these
29 locations would be the same as described for Alternative 1A. The presence of temporary and
30 permanent transmission lines would constitute an adverse effect where they do not run parallel to
31 an existing transmission corridor.

32 **Concrete Batch Plants and Fuel Stations**

33 Effects related to concrete batch plants and fuel stations are similar to those described for
34 Alternative 1A, Impact AES-1. However, under Alternative 1B, the location of some concrete batch
35 plants and fuel stations would differ. Approximately 2-acre concrete plants would be located at
36 Intakes 2 and 4, 0.4 mile southeast of SR 4 south of Holt, and north of Byron Highway and a 25-acre
37 concrete plant would be located along the canal alignment just south of Snodgrass Slough.
38 Approximately 2-acre fuel stations would be located at Intakes 2 and 4 (KOP 45), 0.4 mile southeast
39 of SR 4 south of Holt, along the canal alignment just south of Snodgrass Slough, along the canal
40 alignment approximately 8.5 miles south of SR 12, and north of Byron Highway. Construction of the
41 concrete batch plant and fuel station south of Snodgrass Slough would be within 200 feet of the
42 slough's levee and in close proximity to and south of a residence. Elements of construction may be
43 visible to recreationists on Snodgrass Slough, agricultural workers in the area, and the nearby
44 residence but construction would be temporary in nature, lasting less than 2 years. Converting

1 agricultural lands to industrial facilities, especially those in close proximity to SR 160, would
2 introduce a noticeable change in the existing visual quality and character and would be an adverse
3 effect.

4 **Summary**

5 **NEPA Effects:** The construction period would last for 9 years and the intensity of the activities in
6 contrast to the current rural/agricultural nature of the area would be substantial. Construction of
7 Intakes 1–5 and the accompanying pumping plants, surge towers, canals, borrow/spoil areas, RTM
8 areas, forebay, access roads, transmission lines, and concrete batch plants and fuel stations would
9 introduce visually discordant features into foreground and middleground views with low to high
10 landscape sensitivity level. These elements would introduce visually dominant features that would
11 be very noticeable to all viewer groups and would segment the visual landscape of the study area,
12 reduce the amount of open space lands available to viewers, and eliminate valued visual resources.
13 Accordingly, because of the long-term nature of construction, proximity to sensitive receptors,
14 razing of residences and agricultural buildings, removal of vegetation, and changes to topography
15 through grading, this effect on existing visual quality and character would be adverse. In San Joaquin
16 County, the canal would be visible in the middleground from I-5; the canal and a bridge would cross
17 West Eight Mile Road; and the canal, a bridge, and borrow/spoil areas would cross and be in
18 foreground views from roads on Roberts Island north of SR 4 and SR 4. While not officially
19 designated state scenic highways, and therefore not discussed under *Impact AES-3: Permanent*
20 *damage to scenic resources along a state scenic highway from construction of conveyance facilities*,
21 these roads are San Joaquin County Scenic Routes (see *Section 17.2.3.2, County and City General Plans*
22 *– San Joaquin County*). These features would detract from the visual quality of views from these
23 routes. In addition, construction of all these features has the potential to adversely affect wildlife
24 viewing and the overall enjoyment of scenic views in the study area. Effects on the existing visual
25 character under Alternative 1B would be greater than under Alternative 1A due to the extent of the
26 canals visible on the landscape surface, landscape effects left behind by spoil/borrow areas, and
27 introduction of bridges. Overall, effects on the existing visual character associated with construction
28 of Alternative 1B would be adverse because the alternative would result in reductions to the visual
29 quality in some locations and introduce dominant visual elements that would result in very
30 noticeable changes that do not blend and are not in keeping or are incompatible with the existing
31 visual environment. These changes would be viewed by sensitive receptors and from public viewing
32 areas. Mitigation Measures AES-1a through AES-1g are available to address these adverse effects.

33 **CEQA Conclusion:** Because of the long-term nature of construction, proximity to sensitive receptors,
34 razing of residences and agricultural buildings, removal of vegetation, and changes to topography
35 through grading, the impacts associated with constructing Intakes 1–5 and the accompanying
36 pumping plants, surge towers, canals, borrow/spoil areas, RTM areas, forebay, access roads, and
37 transmission lines are considered significant. These changes under Alternative 1B would result in
38 reductions to the visual quality in some locations and introduce dominant visual elements that
39 would result in noticeable changes that do not blend and are not in keeping or are incompatible with
40 the existing visual environment. These changes would be viewed by sensitive receptors and from
41 public viewing areas. Impacts on the existing visual quality and character under Alternative 1B
42 would be greater than under Alternative 1A due to the extent of the canals visible on the landscape
43 surface, landscape effects left behind by spoil/borrow areas, and introduction of bridges.

44 Mitigation Measures AES-1a through AES-1g would partially reduce these impacts by locating new
45 transmission lines and access routes to minimize the removal of trees and shrubs and pruning

1 needed where feasible, installing visual barriers between construction work areas and sensitive
 2 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
 3 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
 4 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
 5 visual resources and receptors and restoring the sites upon removal of facilities, and using best
 6 management practices to implement a project landscaping plan. However, impacts may not be
 7 reduced to a less-than-significant level because even though mitigation measures would reduce
 8 some aspects of the impact on visual quality and character, it is not certain the mitigation would
 9 reduce the level of the impact to less than significant in all instances. In addition, the size of the
 10 study area and the nature of changes introduced by the alternative would result in permanent
 11 changes to the regional landscape such that there would be noticeable to very noticeable changes
 12 that do not blend or are not in keeping with the existing visual environment. Thus, Alternative 1B
 13 would result in significant and unavoidable impacts on the existing visual quality and character in
 14 the study area.

15 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 16 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 17 **Transmission Lines and Underground Transmission Lines Where Feasible**

18 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 19 Alternative 1A.

20 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 21 **Sensitive Receptors**

22 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 23 Alternative 1A.

24 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Resuable Tunnel**
 25 **Material Area Management Plan**

26 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 27 Alternative 1A.

28 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

29 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 30 Alternative 1A.

31 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 32 **Extent Feasible**

33 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 34 Alternative 1A.

35 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 36 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

37 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 38 Alternative 1A.

1 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 2 **Landscaping Plan**

3 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

6 **NEPA Effects:** Scenic vistas are mapped and included in Appendix Figure 17D-1. Permanent effects
 7 on scenic vistas related to the presence of Intakes 1–5 and permanent access routes would be the
 8 same as those described for Alternative 1A, Impact AES-2 (see Figures 17-76, 17-77, and 17-78).
 9 Effects related to shaft sites, RTM areas, and forebays under Alternative 1B would be substantially
 10 decreased relative to Alternative 1A. The spoil/borrow areas near Lambert Road would be visible in
 11 vistas available from Lambert Road (KOP 86) and I-5 (KOP 113), east of the canal. The RTM area
 12 south of Snodgrass Slough would mostly be visible in the vista available from North Vail and
 13 Blossom Roads (KOP 119), where there are few roadway users that would have low visual
 14 sensitivity to changes. However, there are residences in the area that would be highly sensitive to
 15 changes. The RTM area on Rindge Tracts has a small number of sensitive viewers. The RTM area
 16 near Byron Tract Forebay may be partially visible from scenic vistas available from Clifton Court
 17 Road but lacks a large number of sensitive viewers (KOP 154). The shaft sites would not be
 18 noticeable in views from scenic vistas due to distance from viewing distance and their low-profile
 19 nature in a disturbed landscape. Effects on scenic vistas from the presence of forebays would also be
 20 reduced under this alternative, relative to Alternative 1A. The intermediate forebay would not be
 21 constructed. However, effects on scenic vistas related to bridges, canals, and spoil/borrow areas
 22 during operation would differ under this alternative may adversely affect available views from
 23 scenic vistas.

24 Scenic vistas available from SR 160 (KOPs 18, 20, 34, 41, and 45), SR 4 South Tracy Boulevard (KOP
 25 152), and Lambert (KOP 86), Twin Cities (KOP 115), North Vail, Blossom (KOP 119 and 124), North
 26 Rio Blanco, North Holt, Windmill Cove, and Clifton Court (KOP 154) Roads would be greatly altered
 27 by the presence of a large-scale, concrete-lined and water-filled channel traversing the landscape
 28 within vista views. South of Lambert Road, the canal alignment jogs to the east and runs closer to I-
 29 5, allowing direct foreground and middleground views of the canal from the interstate.
 30 Recreationists on local roadways and waterways, roadway users on local roadways, and nearby
 31 businesses would have direct views of the canal that would introduce visually discordant features in
 32 the foreground and middleground views of scenic vistas. The large-scale canal would considerably
 33 change the nature of these scenic vistas by introducing large, industrial structures that would
 34 conflict in form, pattern, color, texture, and general character with existing surroundings and
 35 landscape features that comprise scenic vista opportunities. In addition, transmission lines
 36 following the canals would introduce tall, lattice steel structures that would draw more attention to
 37 the linearity of the canal and its industrial nature.

38 As seen in Figure 17-81, *Existing and Simulated Views of the East Canal from I-5 at Lambert Road*,
 39 construction of the canal would convert agricultural lands to a water conveyance facility and would
 40 require the removal of landscaping, vegetation, and structures and would introduce the raised canal
 41 embankments into the available scenic vista, as illustrated in “Simulated View”. The canal would be
 42 located 1.9 miles away from I-5, decreasing the visual prominence of the canal embankments due to
 43 distance. However, the embankments would appear larger the closer they get to I-5, as seen in the
 44 simulation when comparing the embankment on the left side of the photo to the right side of the

1 photo, where the canal would be farther away. The canal would be most prominent near Twin Cities
2 Road where the nearest embankment would be 0.75 mile away. The canal would limit views to trees
3 on horizon line. In addition, the introduction of tall, steel 230 kV transmission lines paralleling the
4 canal would add to the amount of utility lines seen from I-5. Overall, existing views from KOP 113 on
5 I-5 toward the canal would be impaired by the removal of the buildings and vegetation and
6 introduction of the canal and transmission lines and the Scenic Quality Rating would be reduced
7 from an **E** to an **F**. This effect on scenic vistas would be adverse (see discussions under 17.3.1.2 and
8 17.3.1.3).

9 As seen in Figure 17-83, *Existing and Simulated Views of the East Canal from SR 4*, construction of the
10 canal would displace agricultural lands. The canal would introduce a visual massing into viewshed,
11 as illustrated in "Simulated View". The canal embankments would limit views to the foreground and
12 prevent views to the middleground. Infrastructure and buildings in the foreground of this view act
13 to limit vista views along this portion of SR 4 and screen views of the canal and are foreground focal
14 points that draw attention somewhat away from focusing on the canal. The roadway surface would
15 be more visible as it ascends to bridge over the canal. In addition, the introduction of tall, steel 69 kV
16 transmission lines add to the amount of utility lines present and visually contrasts to existing views
17 where the existing transmission lines consist of wooden utility poles. Overall, existing views from
18 KOP 114 on SR 4 toward the canal would be impaired by the alteration of agricultural lands and
19 introduction of the canal, bridging over the canal, and transmission lines that would alter the visual
20 character of the roadway corridor. While the visual character would be lowered, the Scenic Quality
21 Rating would remain an **F**. The effect of the east canal on the scenic vista would therefore not be
22 adverse at this location (see discussions under 17.3.1.2 and 17.3.1.3). Spoil/borrow areas would
23 take up a much greater area between Intake 1 and Dierssen Road than under Alternative 1A. These
24 changes would have a much greater effect on available views from SR 160 and near the towns of
25 Clarksburg and Hood, which have a higher concentration of residential, recreational, and roadway
26 viewers. Spoil/borrow areas between Dierssen Road and King Island generally hug the canal
27 alignment, so would appear to be more of a visual extension of canal construction. Spoil/borrow
28 areas south of King Island to Byron Tract Forebay would cover large areas of land, like those in the
29 northern portion of the alignment. There are fewer sensitive visual receptors in this area, but some
30 residential, recreational, commercial, and roadway viewers are present. Spoil/borrow areas would
31 result in large-scale, sunken or elevated landscape effects that would be visible in the scenic vistas
32 available from these locations.

33 Bridges would create opportunities for vista views, but would also introduce elevated structures
34 and raised visual masses that would disrupt the continuity of vista views by preventing free-flowing
35 access from lands on either side of the bridges. This disrupted access would be both physical and
36 visual.

37 Operations and maintenance activities in these areas would occur at existing facilities but would not
38 require substantial new structures or changes to the landscape that would have noticeable visual
39 effects on vistas. Overall, permanent effects on scenic vistas associated with the large scale of
40 intakes, visual presence of large-scale borrow/spoil and RTM area landscape effects, and presence of
41 new transmission lines may result in adverse effects on scenic vistas under Alternative 1B. Effects
42 on scenic vistas under Alternative 1B would be greater than under Alternative 1A due to the extent
43 of the canals visible on the landscape surface, landscape effects left behind by spoil/borrow areas,
44 and introduction of bridges. Mitigation Measures AES-1a, AES-1c, and AES-1e are available to
45 address these effects.

1 **CEQA Conclusion:** Permanent impacts on scenic vistas associated with Alternative 1B would be
 2 significant because construction and operation would result in a reduction in the visual quality in
 3 some locations and introduce dominant visual elements that would result in noticeable changes in
 4 the visual character of scenic vista viewsheds in the study area. These changes would not blend,
 5 would not be in keeping or would be incompatible with the existing visual environment, and could
 6 be viewed by sensitive receptors or from public viewing areas. Impacts on scenic vistas under
 7 Alternative 1B would be greater than those under Alternative 1A due to the extent of the canals
 8 visible on the landscape surface, landscape effects left behind by spoil/borrow areas, and
 9 introduction of bridges.

10 Mitigation Measures AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 11 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 12 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 13 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 14 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 15 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 16 hatches to less than significant. However, the impacts on scenic vistas associated with other
 17 structures would not be reduced to a less-than-significant level because the changes would remain
 18 noticeable and introduce elements that do not blend with the existing visual character of the vista
 19 viewsheds. Thus, impacts on scenic vistas associated with Alternative 1B would be significant and
 20 unavoidable.

21 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 22 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 23 **Transmission Lines and Underground Transmission Lines Where Feasible**

24 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 25 Alternative 1A.

26 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 27 **Material Area Management Plan**

28 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 29 Alternative 1A.

30 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 31 **Extent Feasible**

32 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 33 Alternative 1A.

34 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 35 **Construction of Conveyance Facilities**

36 **NEPA Effects:** Effects on scenic highways related to the presence of Intakes 1–5 and permanent
 37 access routes would be the same as those described for Alternative 1A, Impact AES-3 (see Figures
 38 17-76, 17-77, and 17-78) and would result in an overall noticeable effect on viewers relative to their
 39 current experience and enjoyment of the study area's scenic resources. The intermediate forebay
 40 would not be constructed. However, bridges, canals, and spoil/borrow areas may compound
 41 adverse effects on available views from SR 160. These views would be greatly altered by the

1 presence of a large-scale, concrete-lined and water-filled channel traversing the landscape.
 2 Spoil/borrow areas would take up a much greater area between Intake 1 and Dierssen Road under
 3 this alternative than under Alternative 1A. These changes would have a much greater effect on
 4 available views from SR 160. In addition, transmission lines following the canals would introduce
 5 tall, lattice steel structures that would draw more attention to the linearity of the canal and its
 6 industrial nature. Bridges that would be built on River/Scribner Road and a residential access road
 7 south of Intake 2 and west of North Stone Lake would be visible from SR 160. These bridges would
 8 introduce elevated structures into a landscape that is predominantly flat. This disrupted access
 9 would be both physical and visual. Because of the introduction of large obtrusive artificial elements
 10 into the viewshed of a designated scenic highway, this may be an adverse effect. Mitigation
 11 Measures AES-1a, AES-1c, and AES-1e would be available to address this effect.

12 **CEQA Conclusion:** Impacts on scenic highways associated with the presence of conveyance facilities
 13 under Alternative 1B would be significant because visual elements associated with the alternative
 14 would conflict with the existing forms, patterns, colors, and textures visible from SR 160; would
 15 dominate riverfront views available from SR 160; and would alter broad views and the general
 16 nature of the visual experience presently available from SR 160 (thereby permanently damaging the
 17 scenic resources along the scenic highway). Impacts on scenic highways under Alternative 1B would
 18 be greater than those under Alternative 1A due to the extent of the canals visible on the landscape
 19 surface, landscape effects left behind by spoil/borrow areas, and introduction of bridges. Mitigation
 20 Measures AES-1a, AES-1c, and AES-1e would help to reduce these impacts through the application of
 21 aesthetic design treatments to all structures, to the extent feasible. However, impacts on visual
 22 resources resulting from damage to scenic resources that may be viewed from a state scenic
 23 highway would not be reduced to a less-than-significant level. Thus, overall, this impact on views
 24 from a scenic highway would not be reduced to a less-than-significant level because even though
 25 mitigation measures would reduce some aspects of the impact, it is not certain the mitigation would
 26 reduce the level of the impact to less than significant in all instances. In addition, the size of the
 27 study area and the nature of changes introduced by the alternative would result in permanent
 28 changes to the regional landscape such that there would be noticeable to very noticeable changes to
 29 the visual character of a scenic highway viewshed that do not blend or are not in keeping with the
 30 existing visual environment. Thus, overall, this impact would be significant and unavoidable.

31 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 32 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 33 **Transmission Lines and Underground Transmission Lines Where Feasible**

34 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 35 Alternative 1A.

36 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 37 **Material Area Management Plan**

38 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 39 Alternative 1A.

1 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 2 **Extent Feasible**

3 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 6 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

7 **NEPA Effects:** Light and glare effects related to construction and operation of Intakes 1–5 and
 8 permanent access routes would be the same as those described for Alternative 1A, Impact AES-4.
 9 Intakes 1–5 and their associated pumping plants, surge towers, and facilities would create very
 10 noticeable effects relating to light and glare (see Figures 17-76 through 17-78). Effects related to
 11 shaft sites, RTM areas, and forebay would be substantially decreased. The spoils/borrow areas
 12 would be denuded of vegetation, similar to tilled agricultural fields. The intermediate forebay would
 13 not be constructed, but the presence of canals would increase glare over a greater area. Light and
 14 glare effects related to the presence of bridges, canals, and transmission lines during operation
 15 would differ under this alternative and would adversely affect daytime and nighttime views.

16 **Daytime and Nighttime Glare**

17 Sunlight would reflect off the new water surfaces created by the canals, creating new sources of
 18 glare where none presently exists. In addition, the use of nighttime lighting of conveyance facilities
 19 would result in nighttime glare of the lights reflecting off water surfaces. Because of the areal extent
 20 of the canals and introduction of a substantial glare-producing water body, this effect would be
 21 adverse.

22 **Nighttime Lighting**

23 In addition to the lighting of intakes and pumping plants described under Alternative 1A, Alternative
 24 1B would necessitate the establishment of safety lighting along the canals as part of normal
 25 operations and maintenance, resulting in the introduction of new sources of light to parts of the
 26 study area that currently experience low levels of light and glare due to the lesser number of
 27 light/glare producers compared to those found in urban areas. Transmission lines would have
 28 lighting for aircraft safety that would draw attention to the alignment. Because the study area
 29 currently experiences low levels of light and because there would be a larger number of viewers in
 30 and around the waterways, intake structures, forebay, and canals, effects associated with nighttime
 31 light would be adverse. Mitigation Measures AES-4a through AES-4c are available to address these
 32 effects.

33 **CEQA Conclusion:** The impacts associated with light and glare under Alternative 1B are significant
 34 because there are a larger number of viewers in and around the waterways, intake structures,
 35 forebay, and canals; alternative facilities would create new sources of substantial nighttime lighting
 36 in the Delta above existing ambient light levels; and the study area currently experiences no or very
 37 low levels of light. Mitigation Measures AES-4a through AES-4c would help reduce impacts by
 38 limiting construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from
 39 portable sources used for construction, and installing visual barriers along access routes, where
 40 necessary, to prevent light spill from truck headlights toward residences. However, these mitigation
 41 measures would not reduce impacts to a less-than-significant level because even though mitigation
 42 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the

1 level of the impact to less than significant in all instances. In addition, the size of the study area and
 2 the nature of changes introduced by the new light and glare sources would result in permanent
 3 changes to the regional landscape such that there would be noticeable changes to the visual
 4 character that do not blend or are not in keeping with the existing visual environment. Thus, the
 5 new sources of daytime and nighttime light and glare associated with Alternative 1B would result in
 6 significant and unavoidable impacts on public views in the project vicinity.

7 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 8 **Residents**

9 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 10 Alternative 1A.

11 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 12 **Construction**

13 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 14 Alternative 1A.

15 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 16 **to Prevent Light Spill from Truck Headlights toward Residences**

17 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 18 Alternative 1A.

19 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

20 **NEPA Effects:** As described under Alternative 1A, once the facility is in operation, visible regular and
 21 periodic maintenance would be required on all major structures. Activities such as painting,
 22 cleaning, vegetation maintenance (removal), repairs, and inspections would be visible from
 23 viewpoints on water and land. Operations under Alternative 1B would be very similar to those
 24 under Alternative 1A. Although under Alternative 1B there would not be an intermediate forebay,
 25 the canal and Byron Tract Forebay would require cleaning and dredging. The greatest visual effects
 26 resulting from operations would be maintenance of the intakes and cleaning of the canals. However,
 27 these temporary maintenance activities are anticipated to occur within short periods of time, and
 28 effects would not be adverse.

29 **CEQA Conclusion:** Maintenance of the conveyance facilities (i.e., intakes, canals, forebay,
 30 transmission lines, and operable barrier) would be required periodically and would involve
 31 painting, cleaning, and repair of structures; dredging at the Byron Tract forebay, cleaning canals;
 32 vegetation removal and care along embankments; canal inspection; and vegetation removal within
 33 transmission line ROWs. These visible maintenance activities would be temporary, intermittent, and
 34 short-term impacts and would be considered less than significant. Maintenance and operation of
 35 Alternative 1B, once constructed, would not result in further substantial changes to the existing
 36 natural viewshed or terrain, alter existing visual quality of the region or eliminate visual resources,
 37 or obstruct or permanent reduce visually important features. Thus, overall, Alternative 1B would
 38 have a less-than-significant impact on existing visual quality and character during maintenance and
 39 operation of the facilities in the study area. No mitigation is required.

1 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during**
 2 **Implementation of CM2–CM22**

3 **NEPA Effects:** Under Alternative 1B, these conservation measures would be identical to those under
 4 Alternative 1A. Therefore, visual effects related to the existing visual character, scenic vistas, scenic
 5 highways, and light and glare resulting from conservation measures would be the same as those
 6 described under Alternative 1A, Impact AES-6. There may be site-specific, localized adverse visual
 7 effects. These conservation measures would alter the Delta landscape by incrementally, and
 8 substantially, introducing elements into the study area over time. CM2–CM22, when combined with
 9 CM1, could substantially alter the visual character of the study area, which is strongly identified by
 10 its agricultural and water-based Delta landscapes and communities. These landscapes and
 11 communities could be adversely affected by the introduction of discordant visual features, removal
 12 of existing buildings and landscape elements of value, and through the potential for indirect impacts
 13 associated with other development potentially setting a precedent for other development to occur.
 14 All of these effects would alter the visual character of the existing regional landscape.

15 Because of the unknown location of site-specific restoration activities, potential presence of
 16 sensitive viewers, potential for construction periods to last longer than 2 years, and varying
 17 intensity of construction, effects associated with implementation of CM2–CM22 are considered
 18 adverse. However, the visual characteristics of restored/enhanced landscapes would be similar to
 19 other areas of the Delta that are in a natural marsh or wetland state and more limited in extent than
 20 the widespread areas of agricultural development. In this sense, the BDCP would have an overall
 21 beneficial effect related to the enhancement and creation of scenic vistas in the Delta.

22 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a through AES-4c are
 23 available to address effects from habitat restoration and enhancement actions under CM2–CM22. In
 24 addition, Mitigation Measures AES-6a and AES-6b are available to help reduce adverse visual effects.
 25 Upon development of site-specific design information and plans, additional mitigation measures
 26 may be identified to address action-specific adverse effects. However, each individual project under
 27 CM2–CM22 would undergo the environmental compliance process that would be used to determine
 28 what additional mitigation measures, would be deemed appropriate to reduce adverse effects and to
 29 assess compliance with relevant regulations. Finally, Mitigation Measure AES-6c is available to help
 30 inventory, classify, and protect the unique visual landscape of the Delta.

31 **CEQA Conclusion:** Implementation of conservation measures under Alternative 1B has the potential
 32 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
 33 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
 34 and character would be significant where use of large numbers of heavy construction equipment,
 35 changes in topography, and introduction of new structures or facilities where none presently exist
 36 would take place in the vicinity of sensitive receptors. However, because a number of factors that
 37 would determine the level of change are unknown—the location of site-specific restoration
 38 activities, potential presence of sensitive viewers, potential for construction periods to last longer
 39 than 2 years, and varying intensity of construction—impacts associated with implementation of
 40 CM2–CM22 on visual quality and character, scenic vistas, and light and glare sources, are considered
 41 significant. Because of the distance of implemented conservation measures from scenic highways,
 42 changes associated with these activities would not affect the visual quality along these scenic
 43 highway corridors and this impact would be less than significant. Site-specific restoration
 44 information and plans need to be developed before the site-specific effects on the existing visual
 45 character, scenic vistas, and light and glare can be determined.

1 Several mitigation measures are available to minimize the impacts on visual quality and character in
 2 the study area that could result from implementation of these conservation measures. As
 3 summarized below, these measures could be applied to individual restoration projects or actions as
 4 appropriate for the site-specific conditions and design considerations. In addition, each restoration
 5 project or action would undergo an environmental compliance process that would be used to
 6 determine what additional mitigation measures would be deemed appropriate to reduce significant
 7 effects. Mitigation Measures AES-1a through AES-1g could be applied to minimize impacts by
 8 locating new transmission lines and access routes to minimize the removal of trees and shrubs and
 9 pruning needed where feasible, installing visual barriers between construction work areas and
 10 sensitive receptors, developing and implementing a spoil/borrow and RTM area management plan,
 11 restoring barge unloading facility sites once decommissioned, applying aesthetic design treatments
 12 to all structures to the extent feasible, locating concrete batch plants and fuel stations away from
 13 sensitive visual resources and receptors and restoring the sites upon removal of facilities, and using
 14 best management practices to implement a project landscaping plan. Mitigation Measures AES-4a
 15 through AES-4c could be used to reduce the effects of new light and glare sources by limiting
 16 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
 17 sources used for construction, and installing visual barriers along access routes, where necessary, to
 18 prevent light spill from truck headlights toward residences. In addition, Mitigation Measures AES-6a
 19 and AES-6b would further minimize impacts on visual resources by undergrounding new or
 20 relocated utility lines, where feasible, and through an evaluation of an afterhours low-intensity and
 21 lights off policy. Finally, implementation of Mitigation Measure AES-6c would provide a strategy for
 22 the protection of the unique visual landscape of the Delta.

23 While some of the conservation measures could result in beneficial impacts through the restoration
 24 of natural habitat and these mitigation measures would reduce the severity of impacts, it is
 25 unknown whether they would be reduced to a less-than-significant level because of uncertainties
 26 associated with future implementation of CM2–CM22. In addition, the size of the study area and the
 27 nature of changes introduced by these conservation measures would result in permanent changes to
 28 the regional landscape such that there would be noticeable changes to the visual character that may
 29 or may not blend with or be in keeping with the existing visual environment. Thus, implementation
 30 of these conservation measures would result in significant and unavoidable impacts on the existing
 31 visual quality and character in the study area.

32 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 33 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 34 **Transmission Lines and Underground Transmission Lines Where Feasible**

35 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 36 Alternative 1A.

37 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 38 **Sensitive Receptors**

39 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 40 Alternative 1A.

1 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
2 **Material Area Management Plan**

3 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
4 Alternative 1A.

5 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

6 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
7 Alternative 1A.

8 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
9 **Extent Feasible**

10 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
11 Alternative 1A.

12 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
13 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

14 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
15 Alternative 1A.

16 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
17 **Landscaping Plan**

18 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
19 Alternative 1A.

20 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
21 **Residents**

22 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
23 Alternative 1A.

24 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
25 **Construction**

26 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
27 Alternative 1A.

28 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
29 **to Prevent Light Spill from Truck Headlights toward Residences**

30 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
31 Alternative 1A.

32 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

33 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
34 Alternative 1A.

1 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
 2 **Lights Off Policy**

3 Please refer to Mitigation Measure AES-6b under Impact AES-6 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
 6 **Plan for the Delta and study area**

7 Please refer to Mitigation Measure AES-6c under Impact AES-6 in the discussion of
 8 Alternative 1A.

9 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
 10 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
 11 **Addressing Aesthetics and Visual Resources**

12 **NEPA Effects:** Constructing conveyance facilities and implementing CM2–CM22 under Alternative
 13 1B could result in the potential for incompatibilities with plans and policies related to preserving
 14 the visual quality and character of the Delta. A number of plans and policies that coincide with the
 15 study area boundaries provide guidance for visual resource issues as overviewed in *Section 17.2,*
 16 *Regulatory Setting.* This overview of plan and policy compatibility evaluates whether Alternative 1B
 17 is compatible or incompatible with such enactments, rather than whether impacts are adverse or
 18 not adverse or significant or less than significant. If the incompatibility relates to an applicable plan,
 19 policy, or regulation adopted to avoid or mitigate visual effects, then an incompatibility might be
 20 indicative of a related significant or adverse effect under CEQA and NEPA, respectively. These
 21 physical effects of Alternative 1B on visual resources are addressed in Impacts AES-1 through AES-6,
 22 above. The following is a summary of compatibility evaluations related to visual resources for plans
 23 and policies relevant to the BDCP.

24 **Conveyance Facilities**

- 25 • The Sierra Resource and Cosumnes River Preserve Management Plans protect the Cosumnes
 26 River Preserve. Views within the Cosumnes River Preserve would not be affected by Alternative
 27 1B because it is located east of I-5 and public views of the project site available from trails are
 28 obscured by riparian vegetation and I-5.
- 29 • The Suisun Marsh is protected by the San Francisco Bay Conservation and Development
 30 Commission Suisun Marsh Protection Plan. The eastern boundary of the Suisun Marsh extends
 31 to Collinsville Road in southern Solano County and falls within the westernmost portion of the
 32 study area. Views from Suisun Marsh would not be affected by this alternative because project
 33 features would be obscured by distance, the Altamont Hills, and intervening trees,
 34 infrastructure, and development.
- 35 • EBRPD parks within the study area include Browns Island, Antioch/Oakley, and Big Break Parks
 36 (East Bay Regional Park District 2013b). Views from these parks would not be affected by this
 37 alternative because project features would be obscured by distance, the Altamont Hills, and
 38 intervening trees, infrastructure, and development.
- 39 • The cities of Antioch, Brentwood, Oakley, Sacramento, Lathrop, Tracy, Rio Vista, Suisun City, and
 40 West Sacramento would not be affected by this alternative because there are no project features

1 within or visible from these cities. Therefore, this alternative would be consistent with the
 2 protection of visual resources covered under those general plans.

- 3 • Alternative 1B would involve construction of two 12 kV temporary power transmission lines
 4 along existing corridors in the city of Stockton: one through Brookside, north of West March
 5 Lane with a tie in at the Stagg Substation west of Feather River Drive, and the other through
 6 Rough and Ready Island, north of West Fyffe Street with a tie in at an existing substation east of
 7 North Hopper Street. These temporary lines would be in keeping with the existing visual
 8 character of the transmission corridor. Therefore, this alternative would be compatible with the
 9 protection of visual resources covered under the general plan.
- 10 • The Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992, Delta Protection
 11 Commission Land Use and Resource Management Plan for the Primary Zone of the Delta, Delta
 12 Plan, Brannan Island and Franks Tract State Recreation Areas General Plan are all focused on
 13 the protection of resources, including visual resources, within the Delta. While constructing and
 14 operating conveyance facilities under this alternative are intended to provide ecosystem
 15 benefits in the Delta, constructing these conveyance elements could be considered incompatible
 16 with measures to protect the unique visual environment of the Delta because agricultural lands
 17 and riverbanks would be converted to other uses and the scale of construction would result in
 18 changes to the landscape that may be considered disruptive to the current Delta environment
 19 and visual quality.
- 20 • Contra Costa, Sacramento, San Joaquin, and Solano Counties all have policies to preserve and
 21 protect the scenic qualities of the Delta as summarized in *Section 17.2 Regulatory Setting*. In
 22 addition, Alameda, Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties are focused
 23 on the protection of visual resources and preserving agricultural lands. The general plans for
 24 these counties include policies for the protection of visual resources, trees, waterways, and
 25 landscaping and for avoiding impacts such as the alteration of landforms and the introduction of
 26 utilities and new sources of light. These policies seek to minimize visual impacts and enhance
 27 scenic qualities and also encourage placing utility lines underground. The conversion of
 28 agricultural lands and riverbanks to intake facilities, canal and related conveyance facility
 29 changes, landscape effects, and introduction of new lighting and transmission lines where none
 30 presently exist would substantially alter the landscape and could be considered incompatible
 31 with local policies aimed at protecting visual resources in these counties. Potential
 32 incompatibilities with Sacramento County and San Joaquin County policies would be most likely
 33 because most of the project features occur in these counties. Alameda and Contra Costa Counties
 34 have much smaller portions of project features that surround the Clifton Court Forebay. Yolo
 35 County would be affected by intakes located on the east bank of the Sacramento River that
 36 would affect views from South River Road. Alternative 1B would not be incompatible with
 37 Solano County policies because conveyance facilities would not be located in this area.

38 **Other Conservation Measures**

- 39 • The Yolo Bypass would be altered under CM2. Views of and from South River Road would not be
 40 affected. However, new fish screens, ladders, ramps, barriers, realignment of waterways,
 41 additional hydrologic monitoring stations, fish rearing pilot project at Knaggs Ranch, operations
 42 buildings, parking lots, access facilities such as roads and bridges, and modification, removal,
 43 and construction of berms, levees, and water control structures would result in changes to the
 44 landscape that may be incompatible with the Yolo County General Plan Policies LU-3.7, CC-1.2,
 45 CC-1.3, and CC-1.4 that protect scenic areas, the rural landscape character, and the night sky.

- 1 • CM4–CM11 would result in the conversion of primarily agricultural lands to restored or
2 enhanced habitat across all 11 CZs, with specific focus on ROAs (refer to Figure 3-1). Therefore,
3 associated regulations may apply. Restored areas would largely be natural habitat areas.
4 Alterations such as channel and levee modifications, landform alteration from dredge spoil
5 placement, and floodplain lowering could change the visual landscape. Restoring areas and
6 views to natural, native habitat would likely be beneficial and would increase visual diversity.
7 However, converting agricultural lands may be incompatible with one or more regulation
8 protecting visual resources, although it may facilitate regulations set in place to protect and
9 restore the Delta. If facilities, such as buildings, parking lots, or roads, are built, they would also
10 have the potential to be incompatible with relevant regulations that protect scenic areas, the
11 landscape character, the night sky, and the Delta.
- 12 • CM15 and CM21 would occur across all 11 CZs and could result in physical changes to the visual
13 environment at a number of locations and where relevant regulations may apply. This may have
14 beneficial or adverse effects based on the size of proposed projects and pre-and post-project
15 conditions (e.g., if restoration is implemented and improves pre-project conditions or if natural
16 vegetation is removed and replaced with rip rap or a new diversion structure that degrades pre-
17 project conditions). Vegetation removal and replacement with rip rap or a diversion structure
18 could be incompatible with relevant regulations that protect scenic areas,
19 the landscape character, the night sky, and the Delta.
- 20 • CM16 could use sound, light, and bubbles at the head of the Delta Cross Channel and Georgiana
21 Slough in Sacramento County; Old River, Turner Cut, and Columbia Cut in San Joaquin County,
22 the Delta-Mendota Canal intake in Alameda County; and Clifton Court Forebay in Contra Costa
23 County to direct fish passage. Small scale changes may be visible on the banks or in the water
24 used for anchoring that could result in adverse visual effects, but it is anticipated that these
25 changes would be consistent with County general plan policies that protect visual resources.
- 26 • Building a new hatchery that consists of a facility on the edge of the Sacramento River and a
27 larger supplementation production facility nearby, through CM18, would result in visual
28 changes and conversion of existing land uses along and near the river would be required to
29 build facilities. These facilities could be located in Sacramento, Yolo, or Solano Counties and also
30 fall within the Delta. Therefore, corresponding regulations may apply. The size and locations of
31 these facilities are unknown, but it is likely that conversion of existing land uses, and potentially
32 undeveloped land would alter the visual character along the Sacramento River and would be
33 incompatible with one or more plans or policies for the protection of visual resources in these
34 regions.

35 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
36 physical consequence to the environment. The physical effects they suggest are discussed in impacts
37 AES-1 through AES-6 above, and no additional CEQA conclusion is required related to the
38 compatibility of Alternative 1B with relevant plans and policies.

39 **17.3.3.4 Alternative 1C—Dual Conveyance with West Alignment and** 40 **Intakes W1–W5 (15,000 cfs; Operational Scenario A)**

41 Table 17D-3, in Appendix 17D, *Permanent Impacts after Construction is Complete*, describes existing
42 visual characteristics and the BDCP-related permanent effects of Alternative 1A on visual quality
43 and character, scenic vistas, scenic roadways, and from light and glare sources after construction is
44 complete and identifies the overall effect on viewers. Appendix E, *Permanent Features*, identifies the

viewer groups and viewing locations that would be affected by permanent alternative features. Construction of all structural components under Alternative 1C could potentially occur over a period of 9 years. However, construction of each individual facility would be phased within that period and would occur over a shorter period. The estimated construction times for individual features are included below. The duration and schedule for construction of the water conveyance facilities (CM1) is provided in Appendix 3C, *Construction Assumptions for Water Conveyance Facilities*. In addition, Appendix 22A details the construction schedules and defines the length and sequence of each construction phase. A map and schematic depicting the conveyance facilities associated with Alternative 1C are provided in Figures 3-6 and 3-7.

Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during Construction of Conveyance Facilities

Visual effects related to Intakes W1–W5, canals, spoils/borrow areas, RTM areas, shaft sites, Byron Tract Forebay, access roads, and transmission lines would be similar to those described under Alternative 1B, Impact AES-1. While site-specific locations of features under Alternative 1C differ, these components would result in the same visual effects across the same landscape types and would have the same or similar effects on visual resources and viewer groups (see Figures 17-76 through 17-78 and Figure 17-80 and Mapbook Figure M3-3). The conveyance facilities would be visible throughout the construction areas from various local roadways and would have concentrated viewers in some locations. Site-specific differences associated with the locations of the various features are described below.

Intakes

Intakes W1–W5 would essentially be built in the same order and size directly across the Sacramento River from the locations established for Intakes 1–5 (see Figures 17-76 through 17-78 and Mapbook Figure M3-3). Construction of each intake would take approximately 4 years to complete and would occur primarily Monday through Friday for up to 24 hours per day. In addition, because of the relatively high groundwater level at all intake locations and pumping plant sites, dewatering would be necessary to provide a dry workspace. Dewatering would also be needed where intake pipelines cross waterways and major irrigation canals west of the Sacramento River. Dewatering would take place 7 days per week and 24 hours per day and would be initiated 1–4 weeks prior to excavation. Dewatering would continue until excavation is completed and the construction site is protected from areas with high groundwater levels (Chapter 3, *Description of Alternatives*). Construction of the west intakes would be visible from SR 160. Intake W2 is immediately south of Clarksburg, exposing a concentration of sensitive viewers in the immediate vicinity surrounding the construction area to views of this intake (KOPs 1, 3, 4, 12, 16, 18, 30, 38, 49, and 56).

Canals

A conveyance pipeline between Intakes W1 and W2 would require wide, linear trenching to install. The proposed canal alignment starts near Intake W2, passes by Intakes W3–W5, and then heads west toward the Sacramento River Deep Water Ship Channel where it turns and heads south to the control structure 1 mile south of SR 220 (KOPs 16, 19, 20, 42, 158, 165, 168, 173, 174, 176, 177, 179, and 180). The conveyance alignment would be in a tunnel south from this structure for approximately 17 miles, where it would daylight back into a canal 0.5 mile south of East Cypress Road. The alignment continues south through a fairly developed area, crosses SR 4, and then jogs east to the Byron Tract Forebay, which would be constructed on the northwest side of the Clifton

1 Court Forebay (KOPs 184, 189, 192, 197, 198, 103, and 106). The top width of the isolated
 2 conveyance canal would be approximately 700 feet. See Table 3-7.

3 The canal is considered as northern and southern segments (i.e., separated by the tunnel) for the
 4 purposes of discussing visual impacts. Construction would be performed in a linear pattern over a 5-
 5 year period and would occur primarily Monday through Friday for up to 24 hours per day. In
 6 addition, because of the relatively high groundwater level along the canal alignment, dewatering
 7 would be necessary to provide a dry workspace for excavation of the canal foundation. Dewatering
 8 would take place 7 days per week and 24 hours per day and would be initiated 1–4 weeks prior to
 9 excavation. Dewatering would continue until excavation is completed and the construction site is
 10 protected from areas with high groundwater levels (Chapter 3, *Description of Alternatives*).
 11 Construction of the northern segment would require the relocation of several residents and razing
 12 of residential and agricultural buildings, although much of the area within the alignment is not
 13 developed. The southern canal segment, however, is more developed. The relocation of residents
 14 and businesses and the razing of residential, commercial, and agricultural buildings would be most
 15 concentrated immediately east of Byron Highway, between Delta Road and just south of SR 4 to 0.5
 16 mile east of Bixler Road. This area has fairly dense rural development, in addition to nearby
 17 suburban development associated with Discovery Bay. This development increases the number of
 18 sensitive viewers that would be directly adjacent or very close to the construction activities
 19 associated with building the canal in this location. In addition, the canal would also be visible from
 20 Amtrak San Joaquin Oakland to Bakersfield route as it crosses by the canal north of Orwood Road
 21 and east of Byron Highway. The canal would be seen by passengers sitting in window seats on the
 22 north and south sides of the train. The canal would dead end to the north and south of the railway
 23 and siphon under the tracks. While trains would pass by at a high rate of speed, the canal would be a
 24 unique and prominent feature that would draw viewers' attentions as they pass by the feature that
 25 would appear as a brief pinch point in views. Transmission lines following the canals would
 26 introduce tall, lattice steel structures that would draw more attention to the linearity of the canal
 27 and its industrial nature.

28 As seen in Figure 17-84, *Existing and Simulated Views of the West Canal from SR 4*, construction of
 29 the canal would displace agricultural lands and agrarian infrastructure and require the removal of
 30 vegetation. The canal would introduce a prominent visual massing into viewshed, as illustrated in
 31 "Simulated View", which limits views to the foreground and prevents views to the suburban
 32 development, beyond. However, landscape appears more rural because suburban development is
 33 obscured by the large, human-made levee. Trees and shrubs lining the south side of SR 4 would also
 34 be removed to allow for construction. The roadway, roadway signage, and relocated wooden
 35 transmission lines would be more prominent because there would be no more vegetation to screen
 36 and reduce the apparent scale of these features. In addition, the roadway surface would be more
 37 visible as it ascends to a bridge over the canal. Overall, existing views from KOP 195 on SR 4 toward
 38 the canal would be impaired by the removal of the agrarian structures and vegetation and
 39 introduction of the canal, bridging over the canal, and transmission lines that would alter the visual
 40 character of the roadway corridor. The Scenic Quality Rating would be reduced from an **E** to an **F**.
 41 This effect would be adverse (see discussions under 17.3.1.2 and 17.3.1.3).

42 **Byron Tract Forebay**

43 Under Alternative 1C, the Byron Tract Forebay would take just over 3 years to construct. The visual
 44 effects of construction would be similar to those discussed under Alternatives 1A and 1B, Impact
 45 AES-1, except that the forebay would be constructed northwest of the Clifton Court Forebay (KOP

101). Construction activities would still be visible from Byron Highway, although from a different portion of the highway, and would be visible to more sensitive viewers because the forebay is south of the development in the Discovery Bay area. The Byron Tract Forebay would convert a large area of agricultural land but is beside the Clifton Court Forebay in an area that already has a visual predominance of water conveyance features. Nevertheless, construction of the forebay would result in noticeable changes associated with the presence of expanded conveyance features that could be viewed by sensitive receptors and from public viewing areas. This effect on visual quality and character would be considered adverse.

Bridges

Effects related to construction of bridges would occur within a 2-year period and would be similar to those described for Alternative 1B, Impact AES-1, because the proposed components would be similar but would be constructed in different locations west of the Sacramento River. Under Alternative 1C, up to sixteen bridges would be built on CR 142 and CR 161; SR 84, SR 220, and SR 4 (Taylor Lane); Jefferson Boulevard; Elevator, Delta, Orwood, Balfour, Point of Timber, Marsh Creek, and Bixler Roads; Cow Poke and Eagle Lanes; and Byron Highway (KOPs 165, 168, 177, 179, 184, 189, 192, and 198). Construction activities would introduce considerable heavy equipment and associated vehicles, including dozers, graders, scrapers, and trucks, into the viewsheds of public roadways and residential and commercial properties. Safety and directional signage would also be a visible element. Bridges would create opportunities for views to the surrounding area, but would also introduce noticeable elevated structures and raised visual masses that would disrupt the continuity of views by preventing free flowing access from lands on either side of the bridges. This disrupted access would be both physical and visual. Overall, construction of bridges would introduce a noticeable change from public viewing areas and could result in an adverse effect on existing visual quality and character in the study area.

Spoil and Borrow Areas

There would be vast areas of spoil/borrow near Intakes W1–W5 and the northern canal segment near the Sacramento River Deep Water Ship Channel (5,105 acres). Large spoil/borrow areas would also be situated along the southern canal segment (699 acres) and surrounding and south of the Byron Tract Forebay (967 acres) (KOPs 16, 19, 101, 162, 165, 168, 173, 176, 180, 189, and 192). Spoil/borrow areas along the northern canal segment may be visible from some locations along SR 160, and they would be visible from CH E9, SR 84, SR 220, and other smaller local roadways in the area. Spoil/borrow areas along the southern canal segment would be visible from multiple roadways in the area, as listed in Table 17D-3 in Appendix 17D. Railway viewers would also be able to see the spoil/borrow areas located to the north and south of the railway between Bixler Road and Byron Highway. These areas would be seen by passengers sitting in window seats on the north and south sides of the train. While trains would pass by at a high rate of speed, the landscape effects would be unique and prominent features that would draw viewers' attentions as they pass by them. Under Alternative 1C there would be a total of 6,770 acres of land affected by spoil/borrow areas compared to a total of 1,185 acres under Alternative 1A and 10,667 acres under Alternative 1B. In addition to spoils/borrow in the study area, offsite borrow sites may be needed to provide suitable materials for intake pipeline foundations, berms around RTM storage areas and canal embankments. It is not known how much import material would be needed and where it would come from. It is assumed that effects at import borrow sites would be similar in scale and have similar adverse visual effects to those within the study area. The spoils/borrow areas would introduce large sunken or elevated landforms into a landscape that is predominantly flat. Because of the scale of landscape-

1 level changes, long-term nature of construction, proximity to sensitive receptors, removal of
 2 vegetation, and changes to topography through grading, and the introduction of noticeable changes
 3 that could be viewed by sensitive receptors and from public viewing areas, this effect on existing
 4 visual quality and character would be adverse.

5 ***Reusable Tunnel Material Areas***

6 RTM areas would be more extensive under this alternative than under Alternative 1B but would be
 7 considerably less than under Alternative 1A. A dual-bore tunnel would be constructed from the
 8 control structure 1 mile south of SR 220 (KOP 180) to 0.5 mile south of East Cypress Road. RTM
 9 areas to store excess material from tunnel boring would be established near the control structure
 10 (181 acres), north of SR 12 on Brannan Island (334 acres) (KOP 181), and north of Delta Road (400
 11 acres). Railway viewers would be able to see the RTM area located north of Delta Road, to the east.
 12 These areas would be seen by passengers sitting in window seats on the eastern side of the train.
 13 While trains would pass by at a high rate of speed, the landscape effects would be unique and
 14 prominent features that would draw viewers' attentions as they pass by them. Under Alternative 1C
 15 there would be a total of 914 acres of land affected by RTM areas compared to a total of 1,549 acres
 16 under Alternative 1A and 438 acres under Alternative 1B. RTM areas would be in use for close to 7.5
 17 years; operations at these locations would take place Monday through Friday for up to 24 hours per
 18 day. If evening and nighttime construction activities are conducted they would require the use of
 19 extremely bright lights, which would adversely affect nighttime views of and from the construction
 20 area. Because the long-term nature of construction, proximity to sensitive receptors, and changes to
 21 topography through grading would introduce noticeable changes that could be viewed by sensitive
 22 receptors and from public viewing areas, this effect on visual quality and character would be
 23 adverse.

24 ***Shaft Sites***

25 Effects related to shaft sites would be similar to those described for Alternative 1A, Impact AES-1.
 26 However, under Alternative 1C, there would be fewer shaft sites because the tunnel segment would
 27 be roughly half as long as under Alternative 1A (see Figure 17-80). Nevertheless, construction
 28 activities associated with the shaft sites would constitute an adverse effect on visual resources. Air
 29 vents and access shafts would be located on Twitchell and Bethel Islands and only the ones on
 30 Bethel Island would have fencing that would be visible in the foreground from Bethel Island Road, to
 31 the east.

32 ***Transmission Lines***

33 Proposed transmission line corridors are shown in Mapbook Figure M3-3. Construction of 69 kV and
 34 230 kV transmission lines would take less than 2 years and would require vegetation clearing along
 35 the linear ROWs. As under Alternative 1A, Impact AES-1, the effects would be adverse, although the
 36 specific locations of these lines would differ (see Figures 17-76, 17-77, and 17-80). The permanent
 37 transmission lines would be located in areas in where the landscape sensitivity levels range from
 38 low to high (KOPs 1, 3, 4, 15, 16, 18, 19, 20, 26, 30, 34, 38, 41, 42, 45, 49, 56, 158, 162, 165, 168, 173,
 39 174, 176, 177, 179, and 180). Temporary power would be supplied by 12kV and 69 kV transmission
 40 lines that would tap into the Grand Island, EBMUD Pumping Plant, and Herdlyn Substations and
 41 would run parallel to existing transmission corridors. The 69 kV transmission lines tap into existing
 42 115/69 kV lines off of SR 160, south of Grand Island Road, and north of SR 12. In addition to the 69
 43 kV transmission lines, 12 kV lines would supply temporary power by tapping into existing

1 transmission routes, or the newly constructed 69 kV lines, extending power to construction sites.
2 These would be new lines and would generally not run parallel to existing transmission corridors.

3 Permanent power for Alternative 1C would be supplied by the Lambie Substation. Permanent 230
4 kV transmission lines are shown on Figure 3-25, indicated by the W-W1 (West) line for Alternative
5 1C, and would travel from the west to east where it terminates at the proposed pumping plant east
6 of SR 84 and south of SR 220. The Lambie Substation is located approximately 1 mile northeast of SR
7 113/12, immediately north of Lambie Road and just west of Bithell Lane. The new substation would
8 be located at an existing substation and would be of a similar industrial nature. This location would
9 require more than 25 miles of 230 kV electrical transmission lines to connect this substation to the
10 northern study area, would introduce a transmission corridor into the landscape where none
11 presently exists, and would be visible from local roadways and SR 113/12, SR 84, and SR 220. New
12 permanent 69 kV lines would start at the northern terminus of the 230 kV lines, at a new switchyard
13 at the pumping plant, and parallel the canal and head north to supply power to the intakes. The
14 proposed permanent 69 kV and 230 kV electrical power transmission lines would be carried on tall
15 steel poles that would be highly visible landscape features contrasting strongly with their
16 surroundings, resulting in adverse visual effects. The type of effects at these locations would be the
17 same as described for Alternative 1A, Impact AES-1. The presence of temporary and permanent
18 transmission lines would constitute an adverse effect where they do not run parallel to an existing
19 transmission corridor.

20 ***Concrete Batch Plants and Fuel Stations***

21 Effects related to concrete batch plants and fuel stations are similar to those described for
22 Alternative 1A, Impact AES-1, except that locations would differ. Approximately 2-acre concrete
23 plants would be located along the canal alignment adjacent to Willow Point Road, between Intakes 3
24 and 4 (KOP 42), and along the canal alignment approximately 1 mile north of the Byron Highway
25 and an approximately 40-acre concrete plant along the canal alignment approximately 1 mile south
26 of the SR 84/SR 220 junction (KOP 180) and along the canal alignment just north of Franks Tract.
27 Approximately 2-acre fuel stations would be located along the canal alignment adjacent to Willow
28 Point Road, between Intakes 3 and 4, along the canal alignment approximately 1 mile south of the SR
29 84/SR 220 junction, along the canal alignment just north of Franks Tract, and along the canal
30 alignment approximately 1 mile north of the Byron Highway.

31 Construction of a concrete batch plant and fuel station along Willow Point Road would be
32 immediately visible from the roadway with unobstructed views. Construction of the concrete batch
33 plant and fuel station proposed between Intakes 3 and 4 would be partially screened by existing
34 buildings and vegetation but would still be visible from CH E9, down the agricultural access road
35 they are located along. Construction of a concrete batch plant and fuel station along the canal
36 alignment approximately 1 mile south of the SR 84/SR 220 junction would occur in the middle of
37 agricultural lands and not along or in immediate proximity to a roadway or waterway and would be
38 seen by the nearby residence to the northwest, agricultural workers, and roadway users on SR 84.
39 Construction of a concrete batch plant and fuel station along the canal alignment just north of
40 Franks Tract would not have a substantial effect because it would not occur in proximity to sensitive
41 visual receptors. Elements of construction may be visible to recreationists on False River and
42 agricultural workers on Franks Tract, but these viewers would only have intermittent visual access
43 and construction would be temporary in nature, lasting less than 2 years. Construction of a concrete
44 batch plant and fuel station along the canal alignment approximately 1 mile north of the Byron
45 Highway would be located in close proximity to similar industrial looking facilities that are

1 associated with the Clifton Court Forebay and existing transmission lines that course the area. The
2 primary viewers of this area are roadway travelers on Byron Highway that pass by the site at
3 highway speeds that would have intermittent visual access of temporary construction activities that
4 would last less than 2 years. Once the project is complete, these facilities would be removed.

5 **Summary**

6 **NEPA Effects:** The construction period would last for 9 years and the intensity of activities in
7 contrast to the current rural/agricultural nature of the area would be substantial. Construction of
8 Intakes W1–W5 and accompanying pumping plants, surge towers, canals, borrow/spoil areas, RTM
9 areas, forebay, access roads, transmission lines, and concrete batch plants and fuel stations would
10 introduce visually discordant features in the foreground and middleground views of scenic vistas
11 and from scenic roadways, and these elements would be visible to all viewer groups. The existing
12 visual character would be greatly altered by the presence of a large-scale intakes and concrete-lined
13 and water-filled channels traversing the landscape. In addition, construction of all these features has
14 the potential to adversely affect wildlife viewing and the overall enjoyment and segment the visual
15 landscape of the study area, reduce the amount of open space lands available to viewers, and
16 eliminate valued visual resources within scenic views in the study area. Because of the long-term
17 nature of construction, proximity to sensitive receptors, razing of residences and agricultural
18 buildings, removal of vegetation, and changes to topography through grading, this effect is
19 considered adverse. Effects on the existing visual quality and character under Alternative 1C would
20 be greater than those under Alternatives 1A and 1B due to the extent of the canals visible on the
21 landscape surface, landscape effects left behind by spoil/borrow areas, introduction of bridges, and
22 closer proximity to a greater number of sensitive viewers. Overall, effects on the existing visual
23 character associated with construction of Alternative 1C would be adverse because the alternative
24 would result in reductions to the visual quality in some locations and introduce dominant visual
25 elements that would result in noticeable changes that do not blend and are not in keeping or are
26 incompatible with the existing visual environment. These changes would be viewed by sensitive
27 receptors and from public viewing areas. Mitigation Measures AES-1a through AES-1g are available
28 to address these effects.

29 **CEQA Conclusion:** Because of the long-term nature of construction, proximity to sensitive receptors,
30 razing of residences and agricultural buildings, removal of vegetation, and changes to topography
31 through grading, the impacts associated with constructing Intakes W1–W5 and accompanying
32 pumping plants, surge towers, canals, borrow/spoil areas, RTM areas, and forebays are considered
33 significant. These changes under Alternative 1C would result in reductions to the visual quality in
34 some locations and introduce dominant visual elements that would result in noticeable changes that
35 do not blend and are not in keeping or are incompatible with the existing visual environment. These
36 changes would be viewed by sensitive receptors and from public viewing areas. Impacts on the
37 existing visual quality and character under Alternative 1C would be greater than those under
38 Alternative 1A and 1B due to the extent of the canals visible on the landscape, landscape effects left
39 behind by spoil/borrow areas, introduction of bridges, and closer proximity to a greater number of
40 sensitive viewers.

41 Mitigation Measures AES-1a through AES-1g would partially reduce these impacts by locating new
42 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
43 needed where feasible, installing visual barriers between construction work areas and sensitive
44 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
45 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all

1 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
 2 visual resources and receptors and restoring the sites upon removal of facilities, and using best
 3 management practices to implement a project landscaping plan. However, impacts may not be
 4 reduced to a less-than-significant level because even though mitigation measures would reduce
 5 some aspects of the impact on visual quality and character, it is not certain the mitigation would
 6 reduce the level of the impact to less than significant in all instances. In addition, the size of the
 7 study area and the nature of changes introduced by the alternative would result in permanent
 8 changes to the regional landscape such that there would be noticeable to very noticeable changes
 9 that do not blend or are not in keeping with the existing visual environment. Thus, Alternative 1C
 10 would result in significant and unavoidable impacts on the existing visual quality and character in
 11 the study area.

12 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 13 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 14 **Transmission Lines and Underground Transmission Lines Where Feasible**

15 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 16 Alternative 1A.

17 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 18 **Sensitive Receptors**

19 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 20 Alternative 1A.

21 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 22 **Material Area Management Plan**

23 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 24 Alternative 1A.

25 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

26 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 27 Alternative 1A.

28 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 29 **Extent Feasible**

30 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 31 Alternative 1A.

32 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 33 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

34 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 35 Alternative 1A.

1 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 2 **Landscaping Plan**

3 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

6 **NEPA Effects:** Scenic vistas are mapped and included in Appendix Figure 17D-1. Effects on scenic
 7 vistas related to operation of Intakes W1–W5, canals, spoils/borrow areas, RTM areas, shaft sites,
 8 Byron Tract Forebay, permanent access roads, and transmission lines would be similar to those
 9 described under Alternative 1B, Impact AES-2 (see Figures 17-76, 17-77, and 17-79). While specific
 10 locations of components under Alternative 1C differ, they would introduce the same features across
 11 the same landscape types and would have the same or similar effects on visual resources and viewer
 12 groups. Site-specific differences associated with the location of the various features are described
 13 below.

14 Scenic vistas available from SR 160, SR 84, SR 220, SR 12, CH E9, SR 4, and Byron Highway would be
 15 noticeably altered by the presence of a large-scale intakes and concrete-lined and water-filled
 16 channels traversing the landscape. Intakes W1–W5 would be prominent visual features in vista
 17 views from SR 160 and CH E9. The spoil/borrow areas would mostly be visible in the vistas from CH
 18 E9, SR 84, SR 220, SR 4, and Byron Highway. The RTM area on Ryer Island would mostly be visible in
 19 the vista from SR 84 and SR 220, where there are few roadway users with low visual sensitivity to
 20 changes. The RTM area on Brannan Island would mostly be visible in the vista from SR 160 and SR
 21 12, where there are few roadway users with low visual sensitivity to changes. The shaft sites would
 22 not be noticeable in views from scenic vistas due to viewing distance and their low-profile nature in
 23 a disturbed landscape.

24 The intermediate forebay would not be constructed. The Byron Tract Forebay would encompass
 25 600 acres—the same size as Alternative 1A—but would be in a different location. Like
 26 Alternative 1A, it would convert a large area of agricultural land but would be next to the Clifton
 27 Court Forebay in an area that already has a visual predominance of water conveyance features.
 28 Nevertheless, construction of the forebay may result in adverse visual effects associated with the
 29 presence of expanded conveyance features in views.

30 Bridges would create opportunities for vista views, but would also introduce elevated structures
 31 and raised visual masses that would disrupt the continuity of vista views by preventing free-flowing
 32 access from lands on either side of the bridges. This disrupted access would be both physical and
 33 visual.

34 Operations and maintenance activities in these areas would occur at existing facilities but would not
 35 require substantial new structures or changes to the landscape that would have noticeable visual
 36 effects on vistas. Overall, permanent effects on scenic vistas associated with the large scale of
 37 intakes, visual presence of large-scale borrow/spoil and RTM area landscape effects, and presence of
 38 new transmission lines may result in adverse effects on scenic vistas under Alternative 1C. Effects on
 39 scenic vistas under Alternative 1C would be greater than those under Alternatives 1A and 1B due to
 40 the extent of the canals visible on the landscape, landscape effects left behind by spoil/borrow areas,
 41 introduction of bridges, and closer proximity to a greater number of sensitive viewers. Mitigation
 42 Measures AES-1a, AES-1c, and AES-1e are available to address these effects.

1 **CEQA Conclusion:** Permanent impacts on scenic vistas associated with operation of Alternative 1C
 2 would be significant because construction and operation would result in a reduction in the visual
 3 quality in some locations and introduce dominant visual elements that would result in noticeable
 4 changes in the visual character of scenic vista viewsheds in the study area. These changes would not
 5 blend, would not be in keeping or would be incompatible with the existing visual environment, and
 6 could be viewed by sensitive receptors or from public viewing areas. Impacts on scenic vistas under
 7 Alternative 1C would be greater than under Alternatives 1A and 1B due to the extent of the canals
 8 visible on the landscape surface, landscape effects left behind by spoil/borrow areas, introduction of
 9 bridges, and closer proximity to a greater number of sensitive viewers.

10 Mitigation Measures AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 11 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 12 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 13 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 14 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 15 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 16 hatches to less than significant. However, the impacts on scenic vistas associated with other
 17 structures would not be reduced to a less-than-significant level because the changes would remain
 18 noticeable and introduce elements that do not blend with the existing visual character of the vista
 19 viewsheds. Thus, impacts on scenic vistas associated with Alternative 1C would be significant and
 20 unavoidable.

21 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 22 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 23 **Transmission Lines and Underground Transmission Lines Where Feasible**

24 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 25 Alternative 1A.

26 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 27 **Material Area Management Plan**

28 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 29 Alternative 1A.

30 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 31 **Extent Feasible**

32 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 33 Alternative 1A.

34 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 35 **Construction of Conveyance Facilities**

36 **NEPA Effects:** Effects on scenic highways related to the presence of Intakes W1–W5, canals,
 37 spoils/borrow areas, bridges, permanent access roads, and transmission lines would be similar to
 38 those described under Alternatives 1A and 1B, Impact AES-3 (see Figures 17-76, 17-78, and 17-79)
 39 and would result in an overall noticeable effect on viewers relative to their current experience and
 40 enjoyment of the study area's scenic resources. While specific locations of features under Alternative
 41 1C differ, these components would introduce the same features across the same landscape types and

1 would have the same or similar effects on visual resources and viewer groups. The intakes would be
 2 visible from SR 160. However, bridges, canals, and spoil/borrow areas may or may not be visible
 3 from SR 160 because the work areas would be across the river at a lower ground elevation than the
 4 raised roadway, and the views could be obscured by intervening vegetation along SR 160 and CH E9.
 5 Where visible, views would be greatly altered by the presence of large-scale, concrete-lined and
 6 water-filled channels traversing the landscape, large sunken or elevated landforms, and elevated
 7 structures between the intakes. In addition, transmission lines following the canals would introduce
 8 tall, lattice steel structures that would draw more attention to the linearity of the canal and its
 9 industrial nature and would be visible from SR 160. Effects on scenic highways under Alternative 1C
 10 may not be as great as those under Alternative 1B, due to the potential for obscured views of the
 11 bridges, canals, and spoil/borrow areas from SR 160; however, these effects may be adverse.
 12 Mitigation Measures AES-1a, AES-1c, and AES-1e would be available to address these effects.

13 **CEQA Conclusion:** Impacts on scenic highways associated with the presence of conveyance facilities
 14 under Alternative 1C would be significant because visual elements associated with the alternative
 15 would conflict with the existing forms, patterns, colors, and textures visible from SR 160; would
 16 dominate riverfront views available from SR 160; and would alter broad views and the general
 17 nature of the visual experience presently available from SR 160 (thereby permanently damaging the
 18 scenic resources along the scenic highway). Impacts on scenic highways under Alternative 1C may
 19 not be as great as Alternative 1B due to the potential for obscured views of the bridges, canals, and
 20 spoil/borrow areas from SR 160. However, the intakes would be very visible. Mitigation Measures
 21 AES-1a, AES-1c, and AES-1e would help to reduce these impacts through the application of aesthetic
 22 design treatments to all structures, to the extent feasible. However, impacts on visual resources
 23 resulting from damage to scenic resources that may be viewed from a state scenic highway would
 24 not be reduced to a less-than-significant level because even though mitigation measures would
 25 reduce some aspects of the impact, it is not certain the mitigation would reduce the level of the
 26 impact to less than significant in all instances. In addition, the size of the study area and the nature
 27 of changes introduced by the alternative would result in permanent changes to the regional
 28 landscape such that there would be noticeable to very noticeable changes to the visual character of a
 29 scenic highway viewshed that do not blend or are not in keeping with the existing visual
 30 environment. Thus, overall, this impact would be significant and unavoidable.

31 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 32 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 33 **Transmission Lines and Underground Transmission Lines Where Feasible**

34 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 35 Alternative 1A.

36 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 37 **Material Area Management Plan**

38 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 39 Alternative 1A.

1 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 2 **Extent Feasible**

3 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 6 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

7 **NEPA Effects:** Light and glare effects related to operation of Intakes W1–W5, canals, spoils/borrow
 8 areas, RTM areas, shaft sites, Byron Tract Forebay, permanent access roads, and transmission lines
 9 would be similar to those described for Alternatives 1A and 1B, Impact AES-4. Intakes W1–W5 and
 10 their associated pumping plants, surge towers, and facilities would create very noticeable effects
 11 relating to light and glare (see Figures 17-76 through 17-78). While specific locations of components
 12 under Alternative 1C would differ, these features would introduce the same light and glare effects
 13 across the same landscape types and would have the same or very similar effects on visual resources
 14 and viewer groups. The spoils/borrow areas would be denuded of vegetation, similar to tilled
 15 agricultural fields. The presence of canals and the Byron Tract Forebay would increase glare over a
 16 large area. Light and glare effects related to the operation of intakes, bridges, canals, forebay, and
 17 transmission lines during operation would adversely affect daytime and nighttime views.

18 **Daytime and Nighttime Glare**

19 Sunlight would reflect off the new water surfaces created by the canals, creating new sources of
 20 glare where none presently exists. In addition, the use of nighttime lighting of conveyance facilities
 21 would result in nighttime glare of the lights reflecting off water surfaces. Because of the extent of the
 22 canals and introduction of a substantial glare-producing water body, this effect would be adverse.

23 **Nighttime Lighting**

24 In addition to the lighting of intakes and pumping plants, Alternative 1C would entail the
 25 establishment of safety lighting along the canals as part of normal operations and maintenance and
 26 would result in the introduction of new sources of light to parts of the study area that currently
 27 experience low levels of light and glare. Transmission lines would be required to have lighting for
 28 aircraft safety, drawing attention to the alignment. Because the study area currently experiences low
 29 levels of light and because there are a larger number of viewers in and around the waterways, intake
 30 structures, forebay, and canals, effects associated with nighttime light would be adverse. Mitigation
 31 Measures AES-4a through AES-4c are available to address these effects.

32 **CEQA Conclusion:** The impacts associated with light and glare under Alternative 1C are significant
 33 because there are a larger number of viewers in and around the waterways, intake structures,
 34 forebay, and canals; alternative facilities would increase the amount of nighttime lighting in the
 35 Delta above existing ambient light levels; and the study area currently experiences low levels of light
 36 Mitigation Measures AES-4a through AES-4c would help reduce impacts by limiting construction to
 37 daylight hours within 0.25 mile of residents, minimizing fugitive light from portable sources used for
 38 construction, and installing visual barriers along access routes, where necessary, to prevent light
 39 spill from truck headlights toward residences. However, these mitigation measures would not
 40 reduce impacts to a less-than-significant level because even though mitigation measures would
 41 reduce some aspects of the impact, it is not certain the mitigation would reduce the level of the
 42 impact to less than significant in all instances. In addition, the size of the study area and the nature

1 of changes introduced by the new light and glare sources would result in permanent changes to the
 2 regional landscape such that there would be noticeable changes to the visual character that do not
 3 blend or are not in keeping with the existing visual environment. Thus, the new sources of daytime
 4 and nighttime light and glare associated with Alternative 1C would result in significant and
 5 unavoidable impacts on public views in the project vicinity.

6 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 7 **Residents**

8 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 9 Alternative 1A.

10 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 11 **Construction**

12 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 13 Alternative 1A.

14 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 15 **to Prevent Light Spill from Truck Headlights toward Residences**

16 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 17 Alternative 1A.

18 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

19 **NEPA Effects:** Operations under Alternative 1C would be very similar to those under Alternatives 1A
 20 and 1B and once the facility is in operation, visible regular and periodic maintenance would be
 21 required on all major structures. Activities such as painting, cleaning, vegetation maintenance
 22 (removal), repairs, and inspections would be visible from viewpoints on water and land. Although
 23 under Alternative 1C there would not be an intermediate forebay (same as Alternative 1B), the canal
 24 and Byron Tract Forebay would require cleaning and dredging. The greatest visual effects resulting
 25 from operations would be maintenance of the intakes and cleaning the canals. However, these
 26 temporary maintenance activities are anticipated to occur within short periods of time, and effects
 27 would not be adverse.

28 **CEQA Conclusion:** Maintenance of the conveyance facilities (i.e., intakes, canals, forebay,
 29 transmission lines, and operable barrier) would be required periodically and would involve
 30 painting, cleaning, and repair of structures; dredging at the Byron Tract forebay, cleaning canals;
 31 vegetation removal and care along embankments; canal inspection; and vegetation removal within
 32 transmission line ROWs. These visible maintenance activities would be temporary, intermittent, and
 33 short-term impacts and would be considered less than significant. Maintenance and operation of
 34 Alternative 1C, once constructed, would not result in further substantial changes to the existing
 35 natural viewshed or terrain, alter existing visual quality of the region or eliminate visual resources,
 36 or obstruct or permanently reduce visually important features. Thus, overall, Alternative 1C would
 37 have a less-than-significant impact on existing visual quality and character during maintenance and
 38 operation of the facilities in the study area. No mitigation is required.

1 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during**
 2 **Implementation of CM2–CM22**

3 **NEPA Effects:** Under Alternative 1C, these conservation measures would be identical to those under
 4 Alternatives 1A and 1B. Therefore, visual effects related to the existing visual character, scenic
 5 vistas, scenic highways, and light and glare resulting from conservation measures would be the
 6 same as those described under Alternative 1A, Impact AES-6. There may be site-specific, localized
 7 adverse visual effects. These conservation measures would alter the Delta landscape by
 8 incrementally, and substantially, introducing elements into the study area over time. CM2–CM22,
 9 when combined with CM1, could substantially alter the visual character of the study area, which is
 10 strongly identified by its agricultural and water-based Delta landscapes and communities. These
 11 landscapes and communities could be adversely affected by the introduction of discordant visual
 12 features, removal of existing buildings and landscape elements of value, and through the potential
 13 for indirect impacts associated with other development potentially setting a precedent for other
 14 development to occur. All of these effects would alter the visual character of the existing regional
 15 landscape.

16 Because of the unknown location of site-specific restoration activities, potential presence of
 17 sensitive viewers, potential for construction periods to last longer than 2 years, and varying
 18 intensity of construction, effects associated with implementation of CM2–CM22 are considered
 19 adverse. However, the visual characteristics of restored/enhanced landscapes would be similar to
 20 other areas of the Delta that are in a natural marsh or wetland state and more limited in extent than
 21 the widespread areas of agricultural development. In this sense, the BDCP would have an overall
 22 beneficial effect related to the enhancement and creation of scenic vistas in the Delta.

23 **CEQA Conclusion:** Implementation of conservation measures under Alternative 1C has the potential
 24 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
 25 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
 26 and character would be significant where use of large numbers of heavy construction equipment,
 27 changes in topography, and introduction of new structures or facilities where none presently exist
 28 would take place in the vicinity of sensitive receptors. However, because a number of factors that
 29 would determine the level of change are unknown—the location of site-specific restoration
 30 activities, potential presence of sensitive viewers, potential for construction periods to last longer
 31 than 2 years, and varying intensity of construction—impacts associated with implementation of
 32 CM2–CM22 on visual quality and character, scenic vistas, and light and glare sources, are considered
 33 significant. Because of the distance of implemented conservation measures from scenic highways,
 34 changes associated with these activities would not affect the visual quality along these scenic
 35 highway corridors and this impact would be less than significant. Site-specific restoration
 36 information and plans need to be developed before the site-specific effects on the existing visual
 37 character, scenic vistas, and light and glare can be determined.

38 Several mitigation measures are available to minimize the impacts on visual quality and character in
 39 the study area that could result from implementation of these conservation measures. As
 40 summarized below, these measures could be applied to individual restoration projects or actions as
 41 appropriate for the site-specific conditions and design considerations. In addition, each restoration
 42 project or action would undergo an environmental compliance process that would be used to
 43 determine what additional mitigation measures would be deemed appropriate to reduce significant
 44 effects. Mitigation Measures AES-1a through AES-1g could be applied to minimize impacts by
 45 locating new transmission lines and access routes to minimize the removal of trees and shrubs and

1 pruning needed where feasible, installing visual barriers between construction work areas and
 2 sensitive receptors, developing and implementing a spoil/borrow and RTM area management plan,
 3 restoring barge unloading facility sites once decommissioned, applying aesthetic design treatments
 4 to all structures to the extent feasible, locating concrete batch plants and fuel stations away from
 5 sensitive visual resources and receptors and restoring the sites upon removal of facilities, and using
 6 best management practices to implement a project landscaping plan. Mitigation Measures AES-4a
 7 through AES-4c could be used to reduce the effects of new light and glare sources by limiting
 8 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
 9 sources used for construction, and installing visual barriers along access routes, where necessary, to
 10 prevent light spill from truck headlights toward residences. In addition, Mitigation Measures AES-6a
 11 and AES-6b would further minimize impacts on visual resources by undergrounding new or
 12 relocated utility lines, where feasible, and through an evaluation of an afterhours low-intensity and
 13 lights off policy. Finally, implementation of Mitigation Measure AES-6c would provide a strategy for
 14 the protection of the unique visual landscape of the Delta.

15 While some of the conservation measures could result in beneficial impacts through the restoration
 16 of natural habitat and these mitigation measures would reduce the severity of impacts, it is
 17 unknown whether they would be reduced to a less-than-significant level because of uncertainties
 18 associated with future implementation of CM2–CM22. In addition, the size of the study area and the
 19 nature of changes introduced by these conservation measures would result in permanent changes to
 20 the regional landscape such that there would be noticeable changes to the visual character that may
 21 or may not blend or be in keeping with the existing visual environment. Thus, implementation of
 22 these conservation measures would result in significant and unavoidable impacts on the existing
 23 visual quality and character in the study area.

24 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 25 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 26 **Transmission Lines and Underground Transmission Lines Where Feasible**

27 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 28 Alternative 1A.

29 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 30 **Sensitive Receptors**

31 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 32 Alternative 1A.

33 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 34 **Material Area Management Plan**

35 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 36 Alternative 1A.

37 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

38 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 39 Alternative 1A.

1 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
2 **Extent Feasible**

3 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
4 Alternative 1A.

5 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
6 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

7 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
8 Alternative 1A.

9 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
10 **Landscaping Plan**

11 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
12 Alternative 1A.

13 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
14 **Residents**

15 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
16 Alternative 1A.

17 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
18 **Construction**

19 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
20 Alternative 1A.

21 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
22 **to Prevent Light Spill from Truck Headlights toward Residences**

23 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
24 Alternative 1A.

25 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

26 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
27 Alternative 1A.

28 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
29 **Lights Off Policy**

30 Please refer to Mitigation Measure AES-6b under Impact AES-6 in the discussion of
31 Alternative 1A.

32 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
33 **Plan for the Delta and study area**

34 Please refer to Mitigation Measure AES-6c under Impact AES-6 in the discussion of
35 Alternative 1A.

1 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
 2 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
 3 **Addressing Aesthetics and Visual Resources**

4 **NEPA Effects:** Constructing water conveyance facilities (CM1) and implementing CM2–CM22 under
 5 Alternative 1C could result in the potential for incompatibility with plans and policies related to
 6 preserving the visual quality and character of the Delta. A number of plans and policies that coincide
 7 with the study area boundaries provide guidance for visual resource issues as overviewed in *Section*
 8 *17.2, Regulatory Setting*. This overview of plans and policies evaluates whether Alternative 1C is
 9 compatible with such enactments, rather than whether impacts are adverse or not adverse or
 10 significant or less than significant. If an incompatibility relates to an applicable plan, policy, or
 11 regulation adopted to avoid or mitigate visual effects, then it might be indicative of a related
 12 significant or adverse effect under CEQA and NEPA, respectively. These physical effects of
 13 Alternative 1C on visual resources are addressed in Impacts AES-1 through AES-6, above. The
 14 following is a summary of the compatibility evaluation related to visual resources for plans and
 15 policies relevant to the BDCP.

16 **Conveyance Facilities**

- 17 ● The Sierra Resource and Cosumnes River Preserve Management Plans protect the Cosumnes
 18 River Preserve. Views within the Cosumnes River Preserve would not be affected by Alternative
 19 1C because it is located east of I-5 and public views of the project site available from trails are
 20 obscured by riparian vegetation and I-5.
- 21 ● The Suisun Marsh is protected by the San Francisco Bay Conservation and Development
 22 Commission Suisun Marsh Protection Plan. The eastern boundary of the Suisun Marsh extends
 23 to Collinsville Road in southern Solano County and falls within the westernmost portion of the
 24 study area. Views from Suisun Marsh could be altered by this alternative and potentially
 25 incompatible with Policy 8(g) of the plan because a new permanent transmission line would be
 26 constructed and follow Flannery, Goose Haven, and Lambie Roads and tie into the existing
 27 Lambie Substation.
- 28 ● EBRPD parks within the study area include Browns Island, Antioch/Oakley, and Big Break Parks
 29 (East Bay Regional Park District 2013b). Views from these parks would not be affected by this
 30 alternative because project features would be obscured by distance, the Altamont Hills, and
 31 intervening trees, infrastructure, and development.
- 32 ● The cities of Antioch, Brentwood, Oakley, Sacramento, Lathrop, Tracy, Rio Vista, Suisun City, and
 33 West Sacramento would not be affected by this alternative because there are no project features
 34 within or visible from these cities. Therefore, this alternative would be consistent with the
 35 protection of visual resources covered under those general plans.
- 36 ● Alternative 1C would involve construction of two 12 kV temporary power transmission lines
 37 along existing corridors in the city of Stockton: one through Brookside, north of West March
 38 Lane with a tie in at the Stagg Substation west of Feather River Drive, and the other through
 39 Rough and Ready Island, north of West Fyffe Street with a tie in at an existing substation east of
 40 North Hopper Street. These temporary lines would be in keeping with the existing visual
 41 character of the transmission corridor. Therefore, this alternative would be consistent with the
 42 protection of visual resources covered under the general plan.

- 1 • The Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992, Delta Protection
 2 Commission Land Use and Resource Management Plan for the Primary Zone of the Delta, Delta
 3 Plan, Brannan Island and Franks Tract State Recreation Areas General Plan are all focused on
 4 the protection of resources, including visual resources, within the Delta. While constructing and
 5 operating conveyance facilities under this alternative are intended to provide ecosystem
 6 benefits in the Delta, constructing these conveyance elements could be considered incompatible
 7 with measures to protect the unique visual environment of the Delta because agricultural lands
 8 and riverbanks would be converted to other uses and the scale of construction would result in
 9 changes to the landscape that may be considered disruptive to the current Delta environment
 10 and visual quality.
- 11 • Contra Costa, Sacramento, San Joaquin, and Solano Counties all have policies to preserve and
 12 protect the scenic qualities of the Delta as summarized in *Section 17.2 Regulatory Setting*. In
 13 addition, Alameda, Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties are focused
 14 on the protection of visual resources and preserving agricultural lands. The general plans for
 15 these counties include policies for the protection of visual resources, trees, waterways, and
 16 landscaping and for avoiding impacts such as the alteration of landforms and the introduction of
 17 utilities and new sources of light. These policies seek to minimize visual impacts and enhance
 18 scenic qualities and also encourage placing utility lines underground. The conversion of
 19 agricultural lands and riverbanks to intake facilities, canal and related conveyance facility
 20 changes, landscape effects, and introduction of new lighting and transmission lines where none
 21 presently exist would substantially alter the landscape and could be considered incompatible
 22 with local policies aimed at protecting visual resources in these counties. Potential
 23 incompatibilities with Yolo, Solano, and Contra Costa Counties policies would be most likely
 24 because most of the alternative features occur in these counties. Sacramento County would be
 25 affected by intakes located on the west bank of the Sacramento River that would affect views
 26 from SR 160 and views within the county would also be affected by the shaft site and RTM areas
 27 that are on Brannan Island and the shaft site on Twitchell Island. Alameda County has a much
 28 smaller portion of project features that tie into the Delta-Mendota Canal, south of Byron
 29 Highway. Alternative 1C would not be incompatible with San Joaquin County policies because
 30 alternative facilities would not be located in this area.

31 ***Other Conservation Measures***

- 32 • The Yolo Bypass would be altered under CM2. Views of and from South River Road would not be
 33 affected. However, new fish screens, ladders, ramps, barriers, realignment of waterways,
 34 additional hydrologic monitoring stations, fish rearing pilot project at Knaggs Ranch, operations
 35 buildings, parking lots, access facilities such as roads and bridges, and modification, removal,
 36 and construction of berms, levees, and water control structures would result in changes to the
 37 landscape that may be incompatible with the Yolo County General Plan Policies LU-3.7, CC-1.2,
 38 CC-1.3, and CC-1.4 that protect scenic areas, the rural landscape character, and the night sky.
- 39 • CM4–CM11 would result in the conversion of primarily agricultural lands to restored or
 40 enhanced habitat across all 11 CZs, with specific focus on ROAs (refer to Figure 3-1). Therefore,
 41 associated regulations may apply. Restored areas would largely be natural habitat areas.
 42 Alterations such as channel and levee modifications, landform alteration from dredge spoil
 43 placement, and floodplain lowering could change the visual landscape. Restoring areas and
 44 views to natural, native habitat would likely be beneficial and would increase visual diversity.
 45 However, converting agricultural lands may be incompatible with one or more regulation

1 protecting visual resources, although it may facilitate regulations set in place to protect and
 2 restore the Delta. If facilities, such as buildings, parking lots, or roads, are built, they would also
 3 have the potential to be incompatible with relevant regulations that protect scenic areas, the
 4 landscape character, the night sky, and the Delta.

- 5 • CM15 and CM21 would occur across all 11 CZs and could result in physical changes to the visual
 6 environment at a number of locations and where relevant regulations may apply. This may have
 7 beneficial or adverse effects based on the size of proposed projects and pre-and post-project
 8 conditions (e.g., if restoration is implemented and improves pre-project conditions or if natural
 9 vegetation is removed and replaced with rip rap or a new diversion structure that degrades pre-
 10 project conditions). Vegetation removal and replacement with rip rap or a diversion structure
 11 could be incompatible with relevant regulations that protect scenic areas,
 12 the landscape character, the night sky, and the Delta.
- 13 • CM16 could use sound, light, and bubbles at the head of the Delta Cross Channel and Georgiana
 14 Slough in Sacramento County; Old River, Turner Cut, and Columbia Cut in San Joaquin County,
 15 the Delta-Mendota Canal intake in Alameda County; and Clifton Court Forebay in Contra Costa
 16 County to direct fish passage. Small scale changes may be visible on the banks or in the water
 17 used for anchoring that could result in adverse visual effects, but it is anticipated that these
 18 changes would be compatible with county general plan policies that protect visual resources.
- 19 • Building a new hatchery that consists of a facility on the edge of the Sacramento River and a
 20 larger supplementation production facility nearby, through CM18, would result in visual
 21 changes and conversion of existing land uses along and near the river would be required to
 22 build facilities. These facilities could be located in Sacramento, Yolo, or Solano Counties and also
 23 fall within the Delta. Therefore, corresponding regulations may apply. The size and locations of
 24 these facilities are unknown, but it is likely that conversion of existing land uses, and potentially
 25 undeveloped land would alter the visual character along the Sacramento River and would be
 26 incompatible with one or more plans or policies for the protection of visual resources in these
 27 regions.

28 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
 29 physical consequence to the environment. The physical effects they suggest are discussed in impacts
 30 AES-1 through AES-6, above and no additional CEQA conclusion is required related to the
 31 compatibility of Alternative 1C with relevant plans and policies.

32 **17.3.3.5 Alternative 2A—Dual Conveyance with Pipeline/Tunnel and Five** 33 **Intakes (15,000 CFS; Operational Scenario B)**

34 Table 17D-1 in Appendix 17D, *Permanent Impacts after Construction is Complete*, describes existing
 35 visual characteristics and the BDCP-related permanent effects of Alternative 1A on visual quality
 36 and character, scenic vistas, scenic roadways, and from light and glare sources after construction is
 37 complete and identifies the overall effect on viewers. Appendix E, *Permanent Features*, identifies the
 38 viewer groups and viewing locations that would be affected by permanent alternative features.
 39 Effects would be similar for this alternative. The only differences between Alternative 2A and
 40 Alternative 1A pertaining to visual resources is the possible variance in the location of two intakes
 41 and the addition of an operable barrier at the head of Old River (see Figures 3-2 and 3-3).
 42 Alternative 2A would entail construction of Intakes 1–5 or Intakes 1–3, 6, and 7 (KOPs 62, 65, and
 43 68). The effects associated with construction of Intakes 1–5 is discussed under Alternative 1A, and
 44 those effects would be the same if Intakes 1–5 would be constructed under this alternative.

1 Accordingly, only the effects related to the differing intake locations, specifically in regards to
2 Intakes 6 and 7, and the operable barrier are discussed below.

3 **Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during** 4 **Construction of Conveyance Facilities**

5 **NEPA Effects:** Effects related to visual resources under this alternative would be similar to those
6 described for Alternative 1A, Impact AES-1. Intakes 6 and 7 would be located farther south than
7 Intakes 4 and 5, between Grand Island Road and the town of Vorden, 3.5–4 miles southwest of the
8 intermediate forebay. Substantial effects on existing visual quality and character would result if
9 intakes are constructed at these locations, as described for Alternative 1A. These effects would
10 include introduction of considerable heavy equipment into the viewshed for all viewer groups
11 where visual character was predominantly agricultural; removal of residences and other buildings
12 dissecting parcels and disrupting the continuity of rural land; loss of landscaping and other mature
13 vegetation; and topographical changes from earthwork. Construction dust would be addressed by
14 using basic and enhanced fugitive dust control measures and measures for entrained road dust
15 (Chapter 22, *Air Quality and Greenhouse Gases*, and Appendix 3B, *Environmental Commitments*).
16 Revegetation and landscaping would be determined in accordance with DWR's WREM No. 30a,
17 *Architectural Motif, State Water Project* and through coordination with local agencies through an
18 architectural review process. In addition, in-water construction at all intake locations would result
19 in adverse visual effects for recreationists and other water-based views because of the elongated
20 viewing times during periods of boating-related congestion, temporary partial channel closures that
21 could impede recreational opportunities and create negative visual perceptions of these facilities,
22 and a reduced recreational experience due the industrial nature of views of such facilities. Because
23 of the long-term nature of construction, proximity to sensitive receptors, razing of residences and
24 agricultural buildings, removal of vegetation, changes to topography through grading, and addition
25 of large-scale industrial structures where none presently exist, the visual quality would be reduced
26 and there would be noticeable to very noticeable changes. This effect is considered adverse (see
27 discussions under 17.3.1.2 and 17.3.1.3).

28 The operable barrier at the head of Old River would take up to 3 years to construct, introducing a
29 large structure across the existing channel that would limit physical and visual access to views of the
30 horizon beyond. Mount Diablo would still be visible over the structure. Because of the long-term
31 nature of construction, proximity to sensitive receptors, razing of residences and agricultural
32 buildings, removal of vegetation, and changes to topography through grading, this effect is
33 considered adverse.

34 The primary features that would affect the existing visual quality and character under
35 Alternative 2A, once the facility has been constructed, would be Intakes 1–5 (or Intakes 1–3, 6, and
36 7), the intermediate forebay and Byron Tract Forebay, transmission lines, the operable barrier, and
37 resulting landscape effects left behind from spoil/borrow and RTM areas, and concrete batch plants
38 and fuel stations. These changes would be most evident in the northern portion of the study area,
39 which would undergo extensive changes from the permanent establishment of large industrial
40 facilities and the supporting infrastructure along and surrounding the segment of the Sacramento
41 River where the intakes would be situated.

42 Overall, construction would take 9 years, and the intensity of the activities in contrast to the current
43 rural/agricultural nature of the area would be substantial. Construction of Intakes 1–5 (or Intakes
44 1–3, 6, and 7) and the accompanying pumping plants, surge towers, borrow/spoil areas, and RTM

1 areas would introduce visually dominant and discordant features in the foreground and
 2 middleground views, and these elements would be very noticeable to all viewer groups. A
 3 construction shaft, tunnel work area, and RTM area and transmission lines would be visible from SR
 4 4. While not officially designated state scenic highways, and therefore not discussed under *Impact*
 5 *AES-3: Permanent damage to scenic resources along a state scenic highway from construction of*
 6 *conveyance facilities*, this road is a San Joaquin County Scenic Route (see *Section 17.2.3.2, County and*
 7 *City General Plans – San Joaquin County*). These features would detract from the visual quality of
 8 views from these routes.

9 After construction, areas surrounding Intakes 1–5 (or Intakes 1–3, 6, and 7), spoil/borrow areas,
 10 RTM areas, shaft sites, and locations where concrete batch plants and fuel stations were located may
 11 be denuded of vegetation for a short period of time until the landscaping plans designed under
 12 WREM No. 30a are implemented. Once installed, the landscape would still appear to be denuded of
 13 vegetation or to have little vegetative cover because immature landscaping would be similar in
 14 appearance to tilled or newly planted agricultural fields. The sites would be in a transitional state,
 15 and over a period of a few years, plant species would mature and vegetation would recolonize the
 16 sites. These changes would happen in an area known for its open space, agricultural landscapes, and
 17 rural characteristics and would segment the visual landscape of the study area, reduce the amount
 18 of open space lands available to viewers, and eliminate valued visual resources. The effects of
 19 permanent access roads on visual resources would not be adverse. The effects of shaft site access
 20 hatches on the existing scenic character may be adverse. Operation of the intakes, the visual
 21 presence of large-scale borrow/spoil and RTM area landscape effects, and transmission lines would
 22 result in adverse effects on the existing visual character. In addition, construction of all of these
 23 features has the potential to negatively affect wildlife viewing and the overall enjoyment of scenic
 24 views in the study area. Therefore, because of the long-term nature of construction combined with
 25 the proximity to sensitive receptors, razing of residences and agricultural buildings, removal of
 26 vegetation, and changes to topography through grading, this overall effect of conveyance facility
 27 construction on existing visual quality and character is considered adverse. Mitigation Measures
 28 AES-1a through AES-1g are available to address visual effects resulting from construction of
 29 Alternative 2A water conveyance facilities.

30 **CEQA Conclusion:** Construction of Alternative 2A would substantially alter the existing visual
 31 quality and character present in the study area. The long-term nature of construction of the intakes,
 32 pipeline/tunnel, work areas, spoil/borrow and RTM areas, shaft sites, barge unloading facilities;
 33 presence and visibility of heavy construction equipment; proximity to sensitive receptors; relocation
 34 of residences and agricultural buildings; removal of riparian vegetation and other mature vegetation
 35 or landscape plantings; earthmoving and grading that result in changes to topography in areas that
 36 are predominantly flat; addition of large-scale industrial structures (intakes and related facilities);
 37 remaining presence of large-scale borrow/spoil and RTM area landscape effects; and introduction of
 38 tall, steel transmission lines would all contribute to this impact.

39 Overall, construction would last up to 9 years and would change the existing visual character in the
 40 vicinity of project elements from those of agricultural, rural residential, or riparian and riverine
 41 settings to areas involving heavy construction equipment, temporary construction structures, work
 42 crews, other support vehicles and other activities that would modify and disrupt short- and long-
 43 range views. These activities would be disruptive to some viewers. Once construction is complete,
 44 the alternative would result in the placement of large, multi-story industrial concrete and steel
 45 structures, pumping plants, fencing, and other similar anthropogenic features where none presently
 46 exist. Because of the landscape sensitivity and visual dominance of these features, these changes

1 would result in reduced scenic quality throughout the study area (see 17.3.1.3, *Analysis of the*
 2 *Alternatives' Impact on Visual Resources*). Thus, Alternative 2A would result in significant impacts on
 3 the existing visual quality and character in the study area.

4 Mitigation Measures AES-1a through AES-1g would partially reduce impacts by locating new
 5 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 6 needed where feasible, installing visual barriers between construction work areas and sensitive
 7 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
 8 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
 9 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
 10 visual resources and receptors and restoring the sites upon removal of facilities, and using best
 11 management practices to implement a project landscaping plan. However, impacts may not be
 12 reduced to a less-than-significant level because even though mitigation measures would reduce
 13 some aspects of the impact on visual quality and character, it is not certain the mitigation would
 14 reduce the level of the impact to less than significant in all instances. In addition, the size of the
 15 study area and the nature of changes introduced by the alternative would result in permanent
 16 changes to the regional landscape such that there would be noticeable to very noticeable changes
 17 that do not blend or are not in keeping with the existing visual environment. Thus, Alternative 2A
 18 would result in significant and unavoidable impacts on the existing visual quality and character in
 19 the study area.

20 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 21 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 22 **Transmission Lines and Underground Transmission Lines Where Feasible**

23 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 24 Alternative 1A.

25 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 26 **Sensitive Receptors**

27 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 28 Alternative 1A.

29 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 30 **Material Area Management Plan**

31 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 32 Alternative 1A.

33 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

34 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 35 Alternative 1A.

36 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 37 **Extent Feasible**

38 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 39 Alternative 1A.

1 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 2 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities.**

3 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 6 **Landscaping Plan**

7 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 8 Alternative 1A.

9 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

10 **NEPA Effects:** Scenic vistas are mapped and included in Appendix Figure 17D-1. Effects on scenic
 11 vistas under this alternative would be similar to those under Alternative 1A, with the exception of
 12 the possible variance in the location of two intakes and the addition of an operable barrier at the
 13 head of Old River. Intakes 6 and 7, located farther south, would affect vista views. Substantial visual
 14 effects would result from intake construction at these locations, as described for Alternative 1A,
 15 Impact AES-2. During construction the introduction of construction equipment and removal of
 16 vegetation would alter the scenic elements that contribute to the viewing experience from scenic
 17 vistas. The intakes would introduce visually dominant and discordant features in the foreground
 18 and middleground views in vistas that would be very noticeable to all viewer groups in areas of low
 19 to high landscape sensitivity levels. The operable barrier at the head of Old River would introduce a
 20 large structure across the existing channel that would limit physical and visual access to vista views
 21 toward Frank's Tract, beyond. Mount Diablo would still be visible over the structure. The large scale
 22 of intakes, the visual presence of large-scale borrow/spoil and RTM area landscape effects, the
 23 operable barrier, and transmission lines may result in adverse effects on scenic vistas (see
 24 discussions under 17.3.1.2 and 17.3.1.3). Mitigation Measures AES-1a, AES-1c, and AES-1e are
 25 available to address these effects.

26 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 27 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
 28 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
 29 the operable barrier, and transmission lines would result in significant impacts on scenic vistas
 30 because construction and operation would result in a reduction in the visual quality in some
 31 locations and introduce dominant visual elements that would result in noticeable changes in the
 32 visual character of scenic vista viewsheds in the study area. These changes would not blend, would
 33 not be in keeping or would be incompatible with the existing visual environment, and could be
 34 viewed by sensitive receptors or from public viewing areas.

35 Mitigation Measure AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 36 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 37 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 38 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 39 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 40 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 41 hatches to less than significant. However, the impacts on scenic vistas associated with other
 42 structures would not be reduced to a less-than-significant level because even though mitigation
 43 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the

1 level of the impact to less than significant in all instances. In addition, the size of the study area and
 2 the nature of changes introduced by the alternative would result in permanent changes to the
 3 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 4 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 5 with Alternative 2A would be significant and unavoidable.

6 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 7 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 8 **Transmission Lines and Underground Transmission Lines Where Feasible**

9 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 10 Alternative 1A.

11 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Resuable Tunnel**
 12 **Material Area Management Plan**

13 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 14 Alternative 1A.

15 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 16 **Extent Feasible**

17 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 18 Alternative 1A.

19 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 20 **Construction of Conveyance Facilities**

21 **NEPA Effects:** Effects on state scenic highways under this alternative would be similar to those
 22 described for Alternative 1A, Impact AES-3. Intakes 1–5, the spoils/borrow and RTM area north of
 23 Intake 2, and the intermediate forebay would be immediately and prominently visible in the
 24 foreground from SR 160 and would result in an overall noticeable effect on viewers relative to their
 25 current experience and enjoyment of the study area's scenic resources along SR 160 and River Road,
 26 where the landscape sensitivity level is high. Intakes 6 and 7, if constructed, would also be visible
 27 from SR 160 and would result in the same adverse effects, only farther south. As described under
 28 Alternative 1A, the visual elements introduced by the intakes, spoil/borrow and RTM areas north of
 29 Intake 2, and intermediate forebay would conflict with the existing forms, patterns, colors, and
 30 textures along River Road and SR 160; would dominate riverfront views available from SR 160; and
 31 would alter broad views and the general nature of the visual experience presently available from
 32 River Road and SR 160. These changes would reduce the visual quality near intake structure
 33 locations and result in noticeable changes in the visual character of scenic vista viewsheds in the
 34 study area. These changes would not blend, would not be in keeping or would be incompatible with
 35 the existing visual environment, and could be viewed by sensitive receptors or from public viewing
 36 areas. This effect would be adverse (see discussion under 17.3.1.2 and 17.3.1.3). The operable
 37 barrier on the head of Old River would not be visible from a scenic route. Mitigation Measures AES-
 38 1a, AES-1c, and AES-1e are available to address these effects.

39 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 40 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
 41 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,

1 and transmission lines would result in significant impacts on scenic vistas because construction and
 2 operation would result in a reduction in the visual quality in some locations and introduce dominant
 3 visual elements that would result in noticeable changes in the visual character of scenic vista
 4 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
 5 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
 6 from public viewing areas.

7 Mitigation Measures AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 8 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 9 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 10 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 11 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 12 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 13 hatches to less than significant. However, the impacts on scenic vistas associated with other
 14 structures would not be reduced to a less-than-significant level because even though mitigation
 15 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 16 level of the impact to less than significant in all instances. In addition, the size of the study area and
 17 the nature of changes introduced by the alternative would result in permanent changes to the
 18 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 19 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 20 with Alternative 2A would be significant and unavoidable.

21 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 22 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 23 **Transmission Lines and Underground Transmission Lines Where Feasible**

24 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 25 Alternative 1A.

26 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 27 **Material Area Management Plan**

28 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 29 Alternative 1A.

30 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 31 **Extent Feasible**

32 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 33 Alternative 1A.

34 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 35 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

36 **NEPA Effects:** Effects resulting from light and glare under this alternative would be similar to those
 37 described for Alternative 1A, Impact AES-4. Intakes 1–5 and their associated pumping plants, surge
 38 towers, and facilities and the pumping plant at the intermediate forebay would create very
 39 noticeable effects relating to light and glare (Figures 17-76 through 17-78). Light building colors
 40 over a large surface area would reflect off of those surfaces and increase glare, especially when
 41 combined with the removal of vegetation that absorbs light, provides shade, and screens glare.

1 Sunlight would reflect off the new water surfaces of the forebay, creating new sources of glare
 2 where none presently exist. Nighttime construction could also result in headlights flashing into
 3 nearby residents' homes when construction vehicles are turning onto or off of construction access
 4 routes. Proposed surge towers would require the use of safety lights that would alert low-flying
 5 aircraft to the presence of these structures because of their height. If Intakes 6 and 7 were
 6 constructed, these facilities would result in the same adverse effects as Intakes 4 and 5, only areas
 7 farther south would be affected. The operable barrier at the head of Old River may have limited
 8 safety lighting. Overall, because the study area currently experiences low levels of light and because
 9 there are a larger number of viewers in and around the waterways, intake structures, operable
 10 barrier, and forebay that would be affected by these noticeable changes that contrast with the
 11 existing rural character, effects associated with new sources of daytime and nighttime light and
 12 glare are considered adverse. Mitigation Measures AES-4a through AES-4c are available to address
 13 these effects.

14 **CEQA Conclusion:** The impacts associated with light and glare under Alternative 2A are significant
 15 because there are a larger number of viewers in and around the waterways, intake structures, and
 16 intermediate forebay; BDCP facilities would increase the amount of nighttime lighting in the Delta
 17 above existing ambient light levels; and the study area currently experiences low levels of light
 18 because there are fewer light/glare producers than are typical in urban areas. Mitigation Measures
 19 AES-4a through AES-4c would help reduce these impacts by limiting construction to daylight hours
 20 within 0.25 mile of residents, minimizing fugitive light from portable sources used for construction,
 21 and installing visual barriers along access routes, where necessary, to prevent light spill from truck
 22 headlights toward residences; however, these mitigation measures would not reduce impacts to a
 23 less-than-significant level because even though mitigation measures would reduce some aspects of
 24 the impact, it is not certain the mitigation would reduce the level of the impact to less than
 25 significant in all instances. In addition, the size of the study area and the nature of changes
 26 introduced by the new light and glare sources would result in permanent changes to the regional
 27 landscape such that there would be noticeable changes to the visual character that do not blend or
 28 are not in keeping with the existing visual environment. Thus, the new sources of daytime and
 29 nighttime light and glare associated with Alternative 2A would result in significant and unavoidable
 30 impacts on public views in the project vicinity.

31 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 32 **Residents**

33 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 34 Alternative 1A.

35 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 36 **Construction**

37 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 38 Alternative 1A.

39 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 40 **to Prevent Light Spill from Truck Headlights toward Residences**

41 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 42 Alternative 1A.

1 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

2 **NEPA Effects:** Effects on the visual environment through operations and maintenance of the water
 3 conveyance facilities (CM1) under this alternative would be similar to those described for
 4 Alternative 1A, Impact AES-5. Once the facility is in operation, visible regular and periodic
 5 maintenance would be required on all major structures, including the operable barrier at the head of
 6 Old River. Activities such as painting, cleaning, vegetation maintenance (removal), repairs, and
 7 inspections would be visible from viewpoints on water and land. If Intakes 6 and 7 are constructed,
 8 activities at these sites would result in the same effects as Intakes 4 and 5, only farther south. The
 9 greatest visual effects resulting from operations would be maintenance of the intakes and dredging
 10 the forebays. The operable barrier would also require periodic dredging. However, these temporary
 11 maintenance activities are anticipated to occur within a short period of time, and effects would not
 12 be adverse because the activities would not result in further substantial changes to the existing
 13 natural viewshed or terrain, alter existing visual quality of the region or eliminate visual resources,
 14 or obstruct or permanently reduce visually important features.

15 **CEQA Conclusion:** Maintenance of the conveyance facilities (i.e., intakes, tunnels, forebays and
 16 transmission lines) would be required periodically and would involve painting, cleaning, and repair
 17 of structures; dredging at forebays (at approximately 50-year intervals); vegetation removal and
 18 care along embankments; tunnel inspection; and vegetation removal within transmission line ROWs.
 19 These visible maintenance activities would be temporary, intermittent, and short-term impacts and
 20 would be considered less than significant. Maintenance and operation of Alternative 2A once
 21 constructed, would not result in further substantial changes to the existing natural viewshed or
 22 terrain, alter existing visual quality of the region or eliminate visual resources, or obstruct or
 23 permanently reduce visually important features. Thus, overall, Alternative 2A would have a less-
 24 than-significant impact on existing visual quality and character during maintenance and operation
 25 of the facilities in the study area. No mitigation is required.

26 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during** 27 **Implementation of CM2–CM22**

28 **NEPA Effects:** Under Alternative 2A, these conservation measures would be identical to those under
 29 Alternative 1A. Therefore, visual effects related to the existing visual character, scenic vistas, scenic
 30 highways, and light and glare resulting from implementation of CM2–CM22 would be the same as
 31 those described under Alternative 1A, Impact AES-6. There may be site-specific, localized adverse
 32 visual effects. These conservation measures would alter the Delta landscape by incrementally, and
 33 substantially, introducing elements into the study area over time. CM2–CM22, when combined with
 34 CM1, could substantially alter the visual character of the study area, which is strongly identified by
 35 its agricultural and water-based Delta landscapes and communities. These landscapes and
 36 communities could be adversely affected by the introduction of discordant visual features, removal
 37 of existing buildings and landscape elements of value, and through the potential for indirect impacts
 38 associated with other development potentially setting a precedent for other development to occur.
 39 All of these effects would alter the visual character of the existing regional landscape.

40 Because of the unknown location of site-specific restoration activities, potential presence of
 41 sensitive viewers, potential for construction periods to last longer than 2 years, and varying
 42 intensity of construction, effects associated with implementation of CM2–CM22 are considered
 43 adverse. However, the visual characteristics of restored/enhanced landscapes would be similar to
 44 other areas of the Delta that are in a natural marsh or wetland state and more limited in extent than

1 the widespread areas of agricultural development. In this sense, the BDCP would have an overall
2 beneficial effect related to the enhancement and creation of scenic vistas in the Delta.

3 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a through AES-4c are
4 available to address effects from habitat restoration and enhancement actions under CM2–CM22. In
5 addition, Mitigation Measures AES-6a and AES-6b are available to help reduce adverse visual effects.
6 Upon development of site-specific design information and plans, additional mitigation measures
7 may be identified to address action-specific adverse effects. However, each individual project under
8 CM2–CM22 would undergo the environmental compliance process that would be used to determine
9 what additional mitigation measures, would be deemed appropriate to reduce adverse effects and to
10 assess compliance with relevant regulations. Finally, Mitigation Measure AES-6c is available to help
11 inventory, classify, and protect the unique visual landscape of the Delta.

12 **CEQA Conclusion:** Implementation of conservation measures under Alternative 2A has the potential
13 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
14 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
15 and character would be significant where use of large numbers of heavy construction equipment,
16 changes in topography, and introduction of new structures or facilities where none presently exist
17 would take place in the vicinity of sensitive receptors. However, because a number of factors that
18 would determine the level of change are unknown—the location of site-specific restoration
19 activities, potential presence of sensitive viewers, potential for construction periods to last longer
20 than 2 years, and varying intensity of construction—impacts associated with implementation of
21 CM2–CM22 on visual quality and character, scenic vistas, and light and glare sources, are considered
22 significant. Because of the distance of implemented conservation measures from scenic highways,
23 changes associated with these activities would not affect the visual quality along these scenic
24 highway corridors and this impact would be less than significant. Site-specific restoration
25 information and plans need to be developed before the site-specific effects on the existing visual
26 character, scenic vistas, and light and glare can be determined.

27 Several mitigation measures are available to minimize the impacts on visual quality and character in
28 the study area that could result from implementation of these conservation measures. As
29 summarized below, these measures could be applied to individual restoration projects or actions as
30 appropriate for the site-specific conditions and design considerations. In addition, each restoration
31 project or action would undergo an environmental compliance process that would be used to
32 determine what additional mitigation measures would be deemed appropriate to reduce significant
33 effects. Mitigation Measures AES-1a through AES-1g could be applied to minimize impacts by
34 locating new transmission lines and access routes to minimize the removal of trees and shrubs and
35 pruning needed where feasible, installing visual barriers between construction work areas and
36 sensitive receptors, developing and implementing a spoil/borrow and RTM area management plan,
37 restoring barge unloading facility sites once decommissioned, applying aesthetic design treatments
38 to all structures to the extent feasible, locating concrete batch plants and fuel stations away from
39 sensitive visual resources and receptors and restoring the sites upon removal of facilities, and using
40 best management practices to implement a project landscaping plan. Mitigation Measures AES-4a
41 through AES-4c could be used to reduce the effects of new light and glare sources by limiting
42 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
43 sources used for construction, and installing visual barriers along access routes, where necessary, to
44 prevent light spill from truck headlights toward residences. In addition, Mitigation Measures AES-6a
45 and AES-6b would further minimize impacts on visual resources by undergrounding new or
46 relocated utility lines, where feasible, and through an evaluation of an afterhours low-intensity and

lights off policy. Finally, implementation of Mitigation Measure AES-6c would provide a strategy for the protection of the unique visual landscape of the Delta.

While some of the conservation measures could result in beneficial impacts through the restoration of natural habitat and these mitigation measures would reduce the severity of impacts, it is unknown whether they would be reduced to a less-than-significant level because of uncertainties associated with future implementation of CM2–CM22. In addition, the size of the study area and the nature of changes introduced by these conservation measures would result in permanent changes to the regional landscape such that there would be noticeable changes to the visual character that may or may not blend or be in keeping with the existing visual environment. Thus, implementation of CM2–CM22 would result in significant and unavoidable impacts on the existing visual quality and character in the study area.

Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New Transmission Lines and Underground Transmission Lines Where Feasible

Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of Alternative 1A.

Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and Sensitive Receptors

Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of Alternative 1A.

Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel Material Area Management Plan

Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of Alternative 1A.

Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned

Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of Alternative 1A.

Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the Extent Feasible

Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of Alternative 1A.

Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities

Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of Alternative 1A.

1 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 2 **Landscaping Plan**

3 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 6 **Residents**

7 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 8 Alternative 1A.

9 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 10 **Construction**

11 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 12 Alternative 1A.

13 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 14 **to Prevent Light Spill from Truck Headlights toward Residences**

15 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 16 Alternative 1A.

17 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

18 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
 19 Alternative 1A.

20 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
 21 **Lights Off Policy**

22 Please refer to Mitigation Measure AES-6b under Impact AES-6 in the discussion of
 23 Alternative 1A.

24 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
 25 **Plan for the Delta and Study Area**

26 Please refer to Mitigation Measure AES-6c under Impact AES-6 in the discussion of
 27 Alternative 1A.

28 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
 29 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
 30 **Addressing Aesthetics and Visual Resources**

31 **NEPA Effects:** Constructing conveyance facilities (CM1) and implementing CM2–CM22 under
 32 Alternative 2A would generally have the same potential for incompatibilities with one or more plans
 33 and policies related to preserving the visual quality and character of the Delta as described for
 34 Alternative 1A, Impact AES-7. Variation would result from two potentially different intake locations
 35 and inclusion of an operable barrier at the head of Old River. However, Intakes 6 and 7 and the
 36 operable barrier would fall under the same jurisdictions as discussed under Alternative 1A, and so,
 37 overall the potential for incompatibility is the same. As described under Alternative 1A, there would

1 be potential for the alternative to be incompatible with plans and policies related to preserving the
 2 visual quality and character of the Delta (i.e., The Johnston-Baker-Andal-Boatwright Delta Protection
 3 Act of 1992, Delta Protection Commission Land Use and Resource Management Plan for the Primary
 4 Zone of the Delta, Delta Plan, Brannan Island and Franks Tract State Recreation Areas General Plan).
 5 In addition, with the exception of Solano County, the alternative may be incompatible with county
 6 general plan policies that protect visual resources in the study area.

7 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
 8 physical consequence to the environment. The physical effects they suggest are discussed in impacts
 9 AES-1 through AES-6, above and no additional CEQA conclusion is required related to the
 10 compatibility of Alternative 2A with relevant plans and policies.

11 **17.3.3.6 Alternative 2B—Dual Conveyance with East Alignment and Five** 12 **Intakes (15,000 cfs; Operational Scenario B)**

13 Table 17D-2 in Appendix 17D, *Permanent Impacts after Construction is Complete*, describes existing
 14 visual characteristics and the BDCP-related permanent effects of Alternative 1A on visual quality
 15 and character, scenic vistas, scenic roadways, and from light and glare sources after construction is
 16 complete and identifies the overall effect on viewers. Appendix E, *Permanent Features*, identifies the
 17 viewer groups and viewing locations that would be affected by permanent alternative features.
 18 Effects would be similar under Alternative 2B. Under Alternative 2B, the conveyance alignment from
 19 the intakes to the Byron Tract Forebay, along with the associated shaft sites, access road,
 20 transmission line, pumping plants, canals, and spoil/borrow and RTM areas would be identical to
 21 those under Alternative 1B. Conservation measures would be identical to those under
 22 Alternative 1A. The only differences between Alternative 2B and Alternative 1B pertaining to visual
 23 resources is the possible variance in the location of two intakes and the addition of an operable
 24 barrier at the head of Old River. Alternative 2B would entail construction of Intakes 1–5 or Intakes
 25 1–3, 6, and 7 (KOPs 62, 65, and 68). The effects associated with construction of Intakes 1–5 is
 26 discussed in detail under Alternative 1B, and those effects would be the same if Intakes 1–5 would
 27 be constructed under this alternative. The effects associated with Intakes 6 and 7 and the operable
 28 barrier at the head of Old River would be the same as discussed under Alternative 2A. All other
 29 effects, including construction of Intakes 1–5 and other major features would be the same as under
 30 Alternative 1B.

31 **Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during** 32 **Construction of Conveyance Facilities**

33 **NEPA Effects:** Effects related to visual resources under this alternative would be similar to those
 34 described for Alternative 1B and Alternative 2A. Intakes 6 and 7 would be located farther south than
 35 Intakes 4 and 5, between Grand Island Road and the town of Vorden. The operable barrier at the
 36 head of Old River would take up to 3 years to construct, introducing a large structure across the
 37 existing channel that would limit physical and visual access to views of the horizon beyond. Mount
 38 Diablo would still be visible over the structure.

39 The construction period would last for 9 years and the intensity of the activities in contrast to the
 40 current rural/agricultural nature of the area would be substantial. Construction of Intakes 1–5 (or
 41 Intakes 1–3, 6, and 7) and the accompanying pumping plants, surge towers, canals, borrow/spoil
 42 areas, RTM areas, forebay, operable barrier, access roads, transmission lines, and concrete batch
 43 plants and fuel stations would introduce visually discordant features into foreground and

1 middleground views with low to high landscape sensitivity level. These elements would introduce
 2 visually dominant features that would be very noticeable to all viewer groups and would segment
 3 the visual landscape of the study area, reduce the amount of open space lands available to viewers,
 4 and eliminate valued visual resources. Accordingly, because of the long-term nature of construction,
 5 proximity to sensitive receptors, razing of residences and agricultural buildings, removal of
 6 vegetation, and changes to topography through grading, this effect on existing visual quality and
 7 character would be adverse. In San Joaquin County, the canal would be visible in the middleground
 8 from I-5; the canal and a bridge would cross West Eight Mile Road; and the canal, a bridge, and
 9 borrow/spoil areas would cross and be in foreground views from roads on Roberts Island north of
 10 SR 4 and SR 4. While not officially designated state scenic highways, and therefore not discussed
 11 under *Impact AES-3: Permanent damage to scenic resources along a state scenic highway from*
 12 *construction of conveyance facilities*, these roads are San Joaquin County Scenic Routes (see *Section*
 13 *17.2.3.2, County and City General Plans – San Joaquin County*). These features would detract from the
 14 visual quality of views from these routes. In addition, construction of all features has the potential to
 15 adversely affect wildlife viewing and the overall enjoyment of scenic views in the study area. Effects
 16 on the existing visual character under Alternative 2B would be greater than under Alternative 2A
 17 due to the extent of the canals visible on the landscape surface, landscape effects left behind by
 18 spoil/borrow areas, and introduction of bridges.

19 Overall, effects on the existing visual character associated with construction of Alternative 2B would
 20 be adverse because the alternative would result in reductions to the visual quality in some locations
 21 and introduce dominant visual elements that would result in very noticeable changes that do not
 22 blend and are not in keeping or are incompatible with the existing visual environment. These
 23 changes would be viewed by sensitive receptors and from public viewing areas. Mitigation Measures
 24 AES-1a through AES-1g are available to address visual effects resulting from construction of
 25 Alternative 2B water conveyance facilities.

26 **CEQA Conclusion:** Because of the long-term nature of construction, proximity to sensitive receptors,
 27 razing of residences and agricultural buildings, removal of vegetation, and changes to topography
 28 through grading, the impacts associated with constructing intakes and the accompanying pumping
 29 plants, surge towers, canals, borrow/spoil areas, RTM areas, forebay, operable barrier, access roads,
 30 and transmission lines are considered significant. These changes under Alternative 2B would result
 31 in reductions to the visual quality in some locations and introduce dominant visual elements that
 32 would result in noticeable changes that do not blend and are not in keeping or are incompatible with
 33 the existing visual environment. These changes would be viewed by sensitive receptors and from
 34 public viewing areas. Impacts on the existing visual quality and character under Alternative 2B
 35 would be greater than under Alternative 2A because of the extent of the canals visible on the
 36 landscape surface, landscape effects left behind by spoil/borrow areas, and introduction of bridges.

37 Mitigation Measures AES-1a through AES-1g would partially reduce these impacts by locating new
 38 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 39 needed where feasible, installing visual barriers between construction work areas and sensitive
 40 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
 41 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
 42 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
 43 visual resources and receptors and restoring the sites upon removal of facilities, and using best
 44 management practices to implement a project landscaping plan. However, impacts may not be
 45 reduced to a less-than-significant level because even though mitigation measures would reduce
 46 some aspects of the impact on visual quality and character, it is not certain the mitigation would

1 reduce the level of the impact to less than significant in all instances. In addition, the size of the
 2 study area and the nature of changes introduced by the alternative would result in permanent
 3 changes to the regional landscape such that there would be noticeable to very noticeable changes
 4 that do not blend or are not in keeping with the existing visual environment. Thus, Alternative 2B
 5 would result in significant and unavoidable impacts on the existing visual quality and character in
 6 the study area.

7 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 8 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 9 **Transmission Lines and Underground Transmission Lines Where Feasible**

10 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 11 Alternative 1A.

12 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 13 **Sensitive Receptors**

14 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 15 Alternative 1A.

16 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 17 **Material Area Management Plan**

18 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 19 Alternative 1A.

20 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

21 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 22 Alternative 1A.

23 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 24 **Extent Feasible**

25 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 26 Alternative 1A.

27 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 28 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

29 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 30 Alternative 1A.

31 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 32 **Landscaping Plan**

33 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 34 Alternative 1A.

1 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

2 **NEPA Effects:** Scenic vistas are mapped and included in Appendix Figure 17D-1. Effects on scenic
 3 vistas under this alternative would be similar to those under Alternative 1B, with the exception of
 4 the possible variance in the location of two intakes and the addition of an operable barrier at the
 5 head of Old River, which would be similar to 2A. Intakes 6 and 7, located farther south, would affect
 6 vista views. Substantial visual effects would result from intake construction at these locations, as
 7 described for Alternative 1A, Impact AES-2. During construction the introduction of construction
 8 equipment and removal of vegetation would alter the scenic elements that contribute to the viewing
 9 experience from scenic vistas. The intakes would introduce visually dominant and discordant
 10 features in the foreground and middleground views in vistas that would be very noticeable to all
 11 viewer groups in areas of low to high landscape sensitivity levels. The operable barrier at the head
 12 of Old River would introduce a large structure across the existing channel that would limit physical
 13 and visual access to vista views toward Frank's Tract, beyond. Mount Diablo would still be visible
 14 over the structure. The large scale of intakes, the visual presence of large-scale borrow/spoil area
 15 landscape effects, the canals, the operable barrier, transmission lines, and introduction of bridges
 16 may result in adverse effects on scenic vistas (see discussions under 17.3.1.2 and 17.3.1.3).
 17 Mitigation Measures AES-1a, AES-1c, and AES-1e are available to address these effects.

18 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 19 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
 20 pumping plants, large-scale borrow/spoil area landscape effects, the canals, the operable barrier,
 21 transmission lines and the introduction of bridges would result in significant impacts on scenic
 22 vistas because construction and operation would result in a reduction in the visual quality in some
 23 locations and introduce dominant visual elements that would result in noticeable changes in the
 24 visual character of scenic vista viewsheds in the study area. These changes would not blend, would
 25 not be in keeping or would be incompatible with the existing visual environment, and could be
 26 viewed by sensitive receptors or from public viewing areas.

27 Mitigation Measure AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 28 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 29 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 30 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 31 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 32 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 33 hatches to less than significant. However, the impacts on scenic vistas associated with other
 34 structures would not be reduced to a less-than-significant level because even though mitigation
 35 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 36 level of the impact to less than significant in all instances. In addition, the size of the study area and
 37 the nature of changes introduced by the alternative would result in permanent changes to the
 38 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 39 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 40 with Alternative 2B would be significant and unavoidable.

1 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 2 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 3 **Transmission Lines and Underground Transmission Lines Where Feasible**

4 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 5 Alternative 1A.

6 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 7 **Material Area Management Plan**

8 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 9 Alternative 1A.

10 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 11 **Extent Feasible**

12 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 13 Alternative 1A.

14 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 15 **Construction of Conveyance Facilities**

16 **NEPA Effects:** Effects on state scenic highways under this alternative would be similar to those
 17 described for Alternatives 1A and 1B, Impact AES-3. Intakes 1–5, the spoils/borrow and RTM area
 18 north of Intake 2, and the intermediate forebay would be immediately and prominently visible in the
 19 foreground from SR 160 and would result in an overall noticeable effect on viewers relative to their
 20 current experience and enjoyment of the study area’s scenic resources along SR 160 and River Road,
 21 where the landscape sensitivity level is high. Intakes 6 and 7, if constructed, would also be visible
 22 from SR 160 and would result in the same adverse effects, only farther south. As described under
 23 Alternative 1A, the visual elements introduced by the intakes, spoil/borrow and RTM areas north of
 24 Intake 2, and intermediate forebay would conflict with the existing forms, patterns, colors, and
 25 textures along River Road and SR 160; would dominate riverfront views available from SR 160; and
 26 would alter broad views and the general nature of the visual experience presently available from
 27 River Road and SR 160. These changes would reduce the visual quality near intake structure
 28 locations and result in noticeable changes in the visual character of scenic vista viewsheds in the
 29 study area. These changes would not blend, would not be in keeping or would be incompatible with
 30 the existing visual environment, and could be viewed by sensitive receptors or from public viewing
 31 areas. This effect would be adverse (see discussion under 17.3.1.2 and 17.3.1.3). The operable
 32 barrier on the head of Old River would not be visible from a scenic route. Mitigation Measures AES-
 33 1a, AES-1c, and AES-1e are available to address these effects.

34 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 35 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
 36 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
 37 and transmission lines would result in significant impacts on scenic vistas because construction and
 38 operation would result in a reduction in the visual quality in some locations and introduce dominant
 39 visual elements that would result in noticeable changes in the visual character of scenic vista
 40 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
 41 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
 42 from public viewing areas.

1 Mitigation Measures AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 2 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 3 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 4 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 5 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 6 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 7 hatches to less than significant. However, the impacts on scenic vistas associated with other
 8 structures would not be reduced to a less-than-significant level because even though mitigation
 9 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 10 level of the impact to less than significant in all instances. In addition, the size of the study area and
 11 the nature of changes introduced by the alternative would result in permanent changes to the
 12 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 13 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 14 with Alternative 2B would be significant and unavoidable.

15 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 16 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 17 **Transmission Lines and Underground Transmission Lines Where Feasible**

18 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 19 Alternative 1A.

20 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 21 **Material Area Management Plan**

22 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 23 Alternative 1A.

24 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 25 **Extent Feasible**

26 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 27 Alternative 1A.

28 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 29 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

30 **NEPA Effects:** Effects resulting from light and glare under this alternative would be similar to those
 31 described for Alternatives 1A, Impact AES-4. Intakes 1–5 and their associated pumping plants, surge
 32 towers, and facilities and the pumping plant at the intermediate forebay would create very
 33 noticeable effects relating to light and glare (Figures 17-76 through 17-78). Light building colors
 34 over a large surface area would reflect off of those surfaces and increase glare, especially when
 35 combined with the removal of vegetation that absorbs light, provides shade, and screens glare.
 36 Sunlight would reflect off the new water surfaces of the forebay, creating new sources of glare
 37 where none presently exist. Nighttime construction could also result in headlights flashing into
 38 nearby residents' homes when construction vehicles are turning onto or off of construction access
 39 routes. Proposed surge towers would require the use of safety lights that would alert low-flying
 40 aircraft to the presence of these structures because of their height. If Intakes 6 and 7 were
 41 constructed, these facilities would result in the same adverse effects as Intakes 4 and 5, only areas
 42 farther south would be affected. The operable barrier at the head of Old River may have limited

1 safety lighting. Overall, because the study area currently experiences low levels of light and because
 2 there are a larger number of viewers in and around the waterways, intake structures, operable
 3 barrier, and forebay that would be affected by these noticeable changes that contrast with the
 4 existing rural character, effects associated with new sources of daytime and nighttime light and
 5 glare are considered adverse. Mitigation Measures AES-4a through AES-4c are available to address
 6 these effects.

7 **CEQA Conclusion:** The impacts associated with light and glare under Alternative 2B are significant
 8 because there are a larger number of viewers in and around the waterways, intake structures, and
 9 intermediate forebay; BDCP facilities would increase the amount of nighttime lighting in the Delta
 10 above existing ambient light levels; and the study area currently experiences low levels of light
 11 because there are fewer light/glare producers than are typical in urban areas. Mitigation Measures
 12 AES-4a through AES-4c would help reduce these impacts by limiting construction to daylight hours
 13 within 0.25 mile of residents, minimizing fugitive light from portable sources used for construction,
 14 and installing visual barriers along access routes, where necessary, to prevent light spill from truck
 15 headlights toward residences; however, these mitigation measures would not reduce impacts to a
 16 less-than-significant level because even though mitigation measures would reduce some aspects of
 17 the impact, it is not certain the mitigation would reduce the level of the impact to less than
 18 significant in all instances. In addition, the size of the study area and the nature of changes
 19 introduced by the new light and glare sources would result in permanent changes to the regional
 20 landscape such that there would be noticeable changes to the visual character that do not blend or
 21 are not in keeping with the existing visual environment. Thus, the new sources of daytime and
 22 nighttime light and glare associated with Alternative 2B would result in significant and unavoidable
 23 impacts on public views in the project vicinity.

24 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 25 **Residents**

26 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 27 Alternative 1A.

28 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 29 **Construction**

30 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 31 Alternative 1A.

32 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 33 **to Prevent Light Spill from Truck Headlights toward Residences**

34 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 35 Alternative 1A.

36 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

37 **NEPA Effects:** Effects on the visual environment through operations and maintenance of the water
 38 conveyance facilities (CM1) under this alternative would be similar to those described for
 39 Alternative 1A and 1B, Impact AES-5. Once the facility is in operation, visible regular and periodic
 40 maintenance would be required on all major structures, including the operable barrier at the head of
 41 Old River. Activities such as painting, cleaning, vegetation maintenance (removal), repairs, and

1 inspections would be visible from viewpoints on water and land. If Intakes 6 and 7 are constructed,
 2 activities at these sites would result in the same effects as Intakes 4 and 5, only farther south.
 3 Although under Alternative 2B there would not be an intermediate forebay, the canal, operable
 4 barrier on the head of Old River, and Byron Tract Forebay would require cleaning and periodic
 5 dredging. The greatest visual effects resulting from operations would be maintenance on the intakes
 6 and cleaning the canals. However, these temporary maintenance activities are anticipated to occur
 7 within short periods of time, and effects would not be adverse because the activities would not
 8 result in further substantial changes to the existing natural viewshed or terrain, alter existing visual
 9 quality of the region or eliminate visual resources, or obstruct or permanently reduce visually
 10 important features.

11 **CEQA Conclusion:** Maintenance of the conveyance facilities (i.e., intakes, canals, forebay,
 12 transmission lines, and operable barrier) would be required periodically and would involve
 13 painting, cleaning, and repair of structures; dredging at the Byron Tract Forebay and operable
 14 barrier, cleaning canals; vegetation removal and care along embankments; canal inspection; and
 15 vegetation removal within transmission line ROWs. These visible maintenance activities would be
 16 temporary, intermittent, and short-term impacts and would be considered less than significant.
 17 Maintenance and operation of Alternative 2B, once constructed, would not result in further
 18 substantial changes to the existing natural viewshed or terrain, alter existing visual quality of the
 19 region or eliminate visual resources, or obstruct or permanent reduce visually important features.
 20 Thus, overall, Alternative 2B would have a less-than-significant impact on existing visual quality and
 21 character during maintenance and operation of the facilities in the study area. No mitigation is
 22 required.

23 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during**
 24 **Implementation of CM2–CM22**

25 **NEPA Effects:** Under Alternative 2B, these conservation measures would be identical to those under
 26 Alternative 1A. Therefore, visual effects related to the existing visual character, scenic vistas, scenic
 27 highways, and light and glare resulting from implementation of CM2–CM22 would be the same as
 28 those described under Alternative 1A, Impact AES-6. There may be site-specific, localized adverse
 29 visual effects. These conservation measures would alter the Delta landscape by incrementally, and
 30 substantially, introducing elements into the study area over time. CM2–CM22, when combined with
 31 CM1, could substantially alter the visual character of the study area, which is strongly identified by
 32 its agricultural and water-based Delta landscapes and communities. These landscapes and
 33 communities could be adversely affected by the introduction of discordant visual features, removal
 34 of existing buildings and landscape elements of value, and through the potential for indirect impacts
 35 associated with other development potentially setting a precedent for other development to occur.
 36 All of these effects would alter the visual character of the existing regional landscape.

37 Because of the unknown location of site-specific restoration activities, potential presence of
 38 sensitive viewers, potential for construction periods to last longer than 2 years, and varying
 39 intensity of construction, effects associated with implementation of CM2–CM22 are considered
 40 adverse. However, the visual characteristics of restored/enhanced landscapes would be similar to
 41 other areas of the Delta that are in a natural marsh or wetland state and more limited in extent than
 42 the widespread areas of agricultural development. In this sense, the BDCP would have an overall
 43 beneficial effect related to the enhancement and creation of scenic vistas in the Delta.

1 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a through AES-4c are
2 available to address effects from habitat restoration and enhancement actions under CM2–CM22. In
3 addition, Mitigation Measures AES-6a and AES-6b are available to help reduce adverse visual effects.
4 Upon development of site-specific design information and plans, additional mitigation measures
5 may be identified to address action-specific adverse effects. However, each individual project under
6 CM2–CM22 would undergo the environmental compliance process that would be used to determine
7 what additional mitigation measures, would be deemed appropriate to reduce adverse effects and to
8 assess compliance with relevant regulations. Finally, Mitigation Measure AES-6c is available to help
9 inventory, classify, and protect the unique visual landscape of the Delta.

10 **CEQA Conclusion:** Implementation of conservation measures under Alternative 2B has the potential
11 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
12 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
13 and character would be significant where use of large numbers of heavy construction equipment,
14 changes in topography, and introduction of new structures or facilities where none presently exist
15 would take place in the vicinity of sensitive receptors. However, because a number of factors that
16 would determine the level of change are unknown—the location of site-specific restoration
17 activities, potential presence of sensitive viewers, potential for construction periods to last longer
18 than 2 years, and varying intensity of construction—impacts associated with implementation of
19 CM2–CM22 on visual quality and character, scenic vistas, and light and glare sources, are considered
20 significant. Because of the distance of implemented conservation measures from scenic highways,
21 changes associated with these activities would not affect the visual quality along these scenic
22 highway corridors and this impact would be less than significant. Site-specific restoration
23 information and plans need to be developed before the site-specific effects on the existing visual
24 character, scenic vistas, and light and glare can be determined.

25 Several mitigation measures are available to minimize the impacts on visual quality and character in
26 the study area that could result from implementation of these conservation measures. As
27 summarized below, these measures could be applied to individual restoration projects or actions as
28 appropriate for the site-specific conditions and design considerations. In addition, each restoration
29 project or action would undergo an environmental compliance process that would be used to
30 determine what additional mitigation measures would be deemed appropriate to reduce significant
31 effects. Mitigation Measures AES-1a through AES-1g could be applied to minimize impacts by
32 locating new transmission lines and access routes to minimize the removal of trees and shrubs and
33 pruning needed where feasible, installing visual barriers between construction work areas and
34 sensitive receptors, developing and implementing a spoil/borrow and RTM area management plan,
35 restoring barge unloading facility sites once decommissioned, applying aesthetic design treatments
36 to all structures to the extent feasible, locating concrete batch plants and fuel stations away from
37 sensitive visual resources and receptors and restoring the sites upon removal of facilities, and using
38 best management practices to implement a project landscaping plan. Mitigation Measures AES-4a
39 through AES-4c could be used to reduce the effects of new light and glare sources by limiting
40 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
41 sources used for construction, and installing visual barriers along access routes, where necessary, to
42 prevent light spill from truck headlights toward residences. In addition, Mitigation Measures AES-6a
43 and AES-6b would further minimize impacts on visual resources by undergrounding new or
44 relocated utility lines, where feasible, and through an evaluation of an afterhours low-intensity and
45 lights off policy. Finally, implementation of Mitigation Measure AES-6c would provide a strategy for
46 the protection of the unique visual landscape of the Delta.

1 While some of the conservation measures could result in beneficial impacts through the restoration
 2 of natural habitat and these mitigation measures would reduce the severity of impacts, it is
 3 unknown whether they would be reduced to a less-than-significant level because of uncertainties
 4 associated with future implementation of CM2–CM22. In addition, the size of the study area and the
 5 nature of changes introduced by these conservation measures would result in permanent changes to
 6 the regional landscape such that there would be noticeable changes to the visual character that may
 7 or may not blend or be in keeping with the existing visual environment. Thus, implementation of
 8 CM2–CM22 would result in significant and unavoidable impacts on the existing visual quality and
 9 character in the study area.

10 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 11 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 12 **Transmission Lines and Underground Transmission Lines Where Feasible**

13 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 14 Alternative 1A.

15 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 16 **Sensitive Receptors**

17 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 18 Alternative 1A.

19 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 20 **Material Area Management Plan**

21 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 22 Alternative 1A.

23 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

24 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 25 Alternative 1A.

26 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 27 **Extent Feasible**

28 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 29 Alternative 1A.

30 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 31 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

32 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 33 Alternative 1A.

34 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 35 **Landscaping Plan**

36 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 37 Alternative 1A.

1 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 2 **Residents**

3 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 6 **Construction**

7 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 8 Alternative 1A.

9 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 10 **to Prevent Light Spill from Truck Headlights toward Residences**

11 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 12 Alternative 1A.

13 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

14 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
 15 Alternative 1A.

16 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
 17 **Lights Off Policy**

18 Please refer to Mitigation Measure AES-6b under Impact AES-6 in the discussion of
 19 Alternative 1A.

20 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
 21 **Plan for the Delta and Study Area**

22 Please refer to Mitigation Measure AES-6c under Impact AES-6 in the discussion of
 23 Alternative 1A.

24 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
 25 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
 26 **Addressing Aesthetics and Visual Resources**

27 **NEPA Effects:** Constructing conveyance facilities (CM1) and implementing CM2–CM22 under
 28 Alternative 2B would generally have the same potential for incompatibilities with one or more plans
 29 and policies related to preserving the visual quality and character of the Delta as described for
 30 Alternative 1B, Impact AES-7. Intakes 6 and 7 would be located farther south than Intakes 4 and 5,
 31 between Grand Island Road and the town of Vorden, and the operable barrier would be at the head
 32 of Old River. These features would fall under the same jurisdictions as discussed under Alternative
 33 1B, and so, overall the potential for incompatibility is the same. As described under Alternative 1B,
 34 there would be potential for the alternative to be incompatible with plans and policies related to
 35 preserving the visual quality and character of the Delta (i.e., The Johnston-Baker-Andal-Boatwright
 36 Delta Protection Act of 1992, Delta Protection Commission Land Use and Resource Management
 37 Plan for the Primary Zone of the Delta, Delta Plan, Brannan Island and Franks Tract State Recreation

1 Areas General Plan). In addition, with the exception of Solano County, the alternative may be
2 incompatible with county general plan policies that protect visual resources in the study area.

3 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
4 physical consequence to the environment. The physical effects they suggest are discussed in impacts
5 AES-1 through AES-6, above and no additional CEQA conclusion is required related to the
6 compatibility of Alternative 2B with relevant plans and policies.

7 **17.3.3.7 Alternative 2C—Dual Conveyance with West Alignment and** 8 **Intakes W1–W5 (15,000 cfs; Operational Scenario B)**

9 Table 17D-3 in Appendix 17D, *Permanent Impacts after Construction is Complete*, describes existing
10 visual characteristics and the BDCP-related permanent effects of Alternative 1A on visual quality
11 and character, scenic vistas, scenic roadways, and from light and glare sources after construction is
12 complete and identifies the overall effect on viewers. Appendix E, *Permanent Features*, identifies the
13 viewer groups and viewing locations that would be affected by permanent alternative features.
14 Effects would be similar for Alternative 2C (see Figures 3-6 and 3-7 and Mapbook Figure M3-3).
15 Under Alternative 2C, Intakes W1–W5, the conveyance alignment from the intakes to the Byron
16 Tract Forebay, along with the associated shaft sites, access road, transmission line, pumping plants,
17 canals, and spoil/borrow and RTM areas would be identical to those under Alternative 1C.
18 Conservation measures would be identical to those under Alternative 1A. The only difference
19 between Alternative 1C and Alternative 2C in the context of visual resources is the addition of an
20 operable barrier at the head of Old River. The location of the operable barrier is the same as under
21 Alternative 2A and, therefore, the visual effects of the operable barrier on visual resources would be
22 the same as discussed under Alternative 2A.

23 **Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during** 24 **Construction of Conveyance Facilities**

25 **NEPA Effects:** The construction period would last up to 9 years and the intensity of activities in
26 contrast to the current rural/agricultural nature of the area would be substantial. Construction of
27 Intakes W1–W5 and accompanying pumping plants, surge towers, canals, borrow/spoil areas, RTM
28 areas, forebay, operable barrier, access roads, and transmission lines would introduce visually
29 discordant features in the foreground and middleground views of scenic vistas and from scenic
30 roadways, and these elements would be visible to all viewer groups. The existing visual character
31 would be greatly altered by the presence of large-scale intakes and concrete-lined and water-filled
32 channels traversing the landscape. In addition, construction of all features has the potential to
33 adversely affect wildlife viewing and the overall enjoyment and segment the visual landscape of the
34 study area, reduce the amount of open space lands available to viewers, and eliminate valued visual
35 resources within scenic views in the study area.

36 After construction, areas surrounding Intakes W1–W5, spoil/borrow areas, RTM areas, and shaft
37 sites may be denuded of vegetation for a short period of time until the landscaping plans designed
38 under WREM No. 30a are implemented. Once installed, the landscape would still appear to be
39 denuded of vegetation from a distance because of immature planted vegetation would be similar in
40 appearance to tilled or newly planted agricultural fields. The operable barrier at the head of Old
41 River would take up to 3 years to construct, introducing a large structure across the existing channel
42 that would limit physical and visual access to views of the horizon beyond. Mount Diablo would still
43 be visible over the structure.

1 Because of the long-term nature of construction, proximity to sensitive receptors, razing of
 2 residences and agricultural buildings, removal of vegetation, and changes to topography through
 3 grading, this effect is considered adverse. Effects on the existing visual quality and character under
 4 Alternative 2C would be greater than those under Alternatives 2A and 2B because of the extent of
 5 the canals visible on the landscape surface, landscape effects left behind by spoil/borrow areas,
 6 introduction of bridges, and closer proximity to a greater number of sensitive viewers. Overall,
 7 effects on the existing visual character associated with construction of Alternative 2C would be
 8 adverse because the alternative would result in reductions to the visual quality in some locations
 9 and introduce dominant visual elements that would result in noticeable changes that do not blend
 10 and are not in keeping or are incompatible with the existing visual environment. These changes
 11 would be viewed by sensitive receptors and from public viewing areas. Mitigation Measures AES-1a
 12 through AES-1g are available to address these effects.

13 **CEQA Conclusion:** Because of the long-term nature of construction, proximity to sensitive receptors,
 14 razing of residences and agricultural buildings, removal of vegetation, and changes to topography
 15 through grading, the impacts associated with constructing Intakes W1–W5 and accompanying
 16 pumping plants, surge towers, canals, borrow/spoil areas, RTM areas, the operable barrier, and
 17 forebay are considered significant. These changes under Alternative 2C would result in reductions to
 18 the visual quality in some locations and introduce dominant visual elements that would result in
 19 noticeable changes that do not blend and are not in keeping or are incompatible with the existing
 20 visual environment. These changes would be viewed by sensitive receptors and from public viewing
 21 areas. Impacts on the existing visual character under Alternative 2C would be greater than those
 22 under Alternatives 2A and 2B due to the extent of the canals visible on the landscape, landscape
 23 effects left behind by spoil/borrow areas, introduction of bridges, and closer proximity to a greater
 24 number of sensitive viewers.

25 Mitigation Measures AES-1a through AES-1g would partially reduce these impacts by locating new
 26 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 27 needed where feasible, installing visual barriers between construction work areas and sensitive
 28 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
 29 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
 30 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
 31 visual resources and receptors and restoring the sites upon removal of facilities, and using best
 32 management practices to implement a project landscaping plan. However, impacts may not be
 33 reduced to a less-than-significant level because even though mitigation measures would reduce
 34 some aspects of the impact on visual quality and character, it is not certain the mitigation would
 35 reduce the level of the impact to less than significant in all instances. In addition, the size of the
 36 study area and the nature of changes introduced by the alternative would result in permanent
 37 changes to the regional landscape such that there would be noticeable to very noticeable changes
 38 that do not blend or are not in keeping with the existing visual environment. Thus, Alternative 2C
 39 would result in significant and unavoidable impacts on the existing visual quality and character in
 40 the study area.

41 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 42 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 43 **Transmission Lines and Underground Transmission Lines Where Feasible**

44 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 45 Alternative 1A.

1 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 2 **Sensitive Receptors**

3 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 6 **Material Area Management Plan**

7 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 8 Alternative 1A.

9 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

10 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 11 Alternative 1A.

12 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 13 **Extent Feasible**

14 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 15 Alternative 1A.

16 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 17 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

18 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 19 Alternative 1A.

20 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 21 **Landscaping Plan**

22 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 23 Alternative 1A.

24 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

25 **NEPA Effects:** Scenic vistas are mapped and included in Appendix Figure 17D-1. Overall, permanent
 26 effects on scenic vistas associated with operation of Alternative 2C may be adverse. During
 27 construction the introduction of construction equipment and removal of vegetation would alter the
 28 scenic elements that contribute to the viewing experience from scenic vistas. The intakes would
 29 introduce visually dominant and discordant features in the foreground and middleground views in
 30 vistas that would be very noticeable to all viewer groups in areas of low to high landscape sensitivity
 31 levels. As under Alternatives 2A and 2B, the operable barrier at the head of Old River would
 32 introduce a large structure across the existing channel that would limit physical and visual access to
 33 vista views toward Frank's Tract, beyond. Mount Diablo would still be visible over the structure. The
 34 large scale of intakes, the visual presence of large-scale borrow/spoil area landscape effects, the
 35 canals, the operable barrier, transmission lines and introduction of bridges may result in adverse
 36 effects on scenic vistas (see discussions under 17.3.1.2 and 17.3.1.3). Effects on scenic vistas under
 37 Alternative 2C would be greater than those under Alternatives 2A and 2B (Impact AES-2) because of
 38 the extent of the canals visible on the landscape, landscape effects left behind by spoil/borrow areas,

1 introduction of bridges, and closer proximity to a greater number of sensitive viewers. Mitigation
2 Measures AES-1a, AES-1c, and AES-1e are available to address these effects.

3 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
4 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
5 pumping plants, large-scale borrow/spoil area landscape effects, the canals, the operable barrier,
6 transmission lines and introduction of bridges would result in significant impacts on scenic vistas
7 because construction and operation would result in a reduction in the visual quality in some
8 locations and introduce dominant visual elements that would result in noticeable changes in the
9 visual character of scenic vista viewsheds in the study area. These changes would not blend, would
10 not be in keeping or would be incompatible with the existing visual environment, and could be
11 viewed by sensitive receptors or from public viewing areas. Impacts on scenic vistas under
12 Alternative 2C would be greater than under Alternatives 2A and 2B due to the extent of the canals
13 visible on the landscape surface, landscape effects left behind by spoil/borrow areas, introduction of
14 bridges, and closer proximity to a greater number of sensitive viewers.

15 Mitigation Measures AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
16 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
17 needed where feasible, developing and implementing a spoil/borrow and RTM area management
18 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
19 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
20 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
21 hatches to less than significant. However, the impacts on scenic vistas associated with other
22 structures would not be reduced to a less-than-significant level because the changes would remain
23 noticeable and introduce elements that do not blend with the existing visual character of the vista
24 viewsheds. Thus, impacts on scenic vistas associated with Alternative 2C would be significant and
25 unavoidable.

26 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
27 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
28 **Transmission Lines and Underground Transmission Lines Where Feasible**

29 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
30 Alternative 1A.

31 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
32 **Material Area Management Plan**

33 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
34 Alternative 1A.

35 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
36 **Extent Feasible**

37 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
38 Alternative 1A.

1 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 2 **Construction of Conveyance Facilities**

3 **NEPA Effects:** Effects on scenic highways related to the presence of Intakes W1–W5, canals,
 4 spoils/borrow areas, bridges, permanent access roads, and transmission lines would be similar to
 5 those described under Alternative 1C, Impact AES-3, with the addition of the operable barrier at the
 6 head of Old River and would result in an overall noticeable effect on viewers relative to their current
 7 experience and enjoyment of the study area’s scenic resources. The intakes would be visible from SR
 8 160. However, bridges, canals, and spoil/borrow areas may or may not be visible from SR 160
 9 because the work areas would be across the river at a lower ground elevation than the raised
 10 roadway, and the views could be obscured by intervening vegetation along SR 160 and CH E9.
 11 Where visible, views would be greatly altered by the presence of large-scale, concrete-lined and
 12 water-filled channels traversing the landscape, large sunken or elevated landforms, and elevated
 13 structures between the intakes. In addition, transmission lines following the canals would introduce
 14 tall, lattice steel structures that would draw more attention to the linearity of the canal and its
 15 industrial nature and would be visible from SR 160. Effects on scenic highways under Alternative 2C
 16 may not be as great as those under Alternative 2B, due to the potential for obscured views of the
 17 bridges, canals, and spoil/borrow areas from SR 160; however, these effects may be adverse.
 18 Mitigation Measures AES-1a, AES-1c, and AES-1e would be available to address these effects.

19 **CEQA Conclusion:** Impacts on scenic highways associated with the presence of conveyance facilities
 20 under Alternative 2C would be significant because visual elements associated with the alternative
 21 would conflict with the existing forms, patterns, colors, and textures visible from SR 160; would
 22 dominate riverfront views available from SR 160; and would alter broad views and the general
 23 nature of the visual experience presently available from SR 160 (thereby permanently damaging the
 24 scenic resources along the scenic highway). Impacts on scenic highways under Alternative 2C may
 25 not be as great as those under Alternative 2B due to the potential for obscured views of the bridges,
 26 canals, and spoil/borrow areas from SR 160. However, the intakes would be very visible and result
 27 in a very noticeable change in the viewshed. Mitigation Measures AES-1a, AES-1c, and AES-1e would
 28 help to reduce these impacts through the application of aesthetic design treatments to all structures,
 29 to the extent feasible. However, impacts on visual resources resulting from damage to scenic
 30 resources that may be viewed from a state scenic highway would not be reduced to a less-than-
 31 significant level because even though mitigation measures would reduce some aspects of the impact,
 32 it is not certain the mitigation would reduce the level of the impact to less than significant in all
 33 instances. In addition, the size of the study area and the nature of changes introduced by the
 34 alternative would result in permanent changes to the regional landscape such that there would be
 35 noticeable to very noticeable changes to the visual character of a scenic highway viewshed that do
 36 not blend or are not in keeping with the existing visual environment. Thus, overall, this impact
 37 would be significant and unavoidable.

38 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 39 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 40 **Transmission Lines and Underground Transmission Lines Where Feasible**

41 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 42 Alternative 1A.

1 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 2 **Material Area Management Plan**

3 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 6 **Extent Feasible**

7 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 8 Alternative 1A.

9 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 10 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

11 **NEPA Effects:** Light and glare effects related to operation of Intakes W1–W5, canals, spoils/borrow
 12 areas, RTM areas, shaft sites, Byron Tract Forebay, permanent access roads, and transmission lines
 13 would be the same as those described for Alternative 1C, Impact AES-4. Intakes W1–W5 and the
 14 associated pumping plants, surge towers, and facilities would create very noticeable effects relating
 15 to light and glare (Figures 17-76 through 17-78). Light building colors over a large surface area
 16 would reflect off of those surfaces and increase glare, especially when combined with the removal of
 17 vegetation that absorbs light, provides shade, and screens glare. Sunlight would reflect off the new
 18 water surfaces of the canals, creating new sources of glare where none presently exist. Because of
 19 the extent of the canals and introduction of a substantial glare-producing water body, the effect
 20 associated with daytime and nighttime glare is considered adverse. Nighttime construction could
 21 also result in headlights flashing into nearby residents' homes when construction vehicles are
 22 turning onto or off of construction access routes. Proposed surge towers would require the use of
 23 safety lights that would alert low-flying aircraft to the presence of these structures because of their
 24 height. The operable barrier at the head of Old River may have limited safety lighting. Overall,
 25 because the study area currently experiences low levels of light and because there are a larger
 26 number of viewers in and around the waterways, intake structures, operable barrier, forebay, and
 27 canals, that would be affected by these noticeable changes that contrast with the existing rural
 28 character, effects associated with new sources of daytime and nighttime light and glare are
 29 considered adverse. Mitigation Measures AES-4a through AES-4c are available to address these
 30 effects.

31 **CEQA Conclusion:** The impacts associated with light and glare under Alternative 2C are significant
 32 because there are a larger number of viewers in and around the waterways, intake structures,
 33 forebay, and canals; alternative facilities would increase the amount of nighttime lighting in the
 34 Delta above existing ambient light levels; and the study area currently experiences low levels of
 35 light. Mitigation Measures AES-4a through AES-4c would help reduce impacts by limiting
 36 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
 37 sources used for construction, and installing visual barriers along access routes, where necessary, to
 38 prevent light spill from truck headlights toward residences. However, these mitigation measures
 39 would not reduce impacts to a less-than-significant level because even though mitigation measures
 40 would reduce some aspects of the impact, it is not certain the mitigation would reduce the level of
 41 the impact to less than significant in all instances. In addition, the size of the study area and the
 42 nature of changes introduced by the new light and glare sources would result in permanent changes
 43 to the regional landscape such that there would be noticeable changes to the visual character that do

1 not blend or are not in keeping with the existing visual environment. Thus, the new sources of
 2 daytime and nighttime light and glare associated with Alternative 2C would result in significant and
 3 unavoidable impacts on public views in the project vicinity.

4 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 5 **Residents**

6 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 7 Alternative 1A.

8 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 9 **Construction**

10 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 11 Alternative 1A.

12 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 13 **to Prevent Light Spill from Truck Headlights toward Residences**

14 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 15 Alternative 1A.

16 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

17 **NEPA Effects:** Effects on the visual environment through operations and maintenance of the water
 18 conveyance facilities (CM1) under this alternative would be similar to those described for
 19 Alternatives 1A and 1C, Impact AES-5. Once the facility is in operation, visible regular and periodic
 20 maintenance would be required on all major structures, including the operable barrier at the head of
 21 Old River. Activities such as painting, cleaning, vegetation maintenance (removal), repairs, and
 22 inspections would be visible from viewpoints on water and land. Although under Alternative 2C
 23 there would not be an intermediate forebay, the canal, operable barrier on the head of Old River,
 24 and Byron Tract Forebay would require cleaning and periodic dredging. The greatest visual effects
 25 resulting from operations would be maintenance on the intakes and cleaning the canals. However,
 26 these temporary maintenance activities are anticipated to occur within short periods of time, and
 27 effects would not be adverse because the activities would not result in further substantial changes to
 28 the existing natural viewshed or terrain, alter existing visual quality of the region or eliminate visual
 29 resources, or obstruct or permanently reduce visually important features.

30 **CEQA Conclusion:** Maintenance of the conveyance facilities (i.e., intakes, canals, forebay,
 31 transmission lines, and operable barrier) would be required periodically and would involve
 32 painting, cleaning, and repair of structures; dredging at the Byron Tract Forebay and operable
 33 barrier, cleaning canals; vegetation removal and care along embankments; canal inspection; and
 34 vegetation removal within transmission line ROWs. These visible maintenance activities would be
 35 temporary, intermittent, and short-term impacts and would be considered less than significant.
 36 Maintenance and operation of Alternative 2C, once constructed, would not result in further
 37 substantial changes to the existing natural viewshed or terrain, alter existing visual quality of the
 38 region or eliminate visual resources, or obstruct or permanent reduce visually important features.
 39 Thus, overall, Alternative 2C would have a less-than-significant impact on existing visual quality and
 40 character during maintenance and operation of the facilities in the study area. No mitigation is
 41 required.

1 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during**
 2 **Implementation of CM2–CM22**

3 **NEPA Effects:** Under Alternative 2C, these conservation measures would be identical to those under
 4 Alternative 1A. Therefore, visual effects related to the existing visual character, scenic vistas, scenic
 5 highways, and light and glare resulting from implementation of CM2–CM22 would be the same as
 6 those described under Alternative 1A, Impact AES-6. There may be site-specific, localized adverse
 7 visual effects. These conservation measures would alter the Delta landscape by incrementally, and
 8 substantially, introducing elements into the study area over time. CM2–CM22, when combined with
 9 CM1, could substantially alter the visual character of the study area, which is strongly identified by
 10 its agricultural and water-based Delta landscapes and communities. These landscapes and
 11 communities could be adversely affected by the introduction of discordant visual features, removal
 12 of existing buildings and landscape elements of value, and through the potential for indirect impacts
 13 associated with other development potentially setting a precedent for other development to occur.
 14 All of these effects would alter the visual character of the existing regional landscape.

15 Because of the unknown location of site-specific restoration activities, potential presence of
 16 sensitive viewers, potential for construction periods to last longer than 2 years, and varying
 17 intensity of construction, effects associated with implementation of CM2–CM22 are considered
 18 adverse. However, the visual characteristics of restored/enhanced landscapes would be similar to
 19 other areas of the Delta that are in a natural marsh or wetland state and more limited in extent than
 20 the widespread areas of agricultural development. In this sense, the BDCP would have an overall
 21 beneficial effect related to the enhancement and creation of scenic vistas in the Delta.

22 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a through AES-4c are
 23 available to address effects from habitat restoration and enhancement actions under CM2–CM22. In
 24 addition, Mitigation Measures AES-6a and AES-6b are available to help reduce adverse visual effects.
 25 Upon development of site-specific design information and plans, additional mitigation measures
 26 may be identified to address action-specific adverse effects. However, each individual project under
 27 CM2–CM22 would undergo the environmental compliance process that would be used to determine
 28 what additional mitigation measures, would be deemed appropriate to reduce adverse effects and to
 29 assess compliance with relevant regulations. Finally, Mitigation Measure AES-6c is available to help
 30 inventory, classify, and protect the unique visual landscape of the Delta.

31 **CEQA Conclusion:** Implementation of conservation measures under Alternative 2C has the potential
 32 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
 33 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
 34 and character would be significant where use of large numbers of heavy construction equipment,
 35 changes in topography, and introduction of new structures or facilities where none presently exist
 36 would take place in the vicinity of sensitive receptors. However, because a number of factors that
 37 would determine the level of change are unknown—the location of site-specific restoration
 38 activities, potential presence of sensitive viewers, potential for construction periods to last longer
 39 than 2 years, and varying intensity of construction—impacts associated with implementation of
 40 CM2–CM22 on visual quality and character, scenic vistas, and light and glare sources, are considered
 41 significant. Because of the distance of implemented conservation measures from scenic highways,
 42 changes associated with these activities would not affect the visual quality along these scenic
 43 highway corridors and this impact would be less than significant. Site-specific restoration
 44 information and plans need to be developed before the site-specific effects on the existing visual
 45 character, scenic vistas, and light and glare can be determined.

1 Several mitigation measures are available to minimize the impacts on visual quality and character in
 2 the study area that could result from implementation of these conservation measures. As
 3 summarized below, these measures could be applied to individual restoration projects or actions as
 4 appropriate for the site-specific conditions and design considerations. In addition, each restoration
 5 project or action would undergo an environmental compliance process that would be used to
 6 determine what additional mitigation measures would be deemed appropriate to reduce significant
 7 effects. Mitigation Measures AES-1a through AES-1g could be applied to minimize impacts by
 8 locating new transmission lines and access routes to minimize the removal of trees and shrubs and
 9 pruning needed where feasible, installing visual barriers between construction work areas and
 10 sensitive receptors, developing and implementing a spoil/borrow and RTM area management plan,
 11 restoring barge unloading facility sites once decommissioned, applying aesthetic design treatments
 12 to all structures to the extent feasible, locating concrete batch plants and fuel stations away from
 13 sensitive visual resources and receptors and restoring the sites upon removal of facilities, and using
 14 best management practices to implement a project landscaping plan. Mitigation Measures AES-4a
 15 through AES-4c could be used to reduce the effects of new light and glare sources by limiting
 16 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
 17 sources used for construction, and installing visual barriers along access routes, where necessary, to
 18 prevent light spill from truck headlights toward residences. In addition, Mitigation Measures AES-6a
 19 and AES-6b would further minimize impacts on visual resources by undergrounding new or
 20 relocated utility lines, where feasible, and through an evaluation of an afterhours low-intensity and
 21 lights off policy. Finally, implementation of Mitigation Measure AES-6c would provide a strategy for
 22 the protection of the unique visual landscape of the Delta.

23 While some of the conservation measures could result in beneficial impacts through the restoration
 24 of natural habitat and these mitigation measures would reduce the severity of impacts, it is
 25 unknown whether they would be reduced to a less-than-significant level because of uncertainties
 26 associated with future implementation of CM2–CM22. In addition, the size of the study area and the
 27 nature of changes introduced by these conservation measures would result in permanent changes to
 28 the regional landscape such that there would be noticeable changes to the visual character that may
 29 or may not blend or be in keeping with the existing visual environment. Thus, implementation of
 30 CM2–CM22 would result in significant and unavoidable impacts on the existing visual quality and
 31 character in the study area.

32 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 33 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 34 **Transmission Lines and Underground Transmission Lines Where Feasible**

35 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 36 Alternative 1A.

37 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 38 **Sensitive Receptors**

39 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 40 Alternative 1A.

1 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
2 **Material Area Management Plan**

3 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
4 Alternative 1A.

5 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

6 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
7 Alternative 1A.

8 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
9 **Extent Feasible**

10 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
11 Alternative 1A.

12 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
13 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

14 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
15 Alternative 1A.

16 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
17 **Landscaping Plan**

18 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
19 Alternative 1A.

20 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
21 **Residents**

22 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
23 Alternative 1A.

24 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
25 **Construction**

26 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
27 Alternative 1A.

28 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
29 **to Prevent Light Spill from Truck Headlights toward Residences**

30 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
31 Alternative 1A.

32 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

33 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
34 Alternative 1A.

1 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
 2 **Lights Off Policy**

3 Please refer to Mitigation Measure AES-6b under Impact AES-6 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
 6 **Plan for the Delta and Study Area**

7 Please refer to Mitigation Measure AES-6c under Impact AES-6 in the discussion of
 8 Alternative 1A.

9 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
 10 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
 11 **Addressing Aesthetics and Visual Resources**

12 **NEPA Effects:** Constructing conveyance facilities (CM1) and implementing CM2–CM22 under
 13 Alternative 2C would generally have the same potential for incompatibilities with one or more plans
 14 and policies related to preserving the visual quality and character of the Delta as described for
 15 Alternative 1C, Impact AES-7. Variation would result from construction of an operable barrier at the
 16 head of Old River. However, the operable barrier would fall under the same jurisdictions as
 17 discussed under Alternative 1C, and so, overall the potential for incompatibility is the same. As
 18 described under Alternative 1C, there would be potential for the alternative to be incompatible with
 19 plans and policies related to preserving the visual quality and character of the Delta (i.e., The
 20 Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992, Delta Protection Commission Land
 21 Use and Resource Management Plan for the Primary Zone of the Delta, Delta Plan, Brannan Island
 22 and Franks Tract State Recreation Areas General Plan). In addition, with the exception of San
 23 Joaquin County, the alternative may be incompatible with county general plan policies that protect
 24 visual resources in the study area.

25 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
 26 physical consequence to the environment. The physical effects they suggest are discussed in impacts
 27 AES-1 through AES-6, above and no additional CEQA conclusion is required related to the
 28 compatibility of Alternative 2C with relevant plans and policies.

29 **17.3.3.8 Alternative 3—Dual Conveyance with Pipeline/Tunnel and**
 30 **Intakes 1 and 2 (6,000 cfs; Operational Scenario A)**

31 Table 17D-1 in Appendix 17D, *Permanent Impacts after Construction is Complete*, describes existing
 32 visual characteristics and the BDCP-related permanent effects of Alternative 1A on visual quality
 33 and character, scenic vistas, scenic roadways, and from light and glare sources after construction is
 34 complete and identifies the overall effect on viewers. Appendix E, *Permanent Features*, identifies the
 35 viewer groups and viewing locations that would be affected by permanent alternative features.
 36 Effects would be similar for this alternative. Under Alternative 3, the conveyance alignment from the
 37 intakes to the Byron Tract Forebay, along with the associated shaft site, access road, transmission
 38 line, pumping plants, barge unloading facility sites, and spoil/borrow and RTM areas, would be
 39 identical to Alternative 1A. The difference between this alternative and Alternative 1A in the context
 40 of visual resources is the number of intakes. Alternative 3 would use only two intakes: Intakes 1 and
 41 2 (see Figures 3-2 and 3-8). The effects associated with construction of Intakes 1 and 2 are discussed
 42 in detail under Alternative 1A, and those effects would be the same under Alternative 3.

1 **Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during**
 2 **Construction of Conveyance Facilities**

3 **NEPA Effects:** Effects related to visual resources under this alternative would be similar to those
 4 described for Alternative 1A. However, the severity of these effects would be decreased because
 5 there would be two intake structures instead of five. The primary features that would affect the
 6 existing visual quality and character under Alternative 3, once the facility has been constructed,
 7 would be the intakes, the intermediate forebay and Byron Tract Forebay, transmission lines, and
 8 resulting landscape effects left behind from spoil/borrow and RTM areas, and concrete batch plants
 9 and fuel stations. These changes would be most evident in the northern portion of the study area,
 10 which would undergo extensive changes from the permanent establishment of large industrial
 11 facilities and the supporting infrastructure along and surrounding the segment of the Sacramento
 12 River where the intakes would be situated.

13 Overall, construction would take 9 years, and the intensity of the activities in contrast to the current
 14 rural/agricultural nature of the area would be substantial. Construction of intakes, and the
 15 accompanying pumping plants, surge towers, borrow/spoil areas, and RTM areas would introduce
 16 visually dominant and discordant features in the foreground and middleground views, and these
 17 elements would be very noticeable to all viewer groups.

18 After construction, areas surrounding the intakes, spoil/borrow areas, RTM areas, shaft sites, and
 19 locations where concrete batch plants and fuel stations were located may be denuded of vegetation
 20 for a short period of time until the landscaping plans designed under WREM No. 30a are
 21 implemented. Once installed, the landscape would still appear to be denuded of vegetation or to
 22 have little vegetative cover because immature landscaping would be similar in appearance to tilled
 23 or newly planted agricultural fields. The sites would be in a transitional state, and over a period of a
 24 few years, plant species would mature and vegetation would recolonize the sites. These changes
 25 would happen in an area known for its open space, agricultural landscapes, and rural characteristics
 26 and would segment the visual landscape of the study area, reduce the amount of open space lands
 27 available to viewers, and eliminate valued visual resources. The effects of permanent access roads
 28 on visual resources would not be adverse. The effects of shaft site access hatches on the existing
 29 scenic character may be adverse. Operation of the intakes, the visual presence of large-scale
 30 borrow/spoil and RTM area landscape effects, and transmission lines would result in adverse effects
 31 on the existing visual character. In addition, construction of all of these features has the potential to
 32 negatively affect wildlife viewing and the overall enjoyment of scenic views in the study area.
 33 Therefore, because of the long-term nature of construction combined with the proximity to sensitive
 34 receptors, razing of residences and agricultural buildings, removal of vegetation, and changes to
 35 topography through grading, this overall effect of conveyance facility construction on existing visual
 36 quality and character is considered adverse. Mitigation Measures AES-1a through AES-1g are
 37 available to address visual effects resulting from construction of Alternative 3 water conveyance
 38 facilities.

39 **CEQA Conclusion:** Construction of Alternative 3 would substantially alter the existing visual quality
 40 and character present in the study area. The long-term nature of construction of the intakes,
 41 pipeline/tunnel, work areas, spoil/borrow and RTM areas, shaft sites, barge unloading facilities;
 42 presence and visibility of heavy construction equipment; proximity to sensitive receptors; relocation
 43 of residences and agricultural buildings; removal of riparian vegetation and other mature vegetation
 44 or landscape plantings; earthmoving and grading that result in changes to topography in areas that
 45 are predominantly flat; addition of large-scale industrial structures (intakes and related facilities);

1 remaining presence of large-scale borrow/spoil and RTM area landscape effects; and introduction of
2 tall, steel transmission lines would all contribute to this impact.

3 Overall, construction would last up to 9 years and would change the existing visual character in the
4 vicinity of project elements from those of agricultural, rural residential, or riparian and riverine
5 settings to areas involving heavy construction equipment, temporary construction structures, work
6 crews, other support vehicles and other activities that would modify and disrupt short- and long-
7 range views. These activities would be disruptive to some viewers. Once construction is complete,
8 the alternative would result in the placement of large, multi-story industrial concrete and steel
9 structures, pumping plants, fencing, and other similar anthropogenic features where none presently
10 exist. Because of the landscape sensitivity and visual dominance of these features, these changes
11 would result in reduced scenic quality throughout the study area (see 17.3.1.3, *Analysis of the*
12 *Alternatives' Impact on Visual Resources*). Thus, Alternative 3 would result in significant impacts on
13 the existing visual quality and character in the study area.

14 Mitigation Measures AES-1a through AES-1g would partially reduce impacts by locating new
15 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
16 needed where feasible, installing visual barriers between construction work areas and sensitive
17 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
18 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
19 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
20 visual resources and receptors and restoring the sites upon removal of facilities, and using best
21 management practices to implement a project landscaping plan. However, impacts may not be
22 reduced to a less-than-significant level because even though mitigation measures would reduce
23 some aspects of the impact on visual quality and character, it is not certain the mitigation would
24 reduce the level of the impact to less than significant in all instances. In addition, the size of the
25 study area and the nature of changes introduced by the alternative would result in permanent
26 changes to the regional landscape such that there would be noticeable to very noticeable changes
27 that do not blend or are not in keeping with the existing visual environment. Thus, Alternative 3
28 would result in significant and unavoidable impacts on the existing visual quality and character in
29 the study area.

30 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
31 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
32 **Transmission Lines and Underground Transmission Lines Where Feasible**

33 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
34 Alternative 1A.

35 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
36 **Sensitive Receptors**

37 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
38 Alternative 1A.

39 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
40 **Material Area Management Plan**

41 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
42 Alternative 1A.

1 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

2 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
3 Alternative 1A.

4 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the
5 Extent Feasible**

6 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
7 Alternative 1A.

8 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from
9 Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

10 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
11 Alternative 1A.

12 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project
13 Landscaping Plan**

14 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
15 Alternative 1A.

16 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

17 **NEPA Effects:** Scenic vistas are mapped and included in Appendix Figure 17D-1. Effects related to
18 scenic vistas under this alternative would be similar to those described for Alternative 1A, Impact
19 AES-2. During construction the introduction of construction equipment and removal of vegetation
20 would alter the scenic elements that contribute to the viewing experience from scenic vistas. The
21 intakes would introduce visually dominant and discordant features in the foreground and
22 middleground views in vistas that would be very noticeable to all viewer groups in areas of low to
23 high landscape sensitivity levels. However, the severity of these effects related to the north Delta
24 intakes along the Sacramento River would be decreased because there would only be two intake
25 structures instead of five. As described for Alternative 1A, the effects of permanent access roads
26 effects on scenic vistas would not be adverse. The effects of shaft site access hatches on scenic vistas
27 could be adverse. The large scale of intakes, the visual presence of large-scale borrow/spoil and
28 RTM area landscape effects, and transmission lines may result in adverse effects on scenic vistas
29 (see discussions under 17.3.1.2 and 17.3.1.3). Overall, effects on scenic vistas associated with
30 Alternative 3, although reduced in scale for the north Delta intakes relative to Alternative 1A, may be
31 adverse. Mitigation Measures AES-1a, AES-1c, and AES-1e are available to address these effects.

32 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
33 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
34 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
35 and transmission lines would result in significant impacts on scenic vistas because construction and
36 operation would result in a reduction in the visual quality in some locations and introduce dominant
37 visual elements that would result in noticeable changes in the visual character of scenic vista
38 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
39 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
40 from public viewing areas.

1 Mitigation Measure AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 2 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 3 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 4 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 5 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 6 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 7 hatches to less than significant. However, the impacts on scenic vistas associated with other
 8 structures would not be reduced to a less-than-significant level because even though mitigation
 9 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 10 level of the impact to less than significant in all instances. In addition, the size of the study area and
 11 the nature of changes introduced by the alternative would result in permanent changes to the
 12 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 13 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 14 with Alternative 3 would be significant and unavoidable.

15 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 16 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 17 **Transmission Lines and Underground Transmission Lines Where Feasible**

18 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 19 Alternative 1A.

20 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 21 **Material Area Management Plan**

22 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 23 Alternative 1A.

24 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 25 **Extent Feasible**

26 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 27 Alternative 1A.

28 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 29 **Construction of Conveyance Facilities**

30 **NEPA Effects:** Effects on state scenic highways under this alternative would be similar to those
 31 described for Alternative 1A, Impact AES-3. Intakes 1 and 2, the spoils/borrow and RTM area north
 32 of Intake 2, and the intermediate forebay would be immediately and prominently visible in the
 33 foreground from SR 160 and would result in an overall noticeable effect on viewers relative to their
 34 current experience and enjoyment of the study area's scenic resources along SR 160 and River Road,
 35 where the landscape sensitivity level is high. However, the severity of these effects related to the
 36 north Delta intakes along the Sacramento River would be decreased because there would only be
 37 two intake structures instead of five. Nevertheless, as described for Alternative 1A, these visual
 38 elements introduced by the intakes, spoil/borrow and RTM areas north of Intake 2, and
 39 intermediate forebay would conflict with the existing forms, patterns, colors, textures along River
 40 Road and SR 160; would dominate riverfront available from SR 160; and would alter broad views
 41 and the general nature of the visual experience presently available from River Road and SR 160.
 42 These changes would reduce the visual quality near intake structure locations and result in

1 noticeable changes in the visual character of scenic vista viewsheds in the study area. These changes
 2 would not blend, would not be in keeping or would be incompatible with the existing visual
 3 environment, and could be viewed by sensitive receptors or from public viewing areas. This effect
 4 would be adverse (see discussion under 17.3.1.2 and 17.3.1.3). Mitigation Measures AES-1a, AES-1c,
 5 and AES-1e are available to address these effects.

6 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 7 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
 8 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
 9 and transmission lines would result in significant impacts on scenic vistas because construction and
 10 operation would result in a reduction in the visual quality in some locations and introduce dominant
 11 visual elements that would result in noticeable changes in the visual character of scenic vista
 12 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
 13 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
 14 from public viewing areas.

15 Mitigation Measures AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 16 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 17 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 18 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 19 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 20 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 21 hatches to less than significant. However, the impacts on scenic vistas associated with other
 22 structures would not be reduced to a less-than-significant level because even though mitigation
 23 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 24 level of the impact to less than significant in all instances. In addition, the size of the study area and
 25 the nature of changes introduced by the alternative would result in permanent changes to the
 26 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 27 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 28 with Alternative 3 would be significant and unavoidable.

29 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 30 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 31 **Transmission Lines and Underground Transmission Lines Where Feasible**

32 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 33 Alternative 1A.

34 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 35 **Material Area Management Plan**

36 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 37 Alternative 1A.

38 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 39 **Extent Feasible**

40 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 41 Alternative 1A.

1 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 2 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

3 **NEPA Effects:** Effects resulting from light and glare under this alternative would be similar to those
 4 described for Alternative 1A, Impact AES-4. Intakes 1 and 2 and their associated pumping plants,
 5 surge towers, and facilities and the pumping plant at the intermediate forebay would create very
 6 noticeable effects relating to light and glare (Figures 17-76 through 17-78). Light building colors
 7 over a large surface area would reflect off of those surfaces and increase glare, especially when
 8 combined with the removal of vegetation that absorbs light, provides shade, and screens glare.
 9 Sunlight would reflect off the new water surfaces of the forebay, creating new sources of glare
 10 where none presently exist. However, the severity of these effects related to the north Delta intakes
 11 on the Sacramento River would be decreased because there would only be two intake structures
 12 instead of five. Nighttime construction could also result in headlights flashing into nearby residents'
 13 homes when construction vehicles are turning onto or off of construction access routes. Proposed
 14 surge towers would require the use of safety lights that would alert low-flying aircraft to the
 15 presence of these structures because of their height. Overall, because the study area currently
 16 experiences low levels of light and because there are a larger number of viewers in and around the
 17 waterways, intake structures, and forebay that would be affected by these noticeable changes that
 18 contrast with the existing rural character, effects associated with new sources of daytime and
 19 nighttime light and glare are considered adverse. Mitigation Measures AES-4a through AES-4c are
 20 available to address these effects.

21 **CEQA Conclusion:** The impacts associated with light and glare under Alternative 3 are significant
 22 because there are a larger number of viewers in and around the waterways, intake structures, and
 23 intermediate forebay; BDCP facilities would increase the amount of nighttime lighting in the Delta
 24 above existing ambient light levels; and the study area currently experiences low levels of light
 25 because there are fewer light/glare producers than are typical in urban areas. Mitigation Measures
 26 AES-4a through AES-4c would help reduce these impacts by limiting construction to daylight hours
 27 within 0.25 mile of residents, minimizing fugitive light from portable sources used for construction,
 28 and installing visual barriers along access routes, where necessary, to prevent light spill from truck
 29 headlights toward residences; however, these mitigation measures would not reduce impacts to a
 30 less-than-significant level because even though mitigation measures would reduce some aspects of
 31 the impact, it is not certain the mitigation would reduce the level of the impact to less than
 32 significant in all instances. In addition, the size of the study area and the nature of changes
 33 introduced by the new light and glare sources would result in permanent changes to the regional
 34 landscape such that there would be noticeable changes to the visual character that do not blend or
 35 are not in keeping with the existing visual environment. Thus, the new sources of daytime and
 36 nighttime light and glare associated with Alternative 3 would result in significant and unavoidable
 37 impacts on public views in the project vicinity.

38 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 39 **Residents**

40 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 41 Alternative 1A.

1 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 2 **Construction**

3 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 6 **to Prevent Light Spill from Truck Headlights toward Residences**

7 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 8 Alternative 1A.

9 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

10 **NEPA Effects:** Effects on the visual environment through operations and maintenance of the water
 11 conveyance facilities (CM1) under this alternative would be similar to those described for
 12 Alternative 1A, Impact AES-5. Once the facility is in operation, visible regular and periodic
 13 maintenance would be required on all major structures. Activities such as painting, cleaning,
 14 vegetation maintenance (removal), repairs, and inspections would be visible from viewpoints on
 15 water and land. The greatest visual effects resulting from operations would be maintenance of the
 16 intakes and dredging the forebays. However, under Alternative 3, the severity of these effects in the
 17 vicinity of the north Delta intakes relative to Alternative 1A would be decreased because there
 18 would only be two intake structures instead of five. Because temporary maintenance activities are
 19 anticipated to occur within a short period of time, these effects would not be adverse because the
 20 activities would not result in further substantial changes to the existing natural viewshed or terrain,
 21 alter existing visual quality of the region or eliminate visual resources, or obstruct or permanently
 22 reduce visually important features.

23 **CEQA Conclusion:** Maintenance of the conveyance facilities (i.e., intakes, tunnels, forebays and
 24 transmission lines) would be required periodically and would involve painting, cleaning, and repair
 25 of structures; dredging at forebays (at approximately 50-year intervals); vegetation removal and
 26 care along embankments; tunnel inspection; and vegetation removal within transmission line ROWs.
 27 These visible maintenance activities would be temporary, intermittent, and short-term impacts and
 28 would be considered less than significant. Maintenance and operation of Alternative 3 once
 29 constructed, would not result in further substantial changes to the existing natural viewshed or
 30 terrain, alter existing visual quality of the region or eliminate visual resources, or obstruct or
 31 permanently reduce visually important features. Thus, overall, Alternative 3 would have a less-than-
 32 significant impact on existing visual quality and character during maintenance and operation of the
 33 facilities in the study area. No mitigation is required.

34 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during**
 35 **Implementation of CM2–CM22**

36 **NEPA Effects:** Under Alternative 3, these conservation measures would be identical to those under
 37 Alternative 1A. Therefore, visual effects related to the existing visual character, scenic vistas, scenic
 38 highways, and light and glare resulting from implementation of CM2–CM22 would be the same as
 39 those described under Alternative 1A, Impact AES-6. There may be site-specific, localized adverse
 40 visual effects. These conservation measures would alter the Delta landscape by incrementally, and
 41 substantially, introducing elements into the study area over time. CM2–CM22, when combined with
 42 CM1, could substantially alter the visual character of the study area, which is strongly identified by

1 its agricultural and water-based Delta landscapes and communities. These landscapes and
2 communities could be adversely affected by the introduction of discordant visual features, removal
3 of existing buildings and landscape elements of value, and through the potential for indirect impacts
4 associated with other development potentially setting a precedent for other development to occur.
5 All of these effects would alter the visual character of the existing regional landscape.

6 Because of the unknown location of site-specific restoration activities, potential presence of
7 sensitive viewers, potential for construction periods to last longer than 2 years, and varying
8 intensity of construction, effects associated with implementation of CM2–CM22 are considered
9 adverse. However, the visual characteristics of restored/enhanced landscapes would be similar to
10 other areas of the Delta that are in a natural marsh or wetland state and more limited in extent than
11 the widespread areas of agricultural development. In this sense, the BDCP would have an overall
12 beneficial effect related to the enhancement and creation of scenic vistas in the Delta.

13 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a through AES-4c are
14 available to address effects from habitat restoration and enhancement actions under CM2–CM22. In
15 addition, Mitigation Measures AES-6a and AES-6b are available to help reduce adverse visual effects.
16 Upon development of site-specific design information and plans, additional mitigation measures
17 may be identified to address action-specific adverse effects. However, each individual project under
18 CM2–CM22 would undergo the environmental compliance process that would be used to determine
19 what additional mitigation measures, would be deemed appropriate to reduce adverse effects and to
20 assess compliance with relevant regulations. Finally, Mitigation Measure AES-6c is available to help
21 inventory, classify, and protect the unique visual landscape of the Delta.

22 **CEQA Conclusion:** Implementation of conservation measures under Alternative 3 has the potential
23 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
24 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
25 and character would be significant where use of large numbers of heavy construction equipment,
26 changes in topography, and introduction of new structures or facilities where none presently exist
27 would take place in the vicinity of sensitive receptors. However, because a number of factors that
28 would determine the level of change are unknown—the location of site-specific restoration
29 activities, potential presence of sensitive viewers, potential for construction periods to last longer
30 than 2 years, and varying intensity of construction—impacts associated with implementation of
31 CM2–CM22 on visual quality and character, scenic vistas, and light and glare sources, are considered
32 significant. Because of the distance of implemented conservation measures from scenic highways,
33 changes associated with these activities would not affect the visual quality along these scenic
34 highway corridors and this impact would be less than significant. Site-specific restoration
35 information and plans need to be developed before the site-specific effects on the existing visual
36 character, scenic vistas, and light and glare can be determined.

37 Several mitigation measures are available to minimize the impacts on visual quality and character in
38 the study area that could result from implementation of these conservation measures. As
39 summarized below, these measures could be applied to individual restoration projects or actions as
40 appropriate for the site-specific conditions and design considerations. In addition, each restoration
41 project or action would undergo an environmental compliance process that would be used to
42 determine what additional mitigation measures would be deemed appropriate to reduce significant
43 effects. Mitigation Measures AES-1a through AES-1g could be applied to minimize impacts by
44 locating new transmission lines and access routes to minimize the removal of trees and shrubs and
45 pruning needed where feasible, installing visual barriers between construction work areas and

1 sensitive receptors, developing and implementing a spoil/borrow and RTM area management plan,
 2 restoring barge unloading facility sites once decommissioned, applying aesthetic design treatments
 3 to all structures to the extent feasible, locating concrete batch plants and fuel stations away from
 4 sensitive visual resources and receptors and restoring the sites upon removal of facilities, and using
 5 best management practices to implement a project landscaping plan. Mitigation Measures AES-4a
 6 through AES-4c could be used to reduce the effects of new light and glare sources by limiting
 7 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
 8 sources used for construction, and installing visual barriers along access routes, where necessary, to
 9 prevent light spill from truck headlights toward residences. In addition, Mitigation Measures AES-6a
 10 and AES-6b would further minimize impacts on visual resources by undergrounding new or
 11 relocated utility lines, where feasible, and through an evaluation of an afterhours low-intensity and
 12 lights off policy. Finally, implementation of Mitigation Measure AES-6c would provide a strategy for
 13 the protection of the unique visual landscape of the Delta.

14 While some of the conservation measures could result in beneficial impacts through the restoration
 15 of natural habitat and these mitigation measures would reduce the severity of impacts, it is
 16 unknown whether they would be reduced to a less-than-significant level because of uncertainties
 17 associated with future implementation of CM2–CM22. In addition, the size of the study area and the
 18 nature of changes introduced by these conservation measures would result in permanent changes to
 19 the regional landscape such that there would be noticeable changes to the visual character that may
 20 or may not blend or be in keeping with the existing visual environment. Thus, implementation of
 21 CM2–CM22 would result in significant and unavoidable impacts on the existing visual quality and
 22 character in the study area.

23 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 24 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 25 **Transmission Lines and Underground Transmission Lines Where Feasible**

26 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 27 Alternative 1A.

28 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 29 **Sensitive Receptors**

30 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 31 Alternative 1A.

32 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 33 **Material Area Management Plan**

34 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 35 Alternative 1A.

36 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

37 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 38 Alternative 1A.

1 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
2 **Extent Feasible**

3 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
4 Alternative 1A.

5 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
6 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

7 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
8 Alternative 1A.

9 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
10 **Landscaping Plan**

11 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
12 Alternative 1A.

13 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
14 **Residents**

15 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
16 Alternative 1A.

17 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
18 **Construction**

19 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
20 Alternative 1A.

21 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
22 **to Prevent Light Spill from Truck Headlights toward Residences**

23 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
24 Alternative 1A.

25 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

26 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
27 Alternative 1A.

28 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
29 **Lights Off Policy**

30 Please refer to Mitigation Measure AES-6b under Impact AES-6 in the discussion of
31 Alternative 1A.

32 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
33 **Plan for the Delta and Study Area**

34 Please refer to Mitigation Measure AES-6c under Impact AES-6 in the discussion of
35 Alternative 1A.

1 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
 2 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
 3 **Addressing Aesthetics and Visual Resources**

4 **NEPA Effects:** Constructing conveyance facilities (CM1) and implementing CM2–CM22 under
 5 Alternative 3 would generally have the same potential for incompatibilities with one or more plans
 6 and policies related to preserving the visual quality and character of the Delta as described for
 7 Alternative 1A, Impact AES-7. The primary difference under Alternative 3 is that only Intakes 1 and
 8 2 would be constructed. As described under Alternative 1A, there would be potential for the
 9 alternative to be incompatible with plans and policies related to preserving the visual quality and
 10 character of the Delta (i.e., The Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992, Delta
 11 Protection Commission Land Use and Resource Management Plan for the Primary Zone of the Delta,
 12 Delta Plan, Brannan Island and Franks Tract State Recreation Areas General Plan). In addition, with
 13 the exception of Solano County, the alternative may be incompatible with county general plan
 14 policies that protect visual resources in the study area.

15 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
 16 physical consequence to the environment. The physical effects they suggest are discussed in impacts
 17 AES-1 through AES-6, above and no additional CEQA conclusion is required related to the
 18 compatibility of Alternative 3 with relevant plans and policies.

19 **17.3.3.9 Alternative 4—Dual Conveyance with Modified Pipeline/Tunnel**
 20 **and Intakes 2, 3, and 5 (9,000 cfs; Operational Scenario H)**

21 The BDCP-related permanent effects of the proposed project, Alternative 4, would be similar to
 22 those presented in Table 17D-1 in Appendix 17D, *Permanent Impacts after Construction is Complete*,
 23 for Alternative 1A. Appendix 17D describes existing visual characteristics and the BDCP-related
 24 permanent effects on visual quality and character, scenic vistas, scenic roadways, and from light and
 25 glare sources after construction is complete and identifies the overall effect on viewers. Appendix E,
 26 *Permanent Features*, identifies the viewer groups and viewing locations that would be affected by
 27 permanent alternative features. Alternative 4 includes a modified pipeline/tunnel conveyance
 28 alignment from Intakes 2, 3, and 5 on the Sacramento River between Clarksburg and Walnut Grove
 29 to the expanded Clifton Court Forebay, associated shaft sites, an intermediate forebay and control
 30 structure, access roads, transmission lines, pumping plants, barge unloading facility sites, an
 31 operable barrier at the head of Old River, and spoil/borrow and RTM areas. Construction of all
 32 structural components under Alternative 4 would take 9 years. However, construction of each
 33 individual facility would be phased within that period and would take place over a shorter period.
 34 The estimated construction times for individual features are included in the discussion of impacts
 35 below. The duration and schedule for construction of the water conveyance facilities (CM1) is
 36 provided in Appendix 3C, *Construction Assumptions for Water Conveyance Facilities*. In addition,
 37 Appendix 22A details the construction schedules and defines the length and sequence of each
 38 construction phase.

39 **Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during**
 40 **Construction of Conveyance Facilities**

41 Construction of conveyance facilities under Alternative 4 would result in substantial alteration of
 42 the existing visual quality or character in the vicinity of project elements that can be viewed from
 43 local sensitive receptors and public viewing areas. Visual quality effects at Alternative 4 project

1 element construction sites would take place beginning with construction mobilization through
 2 completion of project elements. Once construction mobilization under the alternative occurs, all
 3 viewer groups would begin to see visual changes to the portions of the study area where project
 4 features would be built.

5 ***Intakes***

6 The Sacramento River channel and bank would be affected by construction of three north Delta
 7 intake facilities (Intakes 2, 3, and 5) between RM 41 and RM 37 (Figure 3-9 and Mapbook Figure M3-
 8 4). Construction of each intake would take approximately 4 years to complete and would occur
 9 primarily Monday through Friday for up to 24 hours per day. In addition, because of the relatively
 10 high groundwater level at all intake locations and pumping plant sites, dewatering would be
 11 necessary to provide a dry workspace. Dewatering would also be needed where intake pipelines
 12 cross waterways and major irrigation canals east of the Sacramento River. Conveyance pipelines
 13 constructed for Intakes 2, and 5 would not be anticipated to intersect with waterways or major
 14 irrigation canals. Dewatering would take place 7 days per week and 24 hours per day and would be
 15 initiated 1–4 weeks prior to excavation. Dewatering would continue until excavation is completed
 16 and the construction site is protected from areas with high groundwater levels (Chapter 3,
 17 *Description of Alternatives*). Scattered rural residences are located along CH E9 and SR 160 along
 18 both banks of the river, throughout the corridor between where Intakes 2, 3, and 5 would be built;
 19 some of these would be near or directly adjacent to construction activities (KOPs 16, 18, 19, 20, 26,
 20 and 30). The towns of Clarksburg and Hood have a higher concentration of residential viewers and
 21 are also near the intakes (KOPs 12, 38, 72, 73, and 74). Recreationists on local roadways and
 22 waterways, roadway users on local roadways, and nearby businesses would have direct views of
 23 intake construction.

24 Construction of the three intake structures and associated facilities would introduce considerable
 25 heavy equipment—excavators, graders, dozers, sheepsfoot rollers, dump trucks, and end loaders, in
 26 addition to support pickups and water trucks—into the viewshed of all viewer groups in the vicinity,
 27 especially between Clarksburg and Walnut Grove. Work areas of approximately 125 acres would be
 28 located adjacent to each intake site and south of Hood and would be used for staging, temporary
 29 field offices, worker parking, equipment and materials laydown and storage, and would support
 30 other construction-related needs. While farm equipment is common in this area, the presence of
 31 long-term and large-scale construction is not common and would adversely affect viewers who
 32 would see work areas over an extended period of time where they once saw agricultural lands.

33 Construction of all intakes would require that properties first be acquired, resulting in the relocation
 34 of several residences and razing of buildings on these properties during construction. The intakes
 35 would dissect the parcels, disrupting the continuity of rural land and affecting free-flowing visual
 36 access from lands on either side of the intakes. In addition, residences and businesses may
 37 experience loss of landscaping, fencing, or other landscape features of personal importance. The
 38 landscape sensitivity level is high, and impacts on viewers are substantial because the residents
 39 would experience disruptive construction activities near to their homes.

40 Once the site is cleared of built features, earthmoving activities would result in the removal of
 41 mature vegetation and topographical changes to areas that are presently flat. Earthmoving activities
 42 and associated heavy equipment and vehicles would be readily visible throughout operation of these
 43 sites and have the potential to create dust clouds that would attract attention from visual receptors
 44 and reduce the availability of short-range views. As set forth in Chapter 22, *Air Quality and*

1 *Greenhouse Gases*, the BDCP proponents have identified several environmental commitments
 2 (Appendix 3B, *Environmental Commitments*) to reduce emissions of construction-related criteria
 3 pollutants, including basic and enhanced fugitive dust control measures and measures for entrained
 4 road dust that would help to reduce the creation of dust clouds that would negatively affect short-
 5 range views. As described in Chapter 3, *Description of Alternatives*, revegetation of disturbed areas
 6 would occur as a part of the project and revegetation would be determined in accordance with
 7 guidance given by DWR's WREM No. 30a, *Architectural Motif, State Water Project* and through
 8 coordination with local agencies through an architectural review process. Because revegetation is
 9 included as part of Alternative 4, it would help to lessen visual impacts. However, impacts may still
 10 be substantial, as described further in this analysis. This guidance from DWR WREM No 30a is set
 11 forth as follows and would apply to the other features described under Impact AES-1.

12 If possible, the natural environment will be preserved. If not possible, a re-vegetation plan will be
 13 developed. Landscaping plans may be required if deemed appropriate to enhance facility
 14 attractiveness, for the control of dust/mud/wind/unauthorized access, for reducing equipment
 15 noise/glare, for screening of unsightly areas from visually sensitive areas. Planting will use low
 16 water-use plants native to the Delta or the local environment, with an organic/natural landscape
 17 theme without formal arrangements. For longevity and minimal visual impact, low maintenance
 18 plants and irrigation designs will be chosen. Planting plans will use native trees, shrubs or grasses
 19 and steps will be taken to avoid inducing growth of non-native invasive plant species/CA Plant
 20 Society weedy species. Planting of vegetation will be compatible with density and patterns of existing
 21 natural vegetation areas and will be placed in a manner that does not compromise facility safety and
 22 access. Planting will be done within the first year following the completion of the project and a plant
 23 establishment plan will be implemented.

24 Water-based construction would also be required to construct water intakes and levee
 25 modifications. Water-based recreational viewers would have the most direct views toward in-water
 26 construction, which would likely require partial channel closures and use of equipment within the
 27 waterways (KOP 26). All such construction would have temporary in-water construction zone speed
 28 restrictions where high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would
 29 effectively be eliminated. In-water construction activities would constrict boat passage, increase
 30 boat traffic congestion during peak use (primarily summer weekends), and extend viewing times of
 31 these facilities. In-water construction at all locations would result in adverse visual effects due to the
 32 elongated viewing times during periods of congestion, temporary partial channel closures that could
 33 impede recreational opportunities and create negative visual perceptions of these facilities, and a
 34 reduced recreational experience due the industrial nature of views of such facilities.

35 Once construction of the conveyance facilities is complete, Intakes 2, 3, and 5 would introduce large,
 36 industrial concrete and steel intake structures, approximately 55 feet from river bottom to the top of
 37 the structure with a total structure length of 700-2,300 feet depending on the location, pumping
 38 plants that are 59 feet tall, surge towers that are 43-70 feet tall, landscaping, fencing, and other
 39 similar anthropogenic features into an area with an existing rural visual character and a riparian,
 40 riverine, and agricultural nature. The design of the intakes and associated facilities could play a large
 41 part in helping to improve the quality of affected and degraded viewsheds. Landscaping that would
 42 be incorporated as part of the facility design would help to improve the quality of views. Because of
 43 the long-term nature of construction, proximity to sensitive receptors, razing of residences and
 44 agricultural buildings, removal of vegetation, changes to topography through grading, and addition
 45 of large-scale industrial structures where none presently exist, this effect is considered adverse.

46 The intake facilities would result in adverse visual effects upon the landscape, and the intakes
 47 proposed for Alternative 4 are larger than those analyzed under Alternative 1A. As seen in Figure

1 17-85, *Existing and Simulated Views of Intake 2 East from South River Road*, the removal of a
2 substantial amount of riparian vegetation along the east bank provides an unobscured view of the
3 intake facility, pumping plant, and associated features making the intake facility the prominent
4 visual feature in the landscape. A substation would also be introduced at the intake facility where
5 none presently exists. The pumping plant introduces a large-scale building, similar in appearance to
6 a warehouse facility, that is a focal point and visually discordant in scale and mass to the
7 surrounding rural character. It also adds monotone solid color mass into a landscape where the
8 natural colors of the landscape are earth-tones and more muted. The surge tower would be 100 feet
9 in diameter and the top of the rim would be at 105 feet NAVD88 for Intake 2, making the tower 75
10 feet tall at this location because the pumping plant finished floor elevation would be at
11 approximately 35 feet NAVD88. Overall, the existing vista from KOP 256 on SR 160 toward Intake 2
12 would be substantially impaired by vegetation removal and introduction of the pumping plant and
13 the Scenic Quality Rating would be reduced from a **C** to an **F**. A reduction in the Scenic Quality Rating
14 associated with Intake 2 is representative of the effects that could occur to other views associated
15 with intakes through the removal of vegetation, obscuring and limiting views beyond the
16 foreground, and introducing large industrial features into a rural landscape and this effect would be
17 adverse (see discussions under 17.3.1.2 and 17.3.1.3).

18 As seen in Figure 17-86a, *Existing and Simulated Views of Intake 3 East from SR 160 in January 2012*,
19 the removal of a substantial amount of riparian vegetation along the east bank acts to open up the
20 vista but also increases the visual prominence of the pumping plant in the landscape. The pumping
21 plant introduces a large-scale building, similar in appearance to a warehouse facility, that is a focal
22 point and visually discordant in scale and mass to the surrounding rural character within the vista. It
23 also adds monotone solid color mass into a landscape where the natural colors of the landscape are
24 earth-tones and more muted. When compared to Figure 17-76a that shows Intake 3 East for
25 Alternatives 1A, 1B, 2A, 2B, 6A, 6B, 7 and 8 (PTO alternatives), the intake pad would be larger than
26 under this alternative than for the PTO alternatives. In addition, the surge tower would be 100 feet
27 in diameter and the top of the rim would rise above the pumping plant at 96 feet NAVD88 for Intake
28 3, making the tower 62 feet tall at this location because the pumping plant finished floor elevation
29 would be at approximately 34 feet NAVD88 for this intake. While steel 230 kV transmission lines
30 would not be introduced under this alternative, there would be a substation that would also visible
31 and would further add to the industrial look of the intake facilities and detract from the existing
32 rural character. Overall, the existing vista from KOP 34 on SR 160 toward Intake 3 would be
33 substantially impaired by vegetation removal and introduction of the pumping plant and the Scenic
34 Quality Rating would be reduced from a **D** to an **E** under this alternative. A reduction in the Scenic
35 Quality Rating associated with Intake 3 is representative of the effects that could occur to other
36 vistas through the removal of vegetation, obscuring and limiting views beyond the foreground, and
37 introducing large industrial features into a rural landscape and this effect would be adverse (see
38 discussions under 17.3.1.2 and 17.3.1.3). However, as shown in Figure 17-86b, *Existing and*
39 *Simulated Views of Intake 3 East from SR 160 in July 2013*, fast-growing poplar or cottonwood trees
40 that were newly planted in January 2012 have since grown and act to obscure large portions of the
41 intake pad and portions of the pumping plant surge tower, and substation. While the substation
42 would not be as noticeable, the pumping plant and surge tower would still be visually discordant in
43 scale and mass to the surrounding rural character within the vista and the Scenic Quality Rating
44 would be reduced from a **D** to an **E**. Note that, over time, the trees will continue to grow and views of
45 Intake 3 from KOP 34 could be further limited.

1 Figure 17-77, *Existing and Simulated Views of Intake 2 West from SR 160*, shows an intake associated
 2 with the west alignment. However, this view is representative of how an intake under this
 3 alternative would look on the east bank of the river from CH E9. It is also representative of how
 4 intakes could affect this and other vista views from SR 160 and CH E9, as mapped in Appendix
 5 Figure 17D-1. The conversion of the riverbank that is grassy with riparian vegetation to the
 6 industrial looking on-bank intake is a stark visual and color contrast against the more natural colors
 7 and textures of a vegetated riverbank that is absent of structures. The pumping plant introduces a
 8 large warehouse type of building that is a focal point and visually discordant in scale and mass to the
 9 surrounding rural character within the vista. It also adds monotone solid color mass into a
 10 landscape where the natural colors of the landscape are earth-tones and more muted. The pumping
 11 plant and on-bank intake would limit and detract from the visual quality of views beyond the
 12 foreground. The introduction of tall, steel 230 kV transmission lines visually contrasts to existing
 13 views of wooden utility poles. In addition, at a closer distance, views of available sky would be
 14 interrupted by the transmission lines and pumping plant. Overall, the existing vista from KOP 15 on
 15 SR 160 toward Intake 2 would be substantially impaired by vegetation removal and introduction of
 16 the pumping plant and the Scenic Quality Rating would be reduced from a **C** to an **E**. A reduction in
 17 the Scenic Quality Rating associated with Intake 2 is representative of the effects that could occur to
 18 other vistas through the removal of vegetation, obscuring and limiting views beyond the foreground,
 19 and introducing large industrial features into a rural landscape, and this effect would be adverse
 20 (see discussions under 17.3.1.2 and 17.3.1.3).

21 **Forebays**

22 Construction of a 40-acre intermediate forebay (north of Twin Cities Road and east of Snodgrass
 23 Slough and the southerly most portion of Stone Lakes National Wildlife Refuge) (KOPs 115 and 257)
 24 and the 700 acre Clifton Court Forebay expansion to the south of the existing forebay (KOPs 103,
 25 106, and 107) would take less than 2 years. Generally, construction would occur Monday through
 26 Friday for up to 24 hours per day. Dewatering is anticipated where the forebay pipelines cross
 27 waterways or major irrigation canals less than 0.25 mile north of the connection with the
 28 intermediate forebay. Dewatering would take place 7 days per week and 24 hours per day and
 29 would be initiated 1–4 weeks prior to excavation. After construction is complete, disturbed areas of
 30 exposed soil would be seeded for erosion control and would revegetate after a short time. The
 31 intermediate forebay would be constructed southeast of Intake 5 and would be seen from Twin
 32 Cities Road, immediately north of the road and abutting Snodgrass Slough. Views from Twin Cities
 33 Road are obscured west of Snodgrass Slough by vineyards and riparian vegetation along Snodgrass
 34 Slough. Because it is in proximity to Walnut Grove there is a concentration of residential,
 35 recreational, and roadway viewers using Twin Cities Road. Rural residences, located south of Twin
 36 Cities Road and the intermediate forebay, would have construction occurring near their homes
 37 through construction of the intermediate forebay. The landscape sensitivity level is high, and
 38 impacts on viewers are substantial because the residents south of the intermediate forebay would
 39 experience disruptive construction activities near their homes. In addition, residents of Walnut
 40 Grove using Twin Cities Road that are also highly sensitive to the proposed project would view the
 41 construction as they use the roadway. The existing ground surface elevation at this location is -6 to
 42 +11 feet, while embankments surrounding the forebay would be just over 32 feet above the ground
 43 surface.

44 Construction to expand the Clifton Court Forebay to the south would occur near residences and
 45 businesses in and near the Rivers End Marina & Storage, at the junction of Lindeman Road, CVP
 46 Canal, and Old River. Ground-level construction activities would not be visible from this area

1 because of existing levees but would likely be visible from Byron Highway and Herdlyn and
 2 Lindeman Roads, where views are elevated. The existing ground surface elevation at this location is
 3 -5 to 0 feet, which would be degraded to -10 feet in certain locations, and embankments
 4 surrounding the forebay would be approximately 30-35 feet above the proposed ground surface.

5 Earthmoving activities would result in topographical changes to areas that are presently flat and
 6 would introduce heavy equipment and vehicles that would be readily visible throughout
 7 construction of the forebays and have the potential to create dust clouds that would attract attention
 8 from visual receptors and reduce the availability of short-range views. As set forth in Chapter 22, *Air*
 9 *Quality and Greenhouse Gases*, the BDCP proponents have identified several environmental
 10 commitments (Appendix 3B, *Environmental Commitments*) to reduce emissions of construction-
 11 related criteria pollutants, including basic and enhanced fugitive dust control measures and
 12 measures for entrained road dust that would help to reduce the creation of dust clouds that would
 13 negatively affect short-range views. Once construction of the intermediate forebay is complete, it
 14 would be immediately and prominently visible in the foreground from vantages surrounding it.
 15 While the water surface of the this forebay would not be visible, it would convert agricultural lands
 16 to a large, geometrically shaped levee embankment system that would conflict with the existing
 17 forms, patterns, colors, and textures associated with agricultural lands. As seen in Figure 17-87,
 18 *Existing and Simulated Views of Intermediate Forebay from Twin Cities Road*, the scenic view across
 19 agricultural fields from Twin Cities Road is fairly open but contains existing transmission lines. The
 20 forebay embankments would be tall enough to limit views of the existing tree line on the horizon.
 21 The intermediate forebay embankments would add a man-made visual massing and the
 22 embankments would have a visible geometric shape immediately adjacent to the roadway. Overall,
 23 the existing vista from KOP 257 on Twin Cities Road toward the intermediate forebay would alter
 24 and reduce the available views of agricultural lands and foreground views and would reduce the
 25 Scenic Quality Rating from an **E** to an **F**. This effect would be adverse, when seen from Twin Cities
 26 Road (see discussions under 17.3.1.2 and 17.3.1.3).

27 The expanded Clifton Court Forebay would have a similar effect on the existing visual quality and
 28 character as seen from Byron Highway. While expanding Clifton Court Forebay would convert a
 29 large area of agricultural land, the forebay in this location would not have as great a negative effect
 30 on the landscape as the intermediate forebay, due to the predominance of the existing Clifton Court
 31 Forebay, other water conveyance features, and fewer sensitive viewers. However, the expanded
 32 Clifton Court Forebay would result in noticeable changes that do not blend, are not in keeping or are
 33 incompatible with the existing visual environment, and could be viewed by sensitive receptors and
 34 from public viewing areas. This effect on visual quality and character would be adverse.

35 Overall, because of the large footprints of the forebays combined with the proximity to sensitive
 36 receptors, razing of residences and agricultural buildings, removal of vegetation, and changes to
 37 topography through grading resulting in noticeable changes from public viewing areas, this effect
 38 would be adverse.

39 ***Spoil and Borrow Areas***

40 There would be a large spoil/borrow areas near Intake 2 (200 acres) (KOP 15) that would be
 41 needed under Alternative 4 to store excess spoils from excavation and tunnel boring and to borrow
 42 material to construct levees, the intake pads, and to meet other fill requirements. This site would be
 43 near the intake structures and would consequently affect the same viewer groups described above
 44 for intakes. A spoil/borrow area near Intake 2 would affect available views from SR 160 and is near

1 the town of Clarksburg, with a higher concentration of residential, recreational, and roadway
 2 viewers (Mapbook Figure M3-4). Recreationists on local roadways, roadway users on local
 3 roadways, residents, and nearby businesses would have direct views of construction activities at the
 4 spoil/borrow area. The landscape sensitivity level is high, and impacts on these viewers are
 5 substantial, especially for residences that would experience disruptive construction activities near
 6 their homes.

7 Earthmoving activities would likely result in the removal of mature vegetation and topographical
 8 changes to areas that are presently flat. Earthmoving activities and associated heavy equipment and
 9 vehicles would be readily visible throughout operation of these sites and have the potential to create
 10 slowly moving dust clouds that would attract attention from visual receptors and reduce the
 11 availability of short-range views. As set forth in Chapter 22, *Air Quality and Greenhouse Gases*, the
 12 BDCP proponents have identified several environmental commitments (Appendix 3B, *Environmental*
 13 *Commitments*) to reduce emissions of construction-related criteria pollutants, including basic and
 14 enhanced fugitive dust control measures and measures for entrained road dust that would help to
 15 reduce the creation of dust clouds that would negatively affect short-range views. The spoil and
 16 borrow site would be in use for close to 7.5 years, and construction operations at these locations
 17 would take place Monday through Friday for up to 24 hours per day. Because of the long-term
 18 nature of construction, proximity to sensitive receptors, removal of vegetation, and changes to
 19 topography through grading, this effect is considered adverse.

20 Once construction of the BDCP facilities is complete, the spoils/borrow area north of Intake 2 would
 21 result in a large-scale landscape effect that would also alter the agrarian visual character. In addition
 22 to spoils/borrow in the study area, offsite borrow sites may be needed to provide suitable materials
 23 for intake pipeline foundations, berms around RTM storage areas and canal embankments. It is not
 24 known how much import material would be needed and where it would come from. It is assumed
 25 that effects at import borrow sites would be similar in scale and have similar adverse visual effects
 26 to those within the study area. Alterations at these locations would result in sunken or elevated
 27 landforms introduced into a landscape that is currently predominantly flat. These features would be
 28 visually discordant with the area's existing forms, patterns, colors, textures associated with the
 29 existing agrarian character in the study area. Accordingly, spoil and borrow areas would result in an
 30 adverse effect on visual resources. Mitigation Measure AES-1c is available to address this effect.

31 ***Reusable Tunnel Material Areas***

32 RTM areas would be needed to store excess material from tunnel boring that would later be used to
 33 construct levees and to meet other fill requirements or be transported to spoils sites. Five RTM
 34 areas are proposed for Alternative 4: one immediately north of Intake 2 (25 acres) (KOPs 1, 4, and
 35 15) south of Scribner Road, east of the Sacramento River; four south of Lambert Road and north of
 36 Dierssen Road (46 and 33 acres); two north of Twin Cities Road (39 and 43 acres) (KOP 115); one
 37 south of Twin Cities Road (114 acres) (KOP 115); one west of the intermediate forebay (131 acres);
 38 two on Staten Island (213 and 1,061 acres); one south of SR 12 (809 acres) (KOP 98) and two west
 39 of Clifton Court Forebay (704 and 157 acres) (KOP 101) (see Mapbook Figure M3-4). There would
 40 be a total of 3,375 acres of land affected by RTM areas under Alternative 4. The RTM areas near
 41 Intake 2; Lambert, Dierssen, Twin Cities Roads; and SR 12 would have negative effects because of
 42 proximity to nearby residents and visibility from nearby roadways. Activities associated with
 43 placing and spreading the RTM would occur near or directly adjacent to the homes of residential
 44 viewers. The RTM area near Intake 2 would be visible from SR 160. The RTM areas on Staten Island
 45 would be seen by nearby sensitive residents, recreationists, and viewers passing on rural roadways,

1 including Staten Island and Gas Well Roads. Staten Island is owned by The Nature Conservancy and
 2 serves as sandhill crane wintering habitat and wildlife viewing. The southern RTM area on Staten
 3 Island would be visible from the SR 12 bridge crossing over Little Potato Slough that provides for
 4 views out and over the RTM area. The RTM area south of SR 12 would be visible to roadway users
 5 on this busy roadway but views of construction activities would be fleeting as travelers on these
 6 roadways travel by the site. The landscape sensitivity level is moderate to high, and impacts on
 7 viewers of RTM areas are substantial because residents would experience construction activities
 8 near their homes and because of their visibility from nearby roadways that have views of the
 9 existing rural landscape. Changes to the RTM area east of Byron Highway near the Clifton Court
 10 Forebay would primarily affect roadway users on the highway and nearby local roadways. Because
 11 these viewers are not as sensitive and there is nearby rolling terrain, these RTM areas would not
 12 appear as visually obtrusive as the other RTM areas for Alternative 4. This RTM area is also just over
 13 2 miles away from Discovery Bay. As seen in Figure 17-61 (KOP 197), the RTM area would be in the
 14 general area of the transmission lines seen in front of the Black Hills and the RTM area would not be
 15 distinguishable when seen from Discovery Bay.

16 Earthmoving activities would likely result in the removal of mature vegetation and topographical
 17 changes to areas that are presently flat. Earthmoving activities and associated heavy equipment and
 18 vehicles would be readily visible throughout operation of these sites and has the potential to create
 19 slowly moving dust clouds that would attract attention from visual receptors and reduce the
 20 availability of short-range views. As set forth in Chapter 22, *Air Quality and Greenhouse Gases*, the
 21 BDCP proponents have identified several environmental commitments (Appendix 3B, *Environmental*
 22 *Commitments*) to reduce emissions of construction-related criteria pollutants, including basic and
 23 enhanced fugitive dust control measures and measures for entrained road dust that would help to
 24 reduce the creation of dust clouds that would negatively affect short-range views.

25 RTM areas would be in use for close to 7.5 years, and operations at these locations would take place
 26 Monday through Friday for up to 24 hours per day. Because of the long-term nature of construction,
 27 proximity to sensitive receptors, and changes to topography through grading, resulting in noticeable
 28 to very noticeable changes to the visual setting, this effect is considered adverse. Effects may be
 29 reduced at various RTM areas if the material is reused for other purposes, reducing the amount of
 30 material on the site.

31 Once construction of the water conveyance facilities is complete, the RTM areas would result in
 32 large-scale landscape effects that would alter the agrarian visual character. Alterations at these
 33 locations would result in sunken or elevated landforms introduced into a landscape that is currently
 34 predominantly flat. These features would be visually discordant with the area's existing forms,
 35 patterns, colors, and textures associated with the existing agrarian character in the study area.
 36 Mitigation Measure AES-1c is available to address this effect.

37 ***Shaft Sites***

38 Retrieval and Launch shaft sites on Mandeville and Bacon Islands and near Clifton Court Forebay are
 39 in areas where there are no immediate viewers and, therefore, have a low landscape sensitivity
 40 level. However, shaft sites between Intakes 2 and 3 and north of Lambert Road (KOP 86), south of
 41 Walnut Grove Road (KOP 258), and on Staten Island are in areas with nearby residences and near
 42 frequently traveled roadways, and the landscape sensitivity level is moderate to high. Walnut Grove
 43 Road serves as primary access route to Walnut Grove from I-5 so would be seen by a large number
 44 of roadways users. Rural roadways pass near shaft sites on Staten Island, which is noted for its

1 sandhill crane wintering habitat and wildlife viewing, The shaft sites south of SR 12 (KOP 98) and
 2 north of SR 4 would be visible to roadway users on these busy roadways, but views of construction
 3 activities would be fleeting as travelers on these roadways travel by the site. Construction of the
 4 shaft sites would take just under 2.5 years; they would then be in operation for close to 7.5 years,
 5 Monday through Friday for up to 24 hours per day. This would introduce considerable heavy
 6 equipment, vehicles, and cranes needed to bore and construct the tunnel and remove excavated
 7 materials from the tunnels into the viewshed of sensitive viewers. The shaft sites would have
 8 associated work areas where materials would be stockpiled and pieces needed to construct the
 9 finished tunnel structure would be stored. In addition, the shaft sites would be built on raised
 10 earthen pads to elevate them above the flood level, and these pads would be approximately 16- to
 11 20-feet high or at the 100-year design flood elevation for each island). The shaft would rise
 12 approximately another 20 feet above the grade of the raised pad, and there would be construction
 13 office and storage buildings located at the base of the raised pad. The shaft site would be surrounded
 14 by fencing. Construction activities associated with the shaft sites may constitute an adverse effect on
 15 visual resources due to the physical introduction of these features and the duration of time that they
 16 would be visible in the landscape. Once construction is completed, the shaft site construction pads
 17 would be removed and the launch and retrieval shafts would be covered with earth. This effect can
 18 been seen in Figure 17-80, *Existing and Simulated Views of Launch/Retrieval Shaft Site near Isleton*
 19 *Road*, which is representative of the same effects that would result under construction of Alternative
 20 4. Construction of shaft sites would convert agricultural lands for a period of time and may require
 21 the removal of landscape or vegetation and structures and would introduce the raised pad into
 22 viewshed, as illustrated in “Simulated View during Construction.” In addition, the introduction of
 23 tall, steel 230 kV transmission lines would occur that could visually contrast to existing views
 24 depending on if the existing transmission lines consist of wooden utility poles or steel transmission
 25 lines. Overall, existing views from KOP 95 on SR 160, which are representative of Alternative 4,
 26 toward the launch/retrieval site would be impaired by the removal of the building and vegetation
 27 and introduction of the transmission lines. The Scenic Quality Rating would be reduced from a **D** to
 28 an **E**. This effect would be adverse (see discussion under 17.3.1.2 and 17.3.1.3).

29 ***Docks and Barge Traffic***

30 New barge unloading facilities would be built in the viewshed of recreationists, businesses, public
 31 roadways, and residential properties that have views and vistas that include the sites, and would
 32 result in temporary long-term changes in views in the immediate area. These facilities would be
 33 constructed in areas where the landscape sensitivity levels range from low to high. New facilities
 34 would convert vegetated areas to large, unvegetated swaths of land and piles of sand and gravel
 35 with associated loading infrastructure, introducing these features into a viewshed where none
 36 presently exist. These features would contrast sharply with the more natural areas that were
 37 present prior to construction of the new facility. New facilities would convert agricultural and other
 38 open space lands to a land use that is industrial in nature and from one that is vegetated to one that
 39 is largely unvegetated, creating new landscape effects.

40 Alternative 4 includes five barge unloading facilities to be built on or near the modified
 41 pipeline/tunnel alignment at riverbank locations about 5–6 miles apart. As described in more detail
 42 in Chapter 15, *Recreation*, the facilities would be built on the following waterways: South
 43 Mokelumne River near the southern RTM area on Staten Island, San Joaquin River adjacent to the
 44 RTM area south of SR 12, Connection Slough near the safe haven work area on Bacon Island, Old
 45 River west of the ventilation shaft north of SR 4, and Italian Slough near the RTM area near Clifton
 46 Court Forebay and would affect water-based recreation. Water-based recreational viewers would

1 have the most direct views toward barge traffic and loading/offloading activities involving
2 equipment and materials for pipeline construction. Construction of the barge facilities may require
3 partial channel closures and use of equipment within the waterways. All barge facilities would have
4 temporary in-water construction zone speed restrictions where high-speed recreation (e.g.,
5 waterskiing, wakeboarding, tubing) would effectively be eliminated. Once built, docks would be in
6 use for approximately 5 years. During this time, loading facilities and barge traffic would constrict
7 boat passage, increase boat traffic congestion during peak use (primarily summer weekends), and
8 extend viewing times of these facilities.

9 The South Mokelumne River location could constrict boat traffic, which may be high at this location
10 due to its proximity to Tower Park Marina Resort and Westgate Landing Recreational Area and
11 because Staten Island is sandhill crane wintering habitat and there may be water-based wildlife
12 viewing. The San Joaquin River location is very wide, so boats could avoid the loading facility
13 entirely. The Connection Slough and Old River locations could constrict boat traffic, which may be
14 high at these locations; however, while circuitous, alternative routes are available to avoid this
15 location, Italian Slough dead ends west of the barge unloading facility, close to Lazy M Marina.
16 Because there is no other means of access, boats going to and from Lazy M Marina would need to
17 pass by the barge unloading facility to access other waterways east of Clifton Court Forebay. While
18 this area may not be as highly traveled, boat access could be constricted at this location because it
19 serves as the only access to Lazy M Marina. Once construction of the conveyance facilities is
20 complete, docks would be removed and barge traffic would cease.

21 Construction and use of barges and barge unloading facilities during construction at all locations
22 would introduce dominant visual elements resulting in noticeable changes that do not blend and are
23 not in keeping or are incompatible with the existing visual environment. These changes may result
24 in adverse visual effects due to the elongated viewing times during periods of congestion, temporary
25 partial channel closures that could impede or eliminate recreational opportunities and create
26 negative visual perceptions of these facilities, and a reduced recreational experience due the
27 industrial nature of views of such facilities. Thus, this effect would be adverse.

28 ***Access Roads***

29 Construction of temporary and permanent access roads would take less than 2 years and would
30 follow linear paths; consequently, construction of these features would not be focused on one
31 specific location for an extended period of time. Construction of access roads would occur Monday
32 through Friday for up to 24 hours per day. Access roads would be located in areas in where the
33 landscape sensitivity levels range from low to high. Most of the temporary and permanent access
34 roads follow alignments that have previously been cleared and that serve as agricultural access
35 routes. Construction would include improving the condition of these existing access routes to
36 accommodate construction access. Vegetation removal would likely occur along the rights-of-way of
37 access roads and would negatively affect views from SR 160, River Road, and other roadways in the
38 study area. After construction is complete, disturbed areas of exposed soil would be seeded for
39 erosion control and would revegetate after a short time. Because of the temporary nature of
40 construction and the regular relocation of activities and because roads follow alignments that have
41 previously been cleared and that serve as agricultural access routes, this would not constitute an
42 adverse effect.

1 **Transmission Lines**

2 Proposed transmission line corridors are shown in Mapbook Figure M3-4. Construction of the
3 temporary 69 kV transmission lines would take less than 2 years and would require vegetation
4 clearing along the linear ROWs. Construction of the permanent 69 and 230 kV transmission lines
5 would also take less than 2 years and would require vegetation clearing along the linear ROWs.
6 Construction of transmission lines would occur Monday through Friday for up to 24 hours per day,
7 and transmission lines would be located in areas where the landscape sensitivity levels range from
8 low to high (KOPs 15, 16, 18, 19, 20, 26, 30, 34, 41, 42, 49, 54, 72, 73, 74, 86, 98, 101, 103, 106, 107,
9 115, 254, 255, 257, and 258).

10 The temporary and permanent 69 kV lines would be wooden or steel poles, depending on the utility,
11 which are 60 feet tall and spaced 450 feet apart. The temporary 230 kV lines would be steel poles
12 that are 95–100 feet tall and spaced 750 feet apart; however, lattice steel towers may be used at
13 Western interconnections. Construction of transmission lines move along these linear ROW
14 corridors that are 150 feet wide at poles for 69 kV and 230 kV lines. For every 2 miles of line and
15 where the line takes a turn greater than 15 degrees, a conductor pulling location that is 150 feet
16 wide with 350 feet of length along the corridor for 69 kV and 230 kV lines would be required
17 adjacent to the pole.

18 Construction would require clearing the corridor of vegetation, erecting the towers or poles, and
19 then stringing the power lines using the conductor pulling locations. Construction of these features
20 would move in a linear fashion and would not take place in any specific location for an extended
21 period of time. Cranes would be used to string 69 kV lines, while towers, cranes and helicopters
22 would be used for 230 kV lines. Site preparation, tower erection, and stringing would introduce
23 disruptive visual elements, such as construction equipment and activity, into the landscape and
24 temporarily detract from views. Construction of the 230 kV lines would be the most disruptive
25 during construction because towers, cranes, and helicopters would be more visible and draw more
26 attention toward construction activities because of movement associated with helicopters and
27 cranes and noise associated with helicopters. Temporary power would be supplied by 69 kV and
28 230 kV transmission lines that would tap into the Banks Substation near the Banks pumping plant
29 or a substation located off of Sellers Avenue near Brentwood in the southern end of the alignment,
30 and a point on the existing electrical grid north of an area of the Cosumnes River Preserve,
31 approximately 1 mile west of Highway 99 and 5 miles south of Elk Grove, in the northern end of the
32 alignment. These would be new lines and would generally not run parallel to existing transmission
33 corridors. The Banks Substation is immediately south of the California Aqueduct, and would require
34 over 2 miles to connect to the Clifton Court Forebay area. There is already a substation, office
35 buildings, and warehouse facility buildings at the Banks pumping plant that make this area
36 industrial in nature. However, the new substation in the Banks Substation area would increase
37 utility infrastructure present at this location, and the new 230 kV electrical transmission lines would
38 compound the amount of visible industrial elements and result in adverse visual effects.

39 Permanent power would be supplied by the line connecting to an area near the Cosumnes River
40 Preserve, described above. Permanent 230 kV transmission lines are shown on Figure 3-25. This
41 transmission line would not parallel existing transmission corridors and would introduce a
42 transmission corridor into the landscape where none or few presently exist. This would create or
43 add to the amount of visible transmission lines, based on location, and not be in keeping with the
44 existing visual character. New permanent 69 kV lines would branch from the northern terminus of
45 the 230 kV line to supply power to the intermediate forebay control structure and Intakes 2, 3, and

1 5. Each intake would have an electrical substation and transformer located near the sedimentation
2 basins and intake pumping plants (refer to Figure 3-20).

3 This 230 kV line would pass through areas with and without existing transmission lines. The line
4 would extend approximately 3 miles through or adjacent to agricultural lands and agricultural
5 access roads until reaching Lambert Road where it intersects with a large agricultural operation.
6 The line would then follow Lambert Road just over 6 miles and then extend north to a new
7 substation and south to the intermediate forebay control structure. New permanent 69 kV lines
8 would branch from the substation at the northern terminus of the 230 kV line to supply power to
9 Intakes 2, 3, and 5. Each intake would have an electrical substation and transformer located near the
10 sedimentation basins and intake pumping plants (refer to Figure 3-20).

11 Most of the transmission lines would follow access roads constructed for the BDCP conveyance
12 facilities or other existing access roads and roadways that are within the study area. After
13 construction is complete, disturbed areas of exposed soil would be seeded for erosion control and
14 would revegetate after a short time. However, tree and shrub removal would likely occur within the
15 ROWs and would negatively affect views from SR 160, River Road, Lambert Road (under the east-
16 west option) and other roadways in the study area. Once the proposed 230 kV electrical power
17 transmission lines are constructed, tall steel poles that would be highly visible landscape features
18 would contrast strongly with their surroundings. The 69 kV electrical power transmission lines
19 would also be larger than wood-poled transmission lines commonly seen in the Delta. While wood-
20 poled transmission lines are part of most existing views, new 69 and 230 kV transmission lines and
21 their cleared ROWs would adversely affect the existing visual character by introducing large
22 towering structures in a linear pattern that appear to march through the landscape. The temporary
23 nature of construction and movement of construction activities to different locations, combined with
24 tree and shrub removal within ROWs, and appearance of transmission lines once in place, would
25 make changes in views associated with transmission lines adverse. The transmission line alignment
26 in combination with other temporary and permanent transmission lines throughout the study area
27 would contribute to adverse changes in the visual quality and character. Mitigation Measures AES-
28 1a through AES-1c are available to address these effects.

29 ***Concrete Batch Plants and Fuel Stations***

30 Approximately 2-acre concrete batch plants and 2-acre fuel stations would be located within the
31 work areas for Intakes 2 and 5 (KOPs 15, 16, 18, 49, 54, 55, and 256), 40-acre concrete batch plants
32 and a 2-acre fuel station on an RTM area north of Twin Cities Road (KOP 115), and a 40-acre
33 concrete batch plant and a 2-acre fuel station on an RTM area near Clifton Court Forebay (KOP 101)
34 (Mapbook Figure M3-4). Concrete batch plants would have visible features that are likely to include
35 silos to hold materials for mixes, material unloading areas and storage piles, concrete truck loading
36 areas and washouts, liquid storage tanks, conveyors, heavy equipment and trucks for material
37 movement and transport, lighting, and mixing equipment. Built features would be largely made of
38 steel that is painted. Batch plants would convert agricultural lands to industrial facilities. Fuel
39 stations may have aboveground storage tanks that are painted and fuel pumps that would be visible
40 and would convert agricultural lands to industrial facilities.

41 Construction of a concrete batch plants and fuel stations at Intakes 2 and 5 would have the greatest
42 effect because construction would take place immediately adjacent to SR 160. Construction of the
43 concrete batch plant and fuel station on Twin Cities Road would also have a substantial effect
44 because it would be in proximity to a roadway that is highly traveled by sensitive visual receptors.

1 Construction of a concrete batch plant and fuel station near Clifton Court Forebay would be located
 2 in close proximity to similar industrial looking facilities that are associated with the forebay and
 3 existing transmission lines that course the area. The primary viewers of this area are roadway
 4 travelers on Byron Highway that pass by the site at highway speeds that would have intermittent
 5 visual access of temporary construction activities that would last less than 2 years. Once the project
 6 is complete, these facilities would be removed.

7 Construction of the concrete batch plants and fuel stations would introduce heavy equipment and
 8 vehicles that would be readily visible throughout construction of the facilities and have the potential
 9 to create dust clouds that would attract attention from visual receptors and reduce the availability of
 10 short-range views. As set forth in Chapter 22, *Air Quality and Greenhouse Gases*, the BDCP
 11 proponents have identified several environmental commitments (Appendix 3B, *Environmental*
 12 *Commitments*) to reduce emissions of construction-related criteria pollutants, including basic and
 13 enhanced fugitive dust control measures and measures for entrained road dust that would help to
 14 reduce the creation of dust clouds that would negatively affect short-range views. Once construction
 15 of the concrete batch plants and fuel stations are complete, these structures would be immediately
 16 and prominently visible in the foreground from surrounding vantages. Agricultural lands would be
 17 converted to industrial structures and facilities that conflict with the existing forms, patterns, colors,
 18 and textures associated with agricultural lands. Converting agricultural lands to industrial facilities,
 19 especially those in close proximity to SR 160, is considered adverse.

20 ***Head of Old River Operable Barrier***

21 The operable barrier at the head of Old River would be constructed to control fish passage. It would
 22 include a fishway approximately 40 feet long and 10 feet wide, constructed of reinforced concrete.
 23 Construction of the barrier would last up to 3 years and primarily take place Monday through Friday
 24 for up to 24 hours per day. The large structure across the existing channel would limit physical and
 25 visual access to views of the horizon beyond. Mount Diablo would still be visible over the structure.
 26 Because of the long-term nature of construction, proximity to sensitive receptors, removal of
 27 vegetation, and changes to topography through grading, this effect is considered adverse.

28 ***Summary***

29 ***NEPA Effects:*** The primary features that would affect the existing visual quality and character under
 30 Alternative 4, once the facility has been constructed, would be Intakes 2, 3, and 5, the intermediate
 31 forebay and expanded Clifton Court Forebay, resulting landscape effects left behind from
 32 spoil/borrow and RTM areas, the operable barrier and transmission lines. These changes would be
 33 most evident in the northern portion of the study area, which would undergo extensive changes
 34 from the permanent establishment of large industrial facilities and the supporting infrastructure
 35 along and surrounding the segment of the Sacramento River from Clarksburg to north of Courtland
 36 where the intakes would be situated.

37 Overall, construction would take 9 years, and the intensity of the activities in contrast to the current
 38 rural/agricultural nature of the area would be substantial. Construction of Intakes 2, 3, and 5 and
 39 the accompanying intake structure, pumping plants, surge towers, borrow/spoil areas, and RTM
 40 areas would introduce visually dominant and discordant features in the foreground and
 41 middleground views, and these elements would be very noticeable to all viewer groups. A
 42 ventilation shaft, tunnel work area, and RTM area and transmission lines would be visible from SR 4.
 43 While not officially designated state scenic highways, and therefore not discussed under *Impact AES-*
 44 *3: Permanent damage to scenic resources along a state scenic highway from construction of*

1 *conveyance facilities*, this road is a San Joaquin County Scenic Route (see *Section 17.2.3.2, County and*
 2 *City General Plans – San Joaquin County*). These features would detract from the visual quality of
 3 views from these routes.

4 After construction, areas surrounding the intakes, operable barrier, spoil/borrow areas, RTM areas,
 5 and shaft sites may be denuded of vegetation for a short period of time until the landscaping plans
 6 designed under WREM No. 30a are implemented. Once installed, the landscape would still appear to
 7 be denuded of vegetation or to have little vegetative cover because immature landscaping would be
 8 similar in appearance to tilled or newly planted agricultural fields. The sites would be in a
 9 transitional state, and over a period of a few years, plant species would mature and vegetation
 10 would recolonize the sites. These changes would happen in an area known for its open space,
 11 agricultural landscapes, and rural characteristics and would segment the visual landscape of the
 12 study area, reduce the amount of open space lands available to viewers, and eliminate valued visual
 13 resources. The effects of permanent access roads on visual resources would not be adverse. The
 14 effects of shaft site access hatches on the existing scenic character may be adverse. Operation of the
 15 intakes, the visual presence of large-scale borrow/spoil and RTM area landscape effects, and
 16 transmission lines would result in adverse effects on the existing visual character. In addition,
 17 construction of all of these features has the potential to negatively affect wildlife viewing and the
 18 overall enjoyment of scenic views in the study area. Therefore, because of the long-term nature of
 19 construction combined with the proximity to sensitive receptors, razing of residences and
 20 agricultural buildings, removal of vegetation, and changes to topography through grading, this
 21 overall effect of conveyance facility construction on existing visual quality and character is
 22 considered adverse. Mitigation Measures AES-1a through AES-1g are available to address visual
 23 effects resulting from construction of Alternative 4 water conveyance facilities.

24 **CEQA Conclusion:** Construction of Alternative 4 would substantially alter the existing visual quality
 25 and character present in the study area. The long-term nature of construction of the intakes,
 26 operable barrier, pipeline/tunnel, work areas, spoil/borrow and RTM areas, shaft sites, barge
 27 unloading facilities, and operable barrier; presence and visibility of heavy construction equipment;
 28 proximity to sensitive receptors; relocation of residences and agricultural buildings; removal of
 29 riparian vegetation and other mature vegetation or landscape plantings; earthmoving and grading
 30 that result in changes to topography in areas that are predominantly flat; addition of large-scale
 31 industrial structures (intakes and related facilities); remaining presence of large-scale borrow/spoil
 32 and RTM area landscape effects; and introduction of tall, steel transmission lines would all
 33 contribute to this impact.

34 Overall, construction would last up to 9 years and would change the existing visual character in the
 35 vicinity of project elements from those of agricultural, rural residential, or riparian and riverine
 36 settings to areas involving heavy construction equipment, temporary construction structures, work
 37 crews, other support vehicles and other activities that would modify and disrupt short- and long-
 38 range views. These activities would be disruptive to some viewers. Once construction is complete,
 39 the alternative would result in the placement of large, industrial concrete and steel intake
 40 structures, pumping plants, surge towers, fencing, and other similar anthropogenic features where
 41 none presently exist. Because of the landscape sensitivity and visual dominance of these features,
 42 these changes would result in reduced scenic quality throughout the study area (see 17.3.1.3,
 43 *Analysis of the Alternatives' Impact on Visual Resources*). Thus, Alternative 4 would result in
 44 significant impacts on the existing visual quality and character in the study area.

1 Mitigation Measures AES-1a through AES-1g would partially reduce impacts by locating new
 2 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 3 needed where feasible, installing visual barriers between construction work areas and sensitive
 4 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
 5 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
 6 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
 7 visual resources and receptors and restoring the sites upon removal of facilities, and using best
 8 management practices to implement a project landscaping plan. However, impacts may not be
 9 reduced to a less-than-significant level because even though mitigation measures would reduce
 10 some aspects of the impact on visual quality and character, it is not certain the mitigation would
 11 reduce the level of the impact to less than significant in all instances. In addition, the size of the
 12 study area and the nature of changes introduced by the alternative would result in permanent
 13 changes to the regional landscape such that there would be noticeable to very noticeable changes
 14 that do not blend or are not in keeping with the existing visual environment. Thus, Alternative 4
 15 would result in significant and unavoidable impacts on the existing visual quality and character in
 16 the study area.

17 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 18 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 19 **Transmission Lines and Underground Transmission Lines Where Feasible**

20 BDCP proponents will make site-specific design decisions to locate new transmission lines and
 21 access routes to minimize effects on vegetation where feasible. These efforts will include the
 22 following actions.

- 23 • Working with the design engineer, site-specific location adjustments will be identified to
 24 avoid adversely affecting mature tree and shrub groupings to the extent feasible and to
 25 avoid creating large, linear swaths of vegetation clearing through the construction of new
 26 transmission lines and access routes.
- 27 • Where new transmission lines are located near trees along designated scenic route portions
 28 of SR 160 and River Road, the construction contractor will be required to utilize selective
 29 pruning techniques to avoid hard pruning of tree canopies that would negatively affect
 30 those scenic resources and views along those routes.
- 31 • Existing transmission corridors will be evaluated for placement of the new transmission
 32 lines to avoid creating new transmission corridors to the extent feasible.
- 33 • Transmission lines will be placed underground except where it can be shown that the lines
 34 can be hidden in existing tree cover, thereby minimizing removal of mature trees.
- 35 • Undergrounding transmission lines will not be used where implementation would
 36 constitute an adverse effect on sensitive habitats or sensitive species that would outweigh
 37 the reduction of visual effects.

38 Implementation of this measure will minimize the effects on existing visual quality and
 39 character that would result from removal and pruning of mature vegetation within proposed
 40 new transmission lines and access road routes. This measure will provide for a reduction in the
 41 number of trees and shrubs removed from installation of transmission lines and development of
 42 access roads.

1 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 2 **Sensitive Receptors**

3 The BDCP proponents will install visual barriers between construction work areas and sensitive
 4 receptors to reduce the impact on sensitive receptors from the change in existing visual quality.
 5 Barriers will be placed to obscure views of work areas where construction activity and
 6 equipment would be disruptive and lower the existing visual quality. These efforts will include
 7 the following actions and performance standards.

- 8 • Visual barriers will be installed to minimize sensitive receptors (i.e., residents and
 9 recreational areas) views of construction work areas.
 - 10 ○ The visual barriers will be placed to protect residents and recreational areas that are
 11 located within 0.25 mile of a BDCP-related construction site.
 - 12 ○ The visual barrier may be chain link fencing with privacy slats, fencing with windscreen
 13 material, wood or concrete barrier/soundwall, or other similar barrier.
 - 14 ○ The visual barrier will be a minimum of 6 feet high to help to maintain the privacy of
 15 residents and block long-term ground-level views toward construction activities.

16 While the visual barriers would introduce a visual intrusion, they would greatly reduce the
 17 visual effects associated with visible construction activities and screening construction activities
 18 and protecting privacy is deemed desirable. The visual barriers are an effective means of
 19 reducing the visibility of active construction work areas, thereby minimizing the impact on
 20 existing localized visual quality.

21 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 22 **Material Area Management Plan**

23 The BDCP proponents will develop and implement a spoil/borrow and RTM area management
 24 plan consistent with the “Disposal and Reuse of Spoils, RTM, and Dredged Material,” in Appendix
 25 3B, *Environmental Commitments*, to reduce the extent of negative visual alteration of existing
 26 visual quality or character of spoil, and especially borrow, sites from construction through
 27 remediation of terrain, revegetation, and other practices as described below. The purpose of this
 28 measure is to prevent flattened, highly regular, or engineered slopes which create visual
 29 discordance and incongruence from native topography and to re-establish natural looking
 30 vegetative communities that are indigenous to the project environment. The exception to
 31 grading flattened, regular sites is if the intended use of the site is agriculture. This mitigation
 32 measure will complement and is related to activities described under Mitigation Measure SOILS-
 33 2b, Chapter 10, *Soils*.

34 Prior to construction mobilization, the BDCP proponents will develop a management plan that
 35 identifies site-specific measures to remediate exposed soil and terrain to make it suitable for
 36 planned development, agriculture, or reuse as natural habitat and to mitigate visual effects.
 37 Existing information, such as topographical maps, vegetative surveys or records, and historical
 38 and existing photographs, that show preexisting, site-specific (or reference site) conditions prior
 39 to the conversion to agriculture will be evaluated and used as tools for restoring disturbed sites.
 40 Where appropriate in light of the planned long-term uses of reclaimed sites, the management
 41 plan will incorporate recreational or mixed uses. In general, however, the majority of the sites
 42 will be evaluated for restoration to native habitat due to the amount of terrain alteration and

1 vegetation and habitat loss resulting from construction of the water conveyance facilities. At a
2 minimum, the management plan will meet the following performance standards.

- 3 • All plantings will be native and indigenous to the area, and no invasive plant species will be
4 used under any conditions.
- 5 • In areas to be used for agriculture, the management grading plan will mimic the preexisting
6 landform pattern to the greatest degree possible, given geotechnical constraints.
- 7 • In areas of habitat restoration, the terrain will be designed and graded to be undulating,
8 avoiding large, flat-sloped areas.
- 9 • In areas of proposed development, a combination of terrains may be implemented to
10 encourage visual variety.
- 11 • All terrain will be designed and graded to be rounded, avoiding sharp angles and steep or
12 abrupt grade breaks.
- 13 • Special attention will be paid to transitions between undisturbed and disturbed terrains to
14 ensure that the transition appears as natural as possible and to blend the lines between the
15 two for a natural, organic appearance.
- 16 • In addition, the site will be visually surveyed prior to any vegetation removal for the
17 presence of rock outcroppings, downed trees, or similar features.
- 18 • Features such as live and downed trees salvaged during site preparation and excavation
19 activities will be placed to mimic natural patterns during management to provide visual
20 congruity once revegetation plantings mature and to restore the habitat values they provide.

21 Implementation of this measure would be expected to result in successful management of
22 borrow/spoils and RTM areas, thereby reducing the overall impact on the visual quality in the
23 study area.

24 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

25 The BDCP proponents will restore barge unloading facility sites will to preconstruction
26 conditions once the facilities are decommissioned and removed to minimize the impact on
27 visual quality and character at these sites. Restoration of the decommissioned sites will meet the
28 following performance standards.

- 29 • All disturbed terrain will be restored.
- 30 • Replacement plantings will be installed in areas where vegetation was removed.
 - 31 ○ All replacement plantings will be native and indigenous to the area.
 - 32 ○ No invasive plant species will be used under any conditions.

33 Implementation of this measure will result in restoration of the barge unloading facility sites.

34 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the** 35 **Extent Feasible**

36 The BDCP proponents will use aesthetic design treatments, where and to the extent feasible, to
37 minimize the impact on existing visual quality and character in the study area associated with
38 the introduction of water conveyance structures.

1 The BDCP proponents will evaluate similar, local well-designed water conveyance structures,
 2 including those with historic value and use these features as design precedent to develop
 3 designs for the intake facilities, pumping plants, control structures, fish screens, operable
 4 barriers, and bridges, so that the resultant design will complement the natural landscape, be
 5 aesthetically pleasing, and minimize the effects of visual intrusion of the BDCP facilities on the
 6 landscape, to the extent feasible.

7 Where no local design precedent exists, the BDCP proponents will research structure designs
 8 outside the local area. For example, the Freeport Regional Water Project intake facility design
 9 incorporates aesthetic design treatments that create a landmark feature in the landscape. The
 10 BDCP proponents will consider design details to ensure that all intake structures are
 11 complementary of one another so that these facilities do not create further visual discordance in
 12 the landscape.

13 The following minimum performance standards will apply.

- 14 ● New structures will be painted with a shade that is two to three shades darker than the
 15 general surrounding area, unless aesthetic design treatments indicate another color
 16 selection with the intent to specifically improve aesthetics. Otherwise, colors shall be chosen
 17 from the BLM Standard Environmental Colors Chart CC-001: June 2008. Because color
 18 selection will vary by location, the BDCP proponents, working with the facility designers,
 19 will employ the use of color panels evaluated from key observation points during common
 20 lighting conditions (front versus backlighting) to aid in the appropriate color selection. The
 21 BDCP proponents will select colors for the coloring of the most prevalent season. Panels will
 22 be a minimum of 3 by 2 feet in dimension and will be evaluated from various distances, but
 23 within 1,000 feet, to ensure the best possible color selection. Refer to
 24 <http://www.blm.gov/bmp> for more information on this technique and other best
 25 management practices and techniques for visual screening.
 - 26 ○ All paints used for the color panels and structures will be color matched directly from
 27 the physical color chart, rather than from any digital or color-reproduced versions of the
 28 color chart.
 - 29 ○ Paints will be of a dull, flat, or satin finish only. Appropriate paint type will be selected
 30 for the finished structures to ensure long-term durability of the painted surfaces.
 - 31 ○ The BDCP proponents will maintain the paint color over time.
- 32 ● These methods will also be applied to transmission poles and chain link fencing.
 - 33 ○ Transmission poles and towers, including substations, will be painted or powder coated
 34 with colors selected using the BLM selection techniques to make the structures recede
 35 into the visual landscape.
 - 36 ○ Chain link fences will be plastic or vinyl coated with colors selected using the BLM
 37 selection techniques to make chain link fences to appear more see-through than non-
 38 treated, light grey fencing that acts as a visual barrier to a degree.
 - 39 ○ Finishes will be selected for their ability to achieve the correct color selection,
 40 durability, and environmental safety.
- 41 ● The BDCP proponents will implement aesthetic design features at concrete or shotcrete
 42 structures that are highly visible to the public. These features may include mimicking

1 natural material (e.g., stone or rock surfacing) and integral color, in the same theme, to
 2 reduce visibility and to better blend with the landscape.

- 3 • The BDCP proponents will evaluate bridge crossing designs using lattice steel, consistent
 4 with other bridges in the Delta. Such a structure would be less visually confining than
 5 concrete structures, provide better visual access to points beyond, allow light to travel
 6 through the structure, and may appear less like a visual barrier within the landscape.
- 7 • The BDCP proponents will ensure that visible pipelines, guardrails, and signs will be of a
 8 material or color that helps surfaces to blend better with the surroundings. These elements
 9 will be constructed with low-sheen and non-reflective surface materials to reduce potential
 10 for glare, and the use of glossy paints or surfaces would be avoided.

11 Implementation of this measure and application of the aesthetic design treatments for
 12 alternative structure would help minimize the impact on visual quality from the development of
 13 the water conveyance structures in the study area, using techniques that serve to make the
 14 structures blend into the surrounding environment, to the extent possible. However, the overall
 15 change in visual character would still be substantial because physical structures of this scale do
 16 not presently exist.

17 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 18 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

19 The BDCP proponents will locate concrete batch plants and fuel stations away from sensitive
 20 visual resources (i.e., state scenic highways) and receptors to minimize the impact on visual
 21 quality. In addition, these sites will be restored after construction to minimize the long-term
 22 impact on localized visual character. The relocation approach for the individual facilities is
 23 described below. The BDCP proponents will incorporate these facility location changes into the
 24 design plans prior to construction.

- 25 • Relocate the concrete batch plants and fuel stations that are proposed to be adjacent to SR
 26 160, north of Intake 2, so that these operations are set back from the state scenic highway.
 27 These features will be located toward the east side of the intake, in closer proximity to the
 28 shaft site.
- 29 • In addition, the structures and storage piles associated with the concrete batch plants and
 30 fuel stations on Tyler and Bacon Islands will be set as far west from the North Mokelumne
 31 and Middle Rivers, as possible. The same principles will be applied to the concrete batch
 32 plants and fuel stations along the canal alignment just south of Snodgrass Slough and on
 33 Webb Tract north of False River.
- 34 • Structures and storage piles associated with the concrete batch plants and fuel stations east
 35 of Byron Highway will be set back off of the highway as much as possible and toward the
 36 northern edge of the proposed sites. The same principles will be applied to the concrete
 37 batch plant and fuel station along Willow Point Road.
- 38 • Relocate the concrete batch plant and fuel station proposed between Intakes 3 and to an
 39 arrangement opposite each other along the agricultural access road, instead of adjacent to
 40 one another. They will be placed in closer proximity to the existing development at this
 41 location so that they appear to be more of a continuation of existing development.

- 1 • There are no suggested changes for the concrete batch plants and fuel stations to be located
2 1 mile south of the SR 84/SR 220 junction or along the canal alignment approximately 1
3 mile north of the Byron Highway.

4 All concrete batch plant and fuel station sites will be restored to preconstruction conditions
5 once the facilities are decommissioned and removed.

- 6 • All disturbed terrain will be restored.
- 7 • Replacement plantings will be installed in areas where vegetation was removed.
- 8 ○ All replacement plantings will be native and indigenous to the area or will match
9 surrounding agricultural plantings.
- 10 ○ No invasive plant species will be used under any conditions.

11 Implementation of this measure will minimize the impact on visual quality from the
12 construction and use of the concrete batch plant and fuel station facilities. In addition, this
13 measure will help restore the concrete batch plant and fuel station locations to a
14 preconstruction condition.

15 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project** 16 **Landscaping Plan**

17 The BDCP proponents will apply additional landscape treatments and use best management
18 practices as part of implementing the project landscaping plan (as set forth by DWR's WREM No.
19 30a requirements) to restore and maintain local character, improve aesthetics, and reduce the
20 visual scale of the proposed water conveyance elements in the study area.

21 In addition to the guidance set forth in DWR's WREM No. 30a, *Architectural Motif, State Water*
22 *Project*, the BDCP proponents will utilize landscaping treatments to visually enhance key
23 gateways, major thoroughfares, and scenic roadway corridors by using the following: street
24 trees, welcome signs, decorative lighting, and other streetscape design techniques. In addition,
25 native trees, shrubs, and grasslands will be planted to preserve the visual integrity of the
26 landscape, provide habitat conditions suitable for native vegetation and wildlife, and ensure that
27 a maximum number and variety of well-adapted plants are maintained.

28 The following practices will be adhered to in implementing the project landscaping plan.

- 29 • Design and implement low impact development (LID) measures that disperse and reduce
30 runoff by using such features as vegetated buffer strips between paved areas that catch and
31 infiltrate runoff, bioswales, cisterns, and detention basins. In addition, the BDCP proponents
32 will evaluate the potential use of pervious paving to improve infiltration and to reduce the
33 amount of surface runoff from entering waterways and the stormwater system. However,
34 LID measures will not be used where infiltration could result in adverse environmental
35 effects.
- 36 • Vegetative accents and screening will be used to aid in a perceived reduction in the scale
37 and mass of the built features, while accentuating the design treatments that will be applied
38 to built features. Plant selection will be based on its ability to screen built features and
39 provide aesthetic accents.
- 40 • Realignments of SR 160 and South River Road will be landscaped in a manner that visually
41 ties the new alignment in to the old alignment by implementing roadside landscaping that

- 1 helps achieve a continuation of the existing roadside vegetation while screening built
2 features.
- 3 ● Landscape berms, combined with tree and shrub plantings will be used to help screen built
4 features from existing viewpoints by allowing for additional height. The landscape berms
5 will be constructed in a manner that has a more natural form, as opposed to one that is
6 highly regular and levee-like. The berms will be seeded with a native meadow erosion
7 control seed mix and be planted to comply with directions set forth below.
 - 8 ○ One hundred percent of the species composition of open space areas will reflect species
9 that are native and indigenous to the study area. The species list will include trees,
10 shrubs, and an herbaceous understory of varying heights, as well as both evergreen and
11 deciduous types. Plant variety will increase the effectiveness of revegetated areas by
12 providing multiple layers, seasonality, diverse habitat, and reduced susceptibility to
13 disease.
 - 14 ● The use of native grass and wildflower seed in erosion control measures will be required
15 where such a measure would improve aesthetics.
 - 16 ○ Wildflowers will provide seasonal interest to areas where trees and shrubs are removed
17 or grading has occurred.
 - 18 ○ Species will be chosen that are native and indigenous to the area and for their
19 appropriateness to the surrounding habitat. For example, upland grass and wildflower
20 species will be chosen for drier, upland areas and wetter grass species will be chosen for
21 wetland areas.
 - 22 ○ If not appropriate to the surrounding habitat, wildflowers will not be included in the
23 seed mix.
 - 24 ○ Under no circumstances will invasive plant species be used in any erosion control
25 measures.
 - 26 ● Under no circumstances will any invasive plant species be used at any location.
 - 27 ● Vegetation will be planted within 2 years following project completion.
 - 28 ● Design of the landscaping plan will maximize the use of planting zones that do not need
29 irrigation, such as seeding with a native grassland and wildflower meadow mix, which
30 reduces or eliminates the need for a permanent irrigation system.
 - 31 ● If an irrigation system is required, an irrigation and maintenance program will be
32 implemented during the plant establishment period and carried on, as needed, to ensure
33 plant survival. Areas that are irrigated will use a smart watering system that evaluates the
34 existing site conditions and plant material against weather conditions to avoid overwatering
35 of such areas. To avoid undue water flows, the irrigation system will be managed in such a
36 manner that any broken spray heads, pipes, or other components are fixed within 1–2 days,
37 or the zone or system will be shut down until it can be repaired.
 - 38 ● All measures prescribed above to screen facilities will not act to degrade or eliminate scenic
39 vistas or be designed in a manner that negatively affects views from scenic roadways.
 - 40 ● These measures will not be implemented where implementation would constitute an
41 adverse effect on sensitive habitats or sensitive species.

1 Implementation of this measure will reduce the effects on local visual quality from introduction
2 of the water conveyance facilities.

3 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

4 **NEPA Effects:** Scenic vistas are mapped and included in Appendix Figure 17D-1. Once built,
5 permanent access roads and shaft sites would not adversely affect views available from scenic
6 vistas. Permanent access roads generally follow ROWs that have already previously been cleared to
7 serve as agricultural access routes and would be improved for BDCP-related activities. Because the
8 permanent access routes follow preexisting routes, they would not result in perceived visual
9 changes from scenic vistas.

10 Following completion of construction, shaft sites would only have low-profile access hatches to the
11 tunnels that would be close to the ground surface and could be seen from vistas along Lambert Road
12 (KOP 86), Twin Cities Road (KOPs 115 and 257), Walnut Grove Road (KOP 258), SR 12 (KOP 98),
13 and SR 4. Under Alternative 4 the shaft hatch sites could be larger than under Alternative 1A;
14 however, the view of the site after construction would not differ substantially. Mitigation Measure
15 AES-1e is available to address this effect.

16 The primary features that would affect scenic vistas subsequent to completion of construction of
17 Alternative 4 are Intakes 2, 3, and 5, the intermediate forebay and expanded Clifton Court Forebay,
18 landscape effects remaining from spoil/borrow and RTM areas, and permanent transmission lines.
19 These features would introduce visually dominant and discordant features in the foreground and
20 middleground views in vistas that would be very noticeable to all viewer groups. Scenic vistas that
21 would be affected are primarily views from roadways on levees and bridges that offer elevated
22 vantages and views that extend from the foreground to the background of the surrounding
23 landscape in areas with low to high landscape sensitivity levels. In addition, scenic vistas are
24 available from ground-level views where vegetation, infrastructure, and atmospheric haze do not
25 limit and preclude such views. Alternative 4 would result in a very noticeable effect on viewer
26 experiences from scenic vista opportunities along public roads (SR 160 and CH E9). All facilities
27 would require removal of visually important features such as mature trees and shrubs and
28 agricultural land, which are scenic elements that contribute to the viewing experience from scenic
29 vistas.

30 Intakes 2, 3, and 5 would introduce large, industrial concrete and steel intake structures, pumping
31 plants, surge towers landscaping, fencing, and other similar anthropogenic features and into rural
32 vistas with riparian, riverine, and agricultural characteristics. KOPs falling within scenic vistas that
33 could be affected by Intakes 2, 3, and 5 include KOPs 15, 18, 20, 34, and 45. Each intake facility
34 would consist of the intake structure along the river and the intake pumping plant. The intake
35 structure on the river would be 700-2,300 feet long (total structure length-intake and transitions)
36 by 40-60 feet wide and rise 55 feet from the river bottom to top of the structure. The 20-acre intake
37 pumping plant facility would be built on a ground plane that is elevated approximately 30 feet above
38 the surrounding landscape to avoid flooding. The pumping plants are 59 feet tall and surge towers
39 would be 43-70 feet tall. The design of the intakes and associated facilities could play a large part in
40 helping to improve the quality of affected and degraded vista viewsheds. Landscaping that would be
41 incorporated into the facility would help to slightly improve views. As seen in Figure 17-85, *Existing*
42 *and Simulated Views of Intake 2 East from South River Road*, the removal of a substantial amount of
43 riparian vegetation along the east bank provides an unobscured view of the intake facility, pumping
44 plant, and associated features making the intake facility the prominent visual feature in the

1 landscape. A substation would also be introduced at the intake facility where none presently exists.
 2 The pumping plant introduces a large-scale building, similar in appearance to a warehouse facility,
 3 that is a focal point and visually discordant in scale and mass to the surrounding rural character. It
 4 also adds monotone solid color mass into a landscape where the natural colors of the landscape are
 5 earth-tones and more muted. The surge tower would be 100 feet in diameter and the top of the rim
 6 would be at 105 feet NAVD88 for Intake 2, making the tower 75 feet tall at this location because the
 7 pumping plant finished floor elevation would be at approximately 35 feet NAVD88. Overall, the
 8 existing vista from KOP 256 on SR 160 toward Intake 2 would be substantially impaired by
 9 vegetation removal and introduction of the pumping plant and the Scenic Quality Rating would be
 10 reduced from a **C** to an **F**. A reduction in the Scenic Quality Rating associated with Intake 2 is
 11 representative of the effects that could occur to other views associated with intakes through the
 12 removal of vegetation, obscuring and limiting views beyond the foreground, and introducing large
 13 industrial features into a rural landscape and this effect would be adverse (see discussions under
 14 17.3.1.2 and 17.3.1.3).

15 As seen in Figure 17-86a, *Existing and Simulated Views of Intake 3 East from SR 160 in January 2012*,
 16 the removal of a substantial amount of riparian vegetation along the east bank opens up the vista
 17 but also increases the visual prominence of the pumping plant in the landscape. The pumping plant
 18 introduces a large building, similar in appearance to a warehouse facility, that is a focal point and
 19 visually discordant in scale and mass to the surrounding rural character within the vista. It also adds
 20 monotone solid color mass into a landscape where the natural colors of the landscape are earth-
 21 tones and more muted. When compared to Figure 17-76a that shows Intake 3 East for Alternatives
 22 1A, 1B, 2A, 2B, 6A, 6B, 7 and 8 (PTO alternatives), the intake pad would be larger than under this
 23 alternative than for the PTO alternatives. In addition, the surge tower would be 100 feet in diameter
 24 and the top of the rim would rise above the pumping plant at 96 feet NAVD88 for Intake 3, making
 25 the tower 62 feet tall at this location because the pumping plant finished floor elevation would be at
 26 approximately 34 feet NAVD88 for this intake. While steel 230 kV transmission lines would not be
 27 introduced under this alternative, there would be a substation that would also be visible and would
 28 further add to the industrial look of the intake facilities and detract from the existing rural character.
 29 Overall, the existing vista from KOP 34 on SR 160 toward Intake 3 would be substantially impaired
 30 by vegetation removal and introduction of the pumping plant and the Scenic Quality Rating would
 31 be reduced from a **D** to an **E**. A reduction in the Scenic Quality Rating associated with Intake 3 is
 32 representative of the effects that could occur to other vistas through the removal of vegetation,
 33 obscuring and limiting views beyond the foreground, and introducing large industrial features into a
 34 rural landscape and would be adverse (see discussions under 17.3.1.2 and 17.3.1.3). However, as
 35 shown in Figure 17-86b, *Existing and Simulated Views of Intake 3 East from SR 160 in July 2013*, fast-
 36 growing poplar or cottonwood trees that were newly planted in January 2012 have since grown and
 37 act to obscure large portions of the intake pad and portions of the pumping plant surge tower, and
 38 substation. While the substation would not be as noticeable, the pumping plant and surge tower
 39 would still be visually discordant in scale and mass to the surrounding rural character within the
 40 vista and the Scenic Quality Rating would be reduced from a **D** to an **E**. Note that, over time, the trees
 41 will continue to grow and views of Intake 3 from KOP 34 could be further limited.

42 Figure 17-77, *Existing and Simulated Views of Intake 2 West from SR 160*, shows an intake associated
 43 with the west alignment. However, this view is representative of how an intake under this
 44 alternative would look from CH E9 and could affect vista views from that roadway. The conversion
 45 of the riverbank that is grassy with riparian vegetation to the industrial looking on-bank intake is a
 46 stark visual and color contrast against the more natural colors and textures of a vegetated riverbank

1 that is absent of structures. The pumping plant introduces a large warehouse type of building that is
 2 a focal point and visually discordant in scale and mass to the surrounding rural character within the
 3 vista. It also adds monotone solid color mass into a landscape where the natural colors of the
 4 landscape are earth-tones and more muted. The pumping plant and on-bank intake would limit and
 5 detract from the visual quality of views beyond the foreground. The introduction of tall, steel 230 kV
 6 transmission lines visually contrasts to existing views of wooden utility poles. In addition, at a closer
 7 distance, views of available sky would be interrupted by the transmission lines and pumping plant.
 8 Overall, the existing vista from KOP 15 on SR 160 toward Intake 2 would be substantially impaired
 9 by vegetation removal and introduction of the pumping plant and the Scenic Quality Rating would
 10 be reduced from a **C** to an **E**. A reduction in the Scenic Quality Rating associated with Intake 3 is
 11 representative of the effects that could occur to other vistas through the removal of vegetation,
 12 obscuring and limiting views beyond the foreground, and introducing large industrial features into a
 13 rural landscape, and this effect would be adverse (see discussions under 17.3.1.2 and 17.3.1.3).

14 Scenic vistas that would be affected by the intermediate forebay include those available from Twin
 15 Cities Road (KOPs 115 and 257). The intermediate forebay would be visible in the foreground from
 16 both of these scenic vistas, would encompass a 40-acre water surface area, and include a control
 17 structure to channel water to the tunnels. While the water surface of the This forebay would not be
 18 visible, it would convert agricultural lands to a large, geometrically shaped levee embankment
 19 system that would conflict with the existing forms, patterns, colors, and textures associated with
 20 agricultural lands. However, the majority of views would be from the ground-level and would be of
 21 the berms that would prevent views of the water surface within the vista. As seen in Figure 17-87,
 22 *Existing and Simulated Views of Intermediate Forebay from Twin Cities Road*, the scenic vista across
 23 agricultural fields from Twin Cities Road is fairly open but contains existing transmission lines. As
 24 for Alternative 1A, under Alternative 4, the forebay embankments would be tall enough to limit
 25 views of the tree line on the horizon. The intermediate forebay embankments would add a man-
 26 made visual massing and the embankments would have a visible geometric shape immediately
 27 adjacent to the roadway. Overall, the existing vista from KOP 257 on Twin Cities Road toward the
 28 intermediate forebay would alter and reduce the available views of agricultural lands and
 29 foreground views and would reduce the Scenic Quality Rating from an **E** to an **F**. This effect would be
 30 adverse when seen from Twin Cities Road. The expanded Clifton Court Forebay would have a similar
 31 or more prominent effect on scenic vistas available from Lindemann Road depending on location.
 32 Views from Lindemann Road that are closer to Herdlyn Road would be adversely affected because
 33 they would be in closer proximity to and would have more direct views of the forebay (KOP 107).
 34 The embankments would be prominent features that would replace agricultural fields and the water
 35 surface could be visible. Views from Lindemann Road that are closer to Rivers End Marina & Storage
 36 would be partially or fully obstructed by intervening roadside vegetation and infrastructure. The
 37 Clifton Court Forebay would be expanded by 700 acres. However, while it would convert a large
 38 area of agricultural land, the forebay in this location would not an adverse effect on the landscape
 39 intermediate forebay due to the predominance of the existing adjacent Clifton Court Forebay and
 40 other water conveyance features.

41 The spoil/borrow and RTM area north of Intake 2 along SR 160 (KOP 15), south of Lambert Road
 42 and north of Dierssen Road, north of Twin Cities Road (KOP 115), and on Staten Island, south of SR
 43 12 (KOP 98) would result in a contiguous, large-scale landscape effect that would be included within
 44 the scenic vistas available from adjacent roadways. Alterations at these locations would result in
 45 sunken or elevated landforms that would be introduced into a landscape that is currently
 46 predominantly flat. These features would be visually discordant with the area's existing forms,

1 patterns, colors, and textures associated with views from scenic vistas of agricultural lands in the
2 study area.

3 Shaft sites visible within vistas including the shaft sites by the intakes, north of Lambert Road (KOP
4 86), south of Walnut Grove Road (KOP 258), and on Staten Island would result in alterations at these
5 locations and would result in elevated landforms that would be introduced into a landscape that is
6 currently predominantly flat. These features would be visually discordant with the area's existing
7 forms, patterns, colors, and textures associated with views from scenic vistas of agricultural lands in
8 the study area. Shaft sites located south of SR 12 (KOP 98) and north of SR 4 would have the same
9 affect; however, these would mostly be visible to roadway users on local roadways, and views of
10 construction activities would be fleeting as travelers on these roadways travel by the site.

11 Construction activities associated with the shaft sites may constitute an adverse effect on visual
12 resources due to the physical introduction of these features and the duration of time that they would
13 be visible in the landscape. Once construction is completed, the shaft site construction pads would
14 be removed and the launch and retrieval shafts would be covered with earth. This effect would be
15 adverse.

16 Most of the transmission lines would follow access roads constructed for the BDCP conveyance
17 facilities or other existing access roads and roadways that are outside the immediate area (KOPs 15,
18 16, 18, 19, 20, 26, 30, 34, 41, 42, 49, 54, 72, 73, 74, 86, 98, 101, 103, 106, 107, 115, 254, 255, 257, and
19 258). Once the proposed 230 kV electrical power transmission lines are constructed, tall steel lattice
20 structures that would be highly visible landscape features would contrast strongly with their
21 surroundings. The 69 kV electrical power transmission lines would also be larger than wood-poled
22 transmission lines commonly seen in the Delta. While wood-poled transmission lines are part of
23 most existing views, new 69 and 230 kV transmission lines and their cleared ROWs would adversely
24 affect the existing visual character by introducing large towering structures in a linear pattern that
25 appear to march through the landscape.

26 The effects of permanent access roads on scenic vistas would not be adverse. The effects of shaft site
27 access hatches on scenic vistas could be adverse. The large scale of intakes, the visual presence of
28 large-scale borrow/spoil and RTM area landscape effects, the new operable barrier at the head of
29 Old River, and the presence of new transmission lines may result in adverse effects on scenic vistas.
30 Overall, effects on scenic vistas associated with Alternative 4 would be adverse. Mitigation Measures
31 AES-1a, AES-1c, and AES-1e are available to address these effects.

32 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
33 would have less-than-significant impacts on scenic vistas. The presence of the intake structures,
34 pumping plants, surge towers, large-scale borrow/spoil and RTM area landscape effects, shaft sites,
35 and transmission lines would result in significant impacts on scenic vistas because construction and
36 operation would result in a reduction in the visual quality in some locations and introduce dominant
37 visual elements that would result in noticeable changes in the visual character of scenic vista
38 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
39 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
40 from public viewing areas.

41 Mitigation Measure AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
42 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
43 needed where feasible, developing and implementing a spoil/borrow and RTM area management
44 plan, and applying aesthetic design treatments to all structures to the extent feasible. Impacts on

1 scenic vistas associated with structures would not be reduced to a less-than-significant level
 2 because even though mitigation measures would reduce some aspects of the impact, it is not certain
 3 the mitigation would reduce the level of the impact to less than significant in all instances. In
 4 addition, the size of the study area and the nature of changes introduced by the alternative would
 5 result in permanent changes to the regional landscape such that there would be noticeable to very
 6 noticeable changes that do not blend or are not in keeping with the existing visual environment.
 7 Thus, impacts on scenic vistas associated with Alternative 4 would be significant and unavoidable.

8 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 9 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 10 **Transmission Lines and Underground Transmission Lines Where Feasible**

11 Please refer to Mitigation Measure AES-1a under Impact AES-1.

12 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 13 **Material Area Management Plan**

14 Please refer to Mitigation Measure AES-1c under Impact AES-1.

15 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 16 **Extent Feasible**

17 Please refer to Mitigation Measure AES-1e under Impact AES-1.

18 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 19 **Construction of Conveyance Facilities**

20 **NEPA Effects:** Conveyance facilities under Alternative 4 would result in an overall noticeable effect
 21 on viewers relative to their current experience and enjoyment of the study area's scenic resources
 22 along SR 160 and River Road, where the landscape sensitivity level is high (KOPs 15, 18, 20, 34, 45,
 23 and 54). All three intakes (2, 3, and 5), and the spoils/borrow and RTM area north of Intake 2 would
 24 be immediately and prominently visible in the foreground from SR 160, including construction
 25 activities described in Impact AES-1. These conveyance facility components would introduce
 26 visually dominant and discordant features into vistas, and these elements would be very noticeable
 27 to all viewer groups.

28 As seen in Figure 17-85, *Existing and Simulated Views of Intake 2 East from South River Road*, the
 29 removal of a substantial amount of riparian vegetation along the east bank provides an unobscured
 30 view of the intake facility, pumping plant, and associated features making the intake facility the
 31 prominent visual feature in the landscape. A substation would also be introduced at the intake
 32 facility where none presently exists. The pumping plant introduces a large-scale building, similar in
 33 appearance to a warehouse facility, that is a focal point and visually discordant in scale and mass to
 34 the surrounding rural character. It also adds monotone solid color mass into a landscape where the
 35 natural colors of the landscape are earth-tones and more muted. The surge tower would be 100 feet
 36 in diameter and the top of the rim would be at 105 feet NAVD88 for Intake 2, making the tower 75
 37 feet tall at this location because the pumping plant finished floor elevation would be at
 38 approximately 35 feet NAVD88. Overall, the existing vista from KOP 256 on SR 160 toward Intake 2
 39 would be substantially impaired by vegetation removal and introduction of the pumping plant and
 40 the Scenic Quality Rating would be reduced from C to an F. A reduction in the Scenic Quality Rating
 41 associated with Intake 2 is representative of the effects that could occur to other views associated

1 with intakes through the removal of vegetation, obscuring and limiting views beyond the
2 foreground, and introducing large industrial features into a rural landscape and this effect would be
3 adverse (see discussions under 17.3.1.2 and 17.3.1.3).

4 As seen in Figure 17-86a, *Existing and Simulated Views of Intake 3 East from SR 160 in January 2012*,
5 the removal of a substantial amount of riparian vegetation along the east bank acts to increase the
6 visual prominence of the pumping plant in the landscape. In Figure 17-77, the pumping plant has the
7 same visual effect as shown in Figure 17-86a because it introduces a large-scale building, similar in
8 appearance to a warehouse facility, that is a focal point and visually discordant in scale and mass to
9 the surrounding rural character. It also adds monotone solid color mass into a landscape where the
10 natural colors of the landscape are earth-tones and more muted. When compared to Figure 17-76a
11 that shows Intake 3 East for Alternatives 1A, 1B, 2A, 2B, 6A, 6B, 7 and 8 (PTO alternatives), the
12 intake pad would be larger than under this alternative than for the PTO alternatives. In addition, the
13 surge tower would be 100 feet in diameter and the top of the rim would rise above the pumping
14 plant at 96 feet NAVD88 for Intake 3, making the tower 62 feet tall at this location because the
15 pumping plant finished floor elevation would be at approximately 34 feet NAVD88 for this intake.
16 While steel 230 kV transmission lines would not be introduced under this alternative, there would
17 be a substation that would also be visible and would further add to the industrial look of the intake
18 facilities and detract from the existing rural character. Overall, existing views from KOP 34 on SR
19 160 toward Intake 3 would also be substantially impaired by vegetation removal and introduction of
20 the pumping plant and the Scenic Quality Rating would be reduced from a **D** to an **E**. A reduction in
21 the Scenic Quality Ratings associated with Intake 3 is representative of the effects that would occur
22 as a result of all intakes on SR 160 at each location through the removal of vegetation, obscuring and
23 limiting views beyond the foreground, and introducing large industrial features into a rural
24 landscape and this effect would be adverse (see discussions under 17.3.1.2 and 17.3.1.3). However,
25 as shown in Figure 17-86b, *Existing and Simulated Views of Intake 3 East from SR 160 in July 2013*,
26 fast-growing poplar or cottonwood trees that were newly planted in January 2012 have since grown
27 and act to obscure large portions of the intake pad and portions of the pumping plant surge tower,
28 and substation. While the substation would not be as noticeable, the pumping plant and surge tower
29 would still be visually discordant in scale and mass to the surrounding rural character within the
30 vista and the Scenic Quality Rating would be reduced from a **D** to an **E**. Note that, over time, the trees
31 will continue to grow and views of Intake 3 from KOP 34 could be further limited. While trees would
32 obscure some of the views along SR 160, such as at this location, they would not do so for the entire
33 scenic corridor. Each intake would result in an adverse visual effect on views from SR 160 and
34 adverse effects on SR 160 would be substantially compounded by the presence of each additional
35 intake to dramatically alter views associated with SR 160.

36 The spoils and borrow and RTM areas near Intake 2 would be visible from SR 160 and result in the
37 removal of mature vegetation and topographical changes to areas that are presently flat. Once
38 construction of the BDCP facilities is complete, these areas would result in a large-scale landscape
39 effect that would also alter the agrarian visual character. Alterations at these locations would result
40 in sunken or elevated landforms introduced into a landscape that is currently predominantly flat.
41 These features would be visually discordant with the area's existing forms, patterns, colors, textures
42 associated with the existing agrarian character in the study area. Accordingly, spoil and borrow and
43 RTM areas would result in an adverse effect on visual resources.

44 Implementation of this alternative would require removal of visually important features such as
45 mature trees and shrubs and agricultural land, which are scenic elements that contribute to the
46 viewing experience available to travelers along scenic highways in the study area. These features

1 would be replaced by multi-story industrial concrete and steel structures, multiple-acre mounds of
 2 dirt, earthen embankments, and paved areas associated with the intake facilities, pumping plants
 3 elevated 30 feet above the surrounding landscaping, fencing and security lights, and new access
 4 roads. These visual elements would conflict with the existing forms, patterns, colors, and textures
 5 along River Road and SR 160; would dominate riverfront views available from SR 160; and would
 6 alter broad views and the general nature of the visual experience presently available from River
 7 Road and SR 160 and would result in adverse effects. Mitigation Measures AES-1a, AES-1c, and AES-
 8 1e are available to address these adverse effects.

9 **CEQA Conclusion:** Because visual elements associated with this alternative would conflict with the
 10 existing forms, patterns, colors, and textures along River Road and SR 160; would dominate
 11 riverfront views available from SR 160; and would alter broad views and the general nature of the
 12 visual experience presently available from River Road and SR 160 (thereby permanently damaging
 13 the scenic resources along a scenic highway), these impacts are considered significant. Mitigation
 14 Measures AES-1a, AES-1c, and AES-1e would help reduce these impacts through the application of
 15 aesthetic design treatments to all structures, to the extent feasible. However, impacts on visual
 16 resources resulting from damage to scenic resources that may be viewed from a state scenic
 17 highway would not be reduced to a less-than-significant level because even though mitigation
 18 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 19 level of the impact to less than significant in all instances. In addition, the size of the study area and
 20 the nature of changes introduced by the alternative would result in permanent changes to the
 21 regional landscape such that there would be noticeable to very noticeable changes to the visual
 22 character of a scenic highway viewshed that do not blend or are not in keeping with the existing
 23 visual environment. Thus, overall, this impact would be significant and unavoidable.

24 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 25 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 26 **Transmission Lines and Underground Transmission Lines Where Feasible**

27 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 28 Alternative 1A.

29 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 30 **Material Area Management Plan**

31 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 32 Alternative 1A.

33 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 34 **Extent Feasible**

35 Please refer to Mitigation Measure AES-1e under Impact AES-1.

1 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 2 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

3 **NEPA Effects:** The following NEPA effects would result from the introduction of new sources of
 4 daytime and nighttime glare and nighttime lighting.

5 ***Daytime and Nighttime Glare***

6 BDCP conveyance facilities would result in new sources of glare if they were made of materials that
 7 easily reflect light. Intakes 2, 3, and 5 and their associated pumping plants, surge towers, and
 8 facilities would create very noticeable effects relating to light and glare. Alternative 4 would result in
 9 a reduced amount of new sources of light or glare relative to Alternative 1A because there would
 10 only be three intakes instead of five, and there would not be a pumping plant at the intermediate
 11 forebay. The effects are illustrated in the simulations showing intake facilities in Figures 17-76
 12 through 17-78, where light building colors over a large surface area would reflect off of those
 13 surfaces and increase glare, especially when combined with the removal of vegetation that absorbs
 14 light, provides shade, and screens glare. Sunlight would reflect off the new water surfaces of the
 15 forebay, creating new sources of glare where none presently exists. In addition, the use of nighttime
 16 lighting, described below, would result in nighttime glare of the lights reflecting off water surfaces.
 17 Because there are a large number of viewers in and around the waterways, intake structures, and
 18 forebay, effects associated with glare are considered adverse. Conversely, as vegetation and
 19 waterfowl become established following completion of the new forebays, some of these net visual
 20 impacts may be diminished.

21 ***Nighttime Lighting***

22 Construction of each intake structure would take up to 4 years to complete and would occur Monday
 23 through Friday for up to 24 hours per day. As discussed in Impact AES-1, dewatering near intakes,
 24 pumping plants, and certain pipeline construction areas and north of the intermediate forebay
 25 would take place 7 days per week and 24 hours per day. If evening and nighttime construction
 26 activities take place, they would require the use of extremely bright lights, and this would negatively
 27 affect nighttime views of and from the work area. Nighttime construction could also result in
 28 headlights flashing into nearby residents' homes when construction vehicles are turning onto or off
 29 of construction access routes. Proposed surge towers would require the use of safety lights that
 30 would alert low-flying aircraft to the presence of these structures because of their height.

31 Establishment of BDCP facilities in the Delta would require the use of safety lighting once built.
 32 Lighting equipment associated with BDCP facilities would increase the amount of nighttime lighting
 33 in the Delta above existing ambient light levels. In particular, security lighting for the intakes and
 34 their associated pumping plants and facilities would create very noticeable effects relating to
 35 increased nighttime light at those locations. As described in Chapter 3, *Description of Alternatives*,
 36 lighting would be designed in accordance with guidance given by DWR's WREM No. 30a,
 37 *Architectural Motif, State Water Project* and through coordination with local agencies through an
 38 architectural review process. This guidance is set forth as follows.

39 All artificial outdoor lighting is to be limited to safety and security requirements. All lighting is to
 40 provide minimum impact on the surrounding environment and is to be shielded to direct the light
 41 only towards objects requiring illumination. Lights shall be downcast, cut-off type fixtures with non-
 42 glare finishes set at a height that casts low-angle illumination to minimize incidental spillover of light
 43 onto adjacent properties, open spaces or backscatter into the nighttime sky. Lights shall provide good
 44 color rendering with natural light qualities with the minimum intensity feasible for security, safety

1 and personnel access. All outdoor lighting will be high pressure sodium vapor with individual
 2 photocells. Lighting will be designed per the guidelines of the IES. Additionally, all lights shall be
 3 consistent with energy conservation and are to be aesthetically pleasing. Lights will have a timed
 4 on/off program or will have daylight sensors. Lights will be programmed to be on whether personnel
 5 is present or not.

6 Although the lighting would be designed to be shielded and oriented in such a manner as not to
 7 subject the immediate surroundings to extremes in the levels of light, these types of light generate
 8 an ambient nighttime luminescence that is visible for substantial distances from a large portion of the
 9 Delta. This glow contrasts with the rural character. Such a change would be particularly noticeable
 10 in rural areas where ambient light levels are currently low and there are nearby viewers. Because
 11 the study area currently experiences low levels of light because there are fewer light/glare
 12 producers than are typical in urban areas, and because there are a larger number of viewers in and
 13 around the waterways, intake structures, and intermediate forebay, effects associated with
 14 nighttime light are considered adverse. Mitigation Measures AES-4a through AES-4c are available to
 15 address these effects.

16 **CEQA Conclusion:** The impacts associated with light and glare under Alternative 4 are significant
 17 because there are a larger number of viewers in and around the waterways, intake structures, and
 18 intermediate forebay; BDCP facilities would increase the amount of nighttime lighting in the Delta
 19 above existing ambient light levels; and the study area currently experiences low levels of light
 20 because there are fewer light/glare producers than are typical in urban areas. Mitigation Measures
 21 AES-4a through AES-4c would help reduce these impacts by limiting construction to daylight hours
 22 within 0.25 mile of residents, minimizing fugitive light from portable sources used for construction,
 23 and installing visual barriers along access routes, where necessary, to prevent light spill from truck
 24 headlights toward residences; however, these mitigation measures would not reduce impacts to a
 25 less-than-significant level because even though mitigation measures would reduce some aspects of
 26 the impact, it is not certain the mitigation would reduce the level of the impact to less than
 27 significant in all instances. In addition, the size of the study area and the nature of changes
 28 introduced by the new light and glare sources would result in permanent changes to the regional
 29 landscape such that there would be noticeable changes to the visual character that do not blend or
 30 are not in keeping with the existing visual environment. Thus, the new sources of daytime and
 31 nighttime light and glare associated with Alternative 4 would result in significant and unavoidable
 32 impacts on public views in the project vicinity.

33 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 34 **Residents**

35 The BDCP proponents will minimize the effect of nighttime construction light and glare on
 36 nearby residences by limiting construction hours within 0.25 mile of residents.

- 37 • Construction activities scheduled to occur between 7 a.m. or 7 p.m. will not take place before
 38 or past daylight hours (which varies according to season) within 0.25 mile of sensitive
 39 residential receptors.

40 Implementation of this mitigation measure will eliminate use of high-wattage lighting sources to
 41 operate in the dark and would minimize introduction of new nighttime light and glare sources in
 42 these areas to the extent feasible.

1 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 2 **Construction**

3 The BDCP proponents will minimize fugitive light from portable lighting sources used during
 4 construction by adhering to the following practices.

- 5 • At a minimum, project-related light and glare will be minimized to the maximum extent
 6 feasible, given safety considerations.
- 7 • Color-corrected halide lights will be used.
- 8 • Portable lights will be operated at the lowest allowable wattage and height and will be
 9 raised to a height no greater than 20 feet.
- 10 • All lights will be screened and directed down toward work activities and away from the
 11 night sky and nearby residents to the maximum extent safely possible.
- 12 • The number of nighttime lights used will be minimized to the greatest extent possible.

13 Implementation of this measure will reduce—to the extent feasible as governed by site-specific
 14 safety requirements—the overall amount of new daytime and nighttime light and glare
 15 introduced to the project vicinity during construction.

16 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 17 **to Prevent Light Spill from Truck Headlights toward Residences**

18 BDCP proponents will evaluate construction routes and identify portions of access routes where
 19 the use of visual barriers would minimize the introduction of new light and glare from
 20 construction truck headlights and the impact on nearby residents.

21 The BDCP proponents will install a visual barrier along portions of access routes where
 22 screening would prevent excessive light spill toward residents from truck headlights being used
 23 during nighttime construction activities. These visual barriers will meet the following
 24 performance criteria.

- 25 • The visual barrier will be a minimum of 5 feet high and will provide a continuous surface
 26 impenetrable by light. This height may be obtained by installing a temporary structure, such
 27 as fencing (e.g., chain link with privacy slats) or a semi-permanent structure, such as a
 28 concrete barrier (e.g., a roadway median barrier or architectural concrete wall system)
 29 retrofitted with an approved visual screen, if necessary, to meet the required height.
- 30 • The visual barriers will be of a material or have a color treatment appropriate for the
 31 location and traffic safety requirements. The use of glossy materials will be avoided.

32 Implementation of this measure will minimize the extent of construction truck headlight glare
 33 intruding into nearby residential areas.

34 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

35 **NEPA Effects:** Once in operation, visible maintenance activities on the intakes, tunnels, and forebays,
 36 and transmission lines would be required periodically. Intakes would require painting, cleaning, and
 37 repairs. These activities could be visible from the water or land. Forebays would be dredged to
 38 remove sediment at approximately 50-year intervals and embankments would receive vegetation
 39 removal and repairs. These activities would be visible from the area surrounding the forebays.

1 Tunnels would require periodic inspection and would have vehicles parked near shaft sites while
 2 tunnels are accessed for inspection. Transmission lines would require periodic vegetation removal
 3 within the ROWs. The greatest visual effects resulting from operations would be maintenance of the
 4 intakes and dredging of the forebays. However, these temporary maintenance activities are
 5 anticipated to occur within a short period of time, and effects would not be adverse.

6 **CEQA Conclusion:** Maintenance of the conveyance facilities (i.e., intakes, tunnels, forebays and
 7 transmission lines) would be required periodically and would involve painting, cleaning, and repair
 8 of structures; dredging at forebays (at approximately 50-year intervals); vegetation removal and
 9 care along embankments; tunnel inspection; and vegetation removal within transmission line ROWs.
 10 These visible maintenance activities would be temporary, intermittent, and short-term impacts and
 11 would be considered less than significant. Maintenance and operation of Alternative 4, once
 12 constructed, would not result in further substantial changes to the existing natural viewshed or
 13 terrain, alter existing visual quality of the region or eliminate visual resources, or obstruct or
 14 permanently reduce visually important features. Thus, overall, Alternative 4 would have a less-than-
 15 significant impact on existing visual quality and character during maintenance and operation of the
 16 facilities in the study area. No mitigation is required.

17 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during** 18 **Implementation of CM2–CM22**

19 Under Alternative 4, CM3 (natural communities protection and restoration) would be the
 20 mechanism to preserve lands to aid in implementing measures CM4–CM11. CM12 (methylmercury
 21 management), CM13 (invasive aquatic vegetation control), and CM22 (avoidance and minimization
 22 measures) would be integrated into site-specific restoration designs and operations under CM3–
 23 CM11 (discussed below) and would appear to be an integrated part of those measures and not
 24 independent visual features. CM14 (operation of the Stockton Deep Water Ship Channel Aeration
 25 Facility), CM17 (illegal harvest reduction), CM19 (urban stormwater treatment), CM20 (recreational
 26 users invasive species program) are management measures that would not result in changes to the
 27 visual environment. Thus, CM14, CM17, CM19, and CM20 are not discussed further.

28 ***Existing Visual Quality and Character***

29 Under Alternative 4, CM2 could introduce many features that would be visible in the landscape;
 30 these are described in Chapter 3, *Description of Alternatives*. These features include fish
 31 management facilities (e.g., screens, ladders, ramps, barriers); realignment of waterways; additional
 32 hydrologic monitoring stations; a floodplain fish rearing pilot project at Knaggs Ranch; support
 33 facilities (operations buildings, parking lots, access facilities such as roads and bridges) necessary to
 34 provide safe access for maintenance and monitoring; modification, removal, and construction of
 35 berms, levees, and water control structures. These actions have the potential to have adverse visual
 36 effects because of their proximity to sensitive receptors, duration of construction activities, and
 37 changes to the visual environment resulting from these proposed actions.

38 The Yolo Bypass, under CM2, would also be flooded for longer periods to improve habitat and
 39 spawning for covered fish species and to reduce stranding. While the increase in duration of
 40 flooding is not known, it is anticipated that there would not be an adverse effect on visual resources
 41 because the flooding, which is an existing visual condition, would occur during the normal flood
 42 season of the bypass and just extend that season. Therefore, the extended flood duration is not
 43 considered adverse.

1 CM4–CM11 would result in the conversion of primarily agricultural lands to restored or enhanced
2 habitat. Activities associated with the implementation of restoration and habitat enhancement
3 would take place over 40 years across all conservation measures, often during a relatively short
4 window each year, and the overall intensity and duration of each action would vary based on the
5 individual project. CM15 (predator control) may result in temporary, localized changes by removing
6 predator hiding spots, modifying channel geometry, physically removing predators, and utilizing
7 other control methods as dictated by site-specific conditions. This could result in physical changes to
8 the visual environment at site-specific locations that could be visible to water- and land-based
9 recreationists and other viewer groups, based on location. This may have beneficial or adverse
10 effects based on the size of proposed projects and pre-and post-project conditions (e.g., if
11 restoration is implemented and improves pre-project conditions or if natural vegetation is removed
12 and replaced with riprap which would degrade pre-project conditions). CM16 (nonphysical fish
13 barriers) would use sound, light, and bubbles at Old River, the Delta Cross Channel, and Georgiana
14 Slough and, potentially, at Turner Cut, Columbia Cut, the Delta-Mendota Canal intake, and Clifton
15 Court Forebay to direct fish passage. The lights and bubbles may be visible to water-based
16 recreationists, especially at dusk and night, and sound (if audible) could attract viewers' attention
17 toward the nonphysical barriers. Small scale changes may be visible on the banks or in the water to
18 be used for anchoring that could result in adverse visual effects. CM18 (conservation hatcheries)
19 would result in visual changes to the environment by building a new hatchery that consists of a
20 facility on the edge of the Sacramento River and a larger supplementation production facility nearby.
21 This would require conversion of existing land uses along the river and nearby to a built facility.
22 CM21 (nonproject diversions) would result in changes to the visual environment due to removal of
23 individual diversions; consolidation of multiple unscreened diversions to a single or fewer screened
24 diversions placed in lower quality habitat; relocation of diversions from high quality to lower quality
25 habitat, in conjunction with screening; and reconfiguration and screening of individual diversions in
26 high quality habitat. This could result in the removal and restoration at some locations that would
27 result in beneficial effects or could introduce new structures where none presently exist that could
28 be adverse.

29 Presently, it is not uncommon for heavy equipment to be seen, intermittently, for existing levee
30 maintenance, agricultural, and dredging operations; site-specific construction; and use in managing
31 wetlands and other land uses. Implementation of restoration and enhancement features would also
32 introduce considerable heavy equipment and associated vehicles, including dozers, graders,
33 scrapers, and trucks, into the viewshed of all viewer groups in the vicinity. Construction may include
34 the creation of new levees; breaching existing levees; the creation of habitat levees; increasing
35 connectivity between marshes and waterways; grading; planting; and redirecting intakes,
36 discharges, and outfalls. In addition, acquiring public and private property to restore or enhance
37 lands could displace occupants and would require infrastructure improvements such as roadways,
38 parking lots, and utilities. These actions may also include the construction of new public features
39 such as interpretive facilities and restrooms at some locations. These proposed actions would create
40 changes in views of and from the study area throughout the construction period, which may last
41 longer than 2 years depending on the specific project and effort required for construction. Because
42 of the unknown location of site-specific restoration activities, potential presence of sensitive
43 viewers, the potential for construction periods to last longer than 2 years, and varying intensity of
44 construction, effects associated with implementation of these conservation measures are considered
45 adverse.

1 Implementation of restoration actions and conservation measures under Alternative 4 would have a
2 noticeable effect on the visual character and quality of the study area and its surroundings.
3 Locations that are currently characterized by physical features associated with agricultural activities
4 would be altered through the establishment of new wetlands, marshes, or restored riparian
5 corridors. These areas may be denuded of vegetation, or may appear to be so from a distance
6 because of immature planted vegetation that would be similar in appearance to tilled or newly
7 planted agricultural fields. The sites would be in a transitional state, and over a period of from one to
8 several years, plant species would mature and vegetation would recolonize the sites. Because these
9 sites would be scattered throughout the conservation zones, they would not create a visual
10 imposition on the landscape or be perceived as a centralized, large-scale visual change. In addition,
11 restored/enhanced sites would increase the amount of native vegetative communities that attract
12 wildlife, thus befitting the visual quality and diversity of the study area. The visual characteristics of
13 these new landscapes would be consistent with other natural marsh or wetland areas of the Delta. In
14 this sense, the BDCP would have a beneficial effect on the visual character and quality of the
15 restoration areas and their surroundings.

16 ***Scenic Vistas***

17 Under Alternative 4, CM2 has the potential to visually alter scenic vistas depending on the location
18 of various modifications, such as levee construction or removal. CM4–CM11 would result in the
19 conversion of primarily agricultural lands to restored or enhanced habitat. CM16, CM18, CM15, and
20 CM21 have the potential to introduce visually discordant features into scenic vistas, if they are
21 located within a vista viewshed. Once constructed, large-scale changes to scenic vistas would result
22 from conversion of agriculture lands to restored/enhanced areas that have more topographic
23 variation and variable vegetative cover. Because exact locations of restoration/enhancement sites
24 have not been identified, effects on site-specific scenic vistas cannot be determined. However, views
25 of the large areas proposed for restoration/enhancement could likely change from agricultural or
26 developed uses to areas with more natural features such as marshes and wetlands.

27 Depending on the location, the effect on scenic vistas could be beneficial or adverse. Beneficial
28 effects would occur where flat agricultural lands and row crops are replaced by restored wetlands
29 and riparian vegetation, because natural areas are rarer scenic features in the Delta and such a
30 change would increase visual diversity. In general, wetlands would provide excellent vista
31 opportunities because the restored vegetation cover would provide visual interest and would not
32 block distant background views. However, at some sites, restoration/enhancement of agricultural
33 lands to riparian forest could block long-distance vistas from scenic vista areas. For example,
34 riparian forest plantings installed along a river segment where roadway travelers currently have
35 open vistas of the waterway would mature and result in more restricted views of the river and vistas
36 beyond. Restoration/enhancement actions could also result in the creation of new scenic vistas,
37 perhaps through the removal of existing agricultural tree rows and the establishment of vista points
38 at specific locations or viewing opportunity areas along newly created recreational trails.

39 After completion of construction activities necessary for restoration, areas surrounding the
40 restored/enhanced area may be denuded of vegetation, or appear to be so from a distance because
41 of immature planted vegetation would be similar in appearance to tilled or newly planted
42 agricultural fields. The sites would be in a transitional state, and over a period of one to several
43 years, plant species would mature and vegetation would recolonize the sites. The sites would be
44 scattered throughout the conservation zones so would not create a visual imposition on the
45 landscape or be perceived as a centralized, large-scale visual change. In addition, restored/enhanced

1 sites would increase the amount of native vegetative communities that attract wildlife, thus helping
2 to improve the visual quality and diversity of the restored areas. The visual characteristics of these
3 restored/enhanced landscapes would be similar to other areas of the Delta that are in a natural
4 marsh or wetland state and more limited in extent than the widespread areas of agricultural
5 development. In this sense, the BDCP would have an overall beneficial effect related to the
6 enhancement and creation of scenic vistas in the Delta. However, site-specific restoration
7 information and plans need to be developed before the site-specific effects on scenic vistas can be
8 determined.

9 ***Scenic Highways***

10 No restoration actions are expected to be established in areas along SR 160. However, it is possible
11 that actions proposed for some areas would be visible in the middleground and background views
12 from SR 160. These areas are: the portions of CZ 3 on the west side of the Sacramento River that
13 extends from Sacramento to the confluence with the Yolo Bypass; CZ 5, on the east/south side of the
14 Sacramento River that extends from Intake 1 to Pittsburg; and CZ 10, just south of CZ 5 and spanning
15 both sides of SR 4 near Antioch. In addition, CZ 7 would be visible in the middleground and
16 background views from I-580, which is a state-designated scenic route in San Joaquin County. CM15,
17 CM16, CM18, and CM21 have the potential to introduce visually discordant features as viewed from
18 scenic highways, if they are located within the viewshed of a scenic highway. During the near term,
19 changes to the visual environment resulting from vegetation removal may be noticeable to travelers
20 along these routes. These areas may be denuded of vegetation, or appear to be so from a distance
21 because of immature planted vegetation that would be similar in appearance to tilled or newly
22 planted agricultural fields. The sites would be in a transitional state, and over a period of one to
23 several years, plant species would mature and vegetation would recolonize the sites. The sites
24 would be scattered throughout the conservation zones so would not create a visual imposition on
25 the landscape or be perceived as a centralized, large-scale visual change. In addition,
26 restored/enhanced sites would increase the amount of native vegetative communities that attract
27 wildlife, thus helping to improve the visual quality and visual diversity of the restoration area. Due
28 to the distance, changes associated with restoration activities would not affect the visual quality
29 along these scenic highway corridors and would not result in adverse effects.

30 ***Light and Glare***

31 The intent of the restoration actions would be to establish native vegetation along riparian corridors
32 by allowing inundation of areas or by converting existing agricultural lands to tidal wetlands. Given
33 the nature of CM2–CM22, only a few new project-related sources of light and glare would be
34 expected to result from their implementation. Restored areas would largely be natural habitat areas.
35 CM16 and CM18 have the potential to introduce new lighting sources through project features while
36 it is not likely that CM15 and CM21 would introduce new sources of light. Limited lighting could be
37 installed at some facilities, such as flood gates/pumping facilities, operations buildings, and visitor
38 facilities. At this time, it is not known where these facilities would be proposed; however, it is
39 anticipated that there would be a very limited number of such facilities and that the lighting would
40 be reduced to the minimum necessary to provide safety and security and that effects would not be
41 adverse.

1 **Summary**

2 **NEPA Effects:** There may be site-specific, localized adverse visual effects. These conservation
3 measures would alter the Delta landscape by incrementally, and substantially, introducing elements
4 into the study area over time. This could pave the way for the gradual transition of a much valued
5 cultural and regional landscape and make it easier for other similar projects to be implemented over
6 time because of the devalued baseline conditions, compared to Existing Conditions, if conservation
7 measures are not planned and implemented in a manner that protects visual resources. CM2–CM22,
8 when combined with CM1, could substantially alter the visual character of the study area, which is
9 strongly identified by its agricultural and water-based Delta landscapes and communities. These
10 landscapes and communities could be adversely affected by the introduction of discordant visual
11 features, removal of existing buildings and landscape elements of value, and through the potential
12 for indirect impacts associated with other development potentially setting a precedent for other
13 development to occur. All of these effects would alter the visual character of the existing regional
14 landscape. While many planning and regulatory documents recognize the unique visual resources of
15 the Delta and the importance of this regional visual landscape as a shared and endangered resource,
16 there is no comprehensive planning or regulatory document to aid in the preservation of this
17 resource and to serve as guidance for development within this landscape.

18 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a through AES-4c are
19 available to address effects from habitat restoration and enhancement actions under CM2–CM22. In
20 addition, Mitigation Measures AES-6a and AES-6b are available to help reduce adverse visual effects.
21 Upon development of site-specific design information and plans, additional mitigation measures
22 may be identified to address action-specific adverse effects. However, each individual project under
23 CM2–CM22 would undergo the environmental compliance process that would be used to determine
24 what additional mitigation measures, would be deemed appropriate to reduce adverse effects and to
25 assess compliance with relevant regulations. Finally, Mitigation Measure AES-6c is available to help
26 inventory, classify, and protect the unique visual landscape of the Delta.

27 **CEQA Conclusion:** Implementation of conservation measures under Alternative 4 has the potential
28 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
29 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
30 and character would be significant where use of large numbers of heavy construction equipment,
31 changes in topography, and introduction of new structures or facilities where none presently exist
32 would take place in the vicinity of sensitive receptors. However, because a number of factors that
33 would determine the level of change are unknown—the location of site-specific restoration
34 activities, potential presence of sensitive viewers, potential for construction periods to last longer
35 than 2 years, and varying intensity of construction—impacts associated with implementation of
36 these conservation measures (CM2–CM22) on visual quality and character, scenic vistas, and light
37 and glare sources, are considered significant. Because of the distance of implemented conservation
38 measures from scenic highways, changes associated with these activities would not affect the visual
39 quality along these scenic highway corridors and this impact would be less than significant. Site-
40 specific restoration information and plans need to be developed before the site-specific effects on
41 the existing visual character, scenic vistas, and light and glare can be determined.

42 Several mitigation measures are available to minimize the impacts on visual quality and character in
43 the study area that could result from implementation of these conservation measures. As
44 summarized below, these measures could be applied to individual restoration projects or actions as
45 appropriate for the site-specific conditions and design considerations. In addition, each restoration

1 project or action would undergo an environmental compliance process that would be used to
 2 determine what additional mitigation measures would be deemed appropriate to reduce significant
 3 effects. Mitigation Measures AES-1a through AES-1g could be applied to minimize impacts by
 4 locating new transmission lines and access routes to minimize the removal of trees and shrubs and
 5 pruning needed where feasible, installing visual barriers between construction work areas and
 6 sensitive receptors, developing and implementing a spoil/borrow and RTM area management plan,
 7 restoring barge unloading facility sites once decommissioned, applying aesthetic design treatments
 8 to all structures to the extent feasible, locating concrete batch plants and fuel stations away from
 9 sensitive visual resources and receptors and restoring the sites upon removal of facilities, and using
 10 best management practices to implement a project landscaping plan. Mitigation Measures AES-4a
 11 through AES-4c could be used to reduce the effects of new light and glare sources by limiting
 12 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
 13 sources used for construction, and installing visual barriers along access routes, where necessary, to
 14 prevent light spill from truck headlights toward residences. In addition, Mitigation Measures AES-6a
 15 and AES-6b would further minimize impacts on visual resources by undergrounding new or
 16 relocated utility lines, where feasible, and through an evaluation of an afterhours low-intensity and
 17 lights off policy. Finally, implementation of Mitigation Measure AES-6c would provide a strategy for
 18 the protection of the unique visual landscape of the Delta.

19 While some of these conservation measures could result in beneficial impacts through the
 20 restoration of natural habitat and these mitigation measures would reduce the severity of impacts, it
 21 is unknown whether they would be reduced to a less-than-significant level because of uncertainties
 22 associated with future implementation of CM2–CM22. In addition, the size of the study area and the
 23 nature of changes introduced by these conservation measures would result in permanent changes to
 24 the regional landscape such that there would be noticeable changes to the visual character that may
 25 or may not blend or be in keeping with the existing visual environment. Thus, implementation of
 26 CM2–CM22 would result in significant and unavoidable impacts on the existing visual quality and
 27 character in the study area.

28 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 29 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 30 **Transmission Lines and Underground Transmission Lines Where Feasible**

31 Please refer to Mitigation Measure AES-1a under Impact AES-1.

32 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 33 **Sensitive Receptors**

34 Please refer to Mitigation Measure AES-1b under Impact AES-1.

35 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 36 **Material Area Management Plan**

37 Please refer to Mitigation Measure AES-1c under Impact AES-1.

38 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

39 Please refer to Mitigation Measure AES-1d under Impact AES-1.

1 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 2 **Extent Feasible**

3 Please refer to Mitigation Measure AES-1e under Impact AES-1.

4 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 5 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

6 Please refer to Mitigation Measure AES-1f under Impact AES-1.

7 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 8 **Landscaping Plan**

9 Please refer to Mitigation Measure AES-1g under Impact AES-1.

10 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 11 **Residents**

12 Please refer to Mitigation Measure AES-4a under Impact AES-4.

13 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 14 **Construction**

15 Please refer to Mitigation Measure AES-4b under Impact AES-4.

16 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 17 **to Prevent Light Spill from Truck Headlights toward Residences**

18 Please refer to Mitigation Measure AES-4c under Impact AES-4.

19 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

20 BDCP proponents will underground new or relocated utility lines, where feasible, to reduce or
 21 improve adverse visual effects associated with the visual intrusion of such features in the
 22 landscape. New or relocated utility lines will not be underground where undergrounding would
 23 constitute an adverse effect on sensitive habitats or sensitive species or require the removal of
 24 healthy native trees that would fall under the definition of a native heritage tree. For the
 25 purpose of this mitigation measure, a native heritage tree is defined for this project using
 26 guidance set forth in the City of Sacramento Heritage Tree Ordinance, as follows.

- 27 • Any tree of any species with a trunk circumference of one hundred (100) inches or more,
 28 which is of good quality in terms of health, vigor of growth and conformity to generally
 29 accepted horticultural standards of shape and location for its species.
- 30 • Any native *Quercus* species, *Aesculus California*, or *Platanus Racemosa*, having a
 31 circumference of 36-inches or greater when a single trunk, or a cumulative circumference of
 32 36-inches or greater when a multi-trunk, which is of good quality in terms of health, vigor of
 33 growth and conformity to generally accepted horticultural standards of shape and location
 34 for its species.
- 35 • Any tree 36-inches in circumference or greater in a riparian zone. The riparian zone is
 36 measured from the centerline of the water course to 30-feet beyond the high water line (City
 37 of Sacramento 2012).

1 Other trees may also be protected, as deemed appropriate by BDCP proponents to be of special
2 historical or environmental value or of significant community benefit.

3 Implementation of this measure, where possible, will avoid the introduction of new
4 aboveground utility lines and result in an improved view in areas where existing utility lines
5 could be relocated underground.

6 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
7 **Lights Off Policy**

8 The BDCP proponents will evaluate measures and develop and implement of a commercial and
9 public buildings lighting policy to minimize the impact of building lighting on nearby sensitive
10 viewers. The policy will include the following performance standards.

- 11 • Require building design to include low-intensity interior safety lighting for use during
12 afterhours. This practice would decrease the amount of nighttime light that would occur
13 from using standard interior lighting as safety lighting.
- 14 • Prevent unnecessary overuse of interior nighttime lighting, requiring that offices and
15 businesses implement a “lights-off” policy. This practice requires that all non-safety lighting
16 be turned off at night (such as in offices and hallways), after business hours. This standard
17 can be accomplished through use of movement activated lighting systems.
- 18 • Prohibit use of harsh mercury vapor or low-pressure sodium bulbs.

19 Such a policy can greatly reduce the amount of nighttime light pollution that is created by
20 standard office and business practices.

21 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
22 **Plan for the Delta and Study Area**

23 The BDCP project proponents will work with federal, state, and local stakeholders to implement
24 a visual resources management plan for the Delta and study area. The visual resources
25 management plan will be developed based on the following considerations and performance
26 standards.

- 27 • The purpose of the visual resources management plan will be to protect and enhance the
28 visual landscape and will not serve as a mechanism to allow for undue development or to
29 facilitate advanced development of the Delta and study area.
- 30 • The visual resources management plan will implement a prescribed methodology for
31 inventorying and classifying all visual landscapes within the study area. This methodology
32 will utilize measures similar to BLM and USDA Forest Service inventorying techniques or
33 will develop its own methodology for inventorying study area visual landscapes. This
34 methodology will incorporate a quantifiable measure of visual landscapes that can be used
35 to determine areas for preservation, enhancement, and smart development, and to measure
36 and monitor visual effects on the study area landscape over time. This inventory will include
37 an inventory of viewer groups and viewer responses to adequately identify publicly valued
38 visual landscapes.
- 39 • The inventory of visual landscapes within the study area will be used as a tool to preserve
40 the visual landscape and to guide smart growth and development.

- 1 • The visual resources management plan will implement regulatory language to protect visual
2 resources of the study area, based on preserving important and sensitive visual landscapes.
3 It will also identify design and management measures for avoidance of adverse effects.
- 4 • The visual resources management plan will identify and facilitate the preservation of
5 sensitive visual landscapes through the planning and establishment of scenic easements and
6 official federal and/or state designation for the protection of scenic resources (e.g., historic
7 and/or scenic trails, designated scenic areas, scenic highways/byways, and wild and scenic
8 rivers).
- 9 • The visual resources management plan will serve to encourage the integrated use of
10 environmental design arts, as outlined in Section 102(A) of NEPA, so that projects within the
11 study area are designed to be self-mitigating instead of waiting until the environmental
12 analysis process to establish design measures that mitigate a project's visual effects.
- 13 • The visual resources management plan will recognize and work with the evolving visual
14 landscape as it relates to climate change and sea level rise. It will establish proactive design
15 and management measures that protect the evolving landscape and visual integrity of the
16 study area and will not facilitate reactive design and management measures that could
17 adversely alter the visual landscape of the study area.
- 18 • The visual resources management plan for the study area will be an adaptive management
19 tool and will undergo periodic updates every 20 years.
- 20 • CM2–CM22 will comply with this visual resources management plan.

21 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
22 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
23 **Addressing Aesthetics and Visual Resources**

24 **NEPA Effects:** Constructing conveyance facilities (CM1) and implementing CM2–CM22 under
25 Alternative 4 would be similar to Alternative 1A, Impact AES-7, with the key difference related to
26 construction of only Intakes 2, 3, and 5 and could result in the potential for some incompatibilities
27 with plans and policies related to preserving the visual quality and character of the Delta. A number
28 of plans and policies that coincide with the study area boundaries provide guidance for visual
29 resource issues as overviewed in *Section 17.2, Regulatory Setting*. This overview of plan and policy
30 compatibility evaluates whether Alternative 4 is compatible or incompatible with such enactments,
31 rather than whether impacts are adverse or not adverse or significant or less than significant. If the
32 incompatibility relates to an applicable plan, policy, or regulation adopted to avoid or mitigate visual
33 effects, then an incompatibility might be indicative of a related significant or adverse effect under
34 CEQA and NEPA, respectively. These physical effects of Alternative 4 on visual resources are
35 addressed in Impacts AES-1 through AES-6, above. The following is a summary of compatibility
36 evaluations related to visual resources for plans and policies relevant to the BDCP.

37 **Conveyance Facilities**

- 38 • The Sierra Resource and Cosumnes River Preserve Management Plans protect the Cosumnes
39 River Preserve. Views within the Cosumnes River Preserve would not be affected by Alternative
40 4 because it is located east of I-5 and public views of the project site available from trails are
41 obscured by riparian vegetation and I-5.

- 1 • The Suisun Marsh is protected by the San Francisco Bay Conservation and Development
2 Commission Suisun Marsh Protection Plan. The eastern boundary of the Suisun Marsh extends
3 to Collinsville Road in southern Solano County and falls within the westernmost portion of the
4 study area. Views from Suisun Marsh would not be affected by this alternative because project
5 features would be obscured by distance, the Altamont Hills, and intervening trees,
6 infrastructure, and development.
- 7 • EBRPD parks within the study area include Browns Island, Antioch/Oakley, and Big Break Parks
8 (East Bay Regional Park District 2013b). Views from these parks would not be affected by this
9 alternative because project features would be obscured by distance, the Altamont Hills, and
10 intervening trees, infrastructure, and development.
- 11 • The cities of Antioch, Brentwood, Oakley, Sacramento, Lathrop, Stockton, Tracy, Rio Vista,
12 Suisun City, and West Sacramento would not be affected by this alternative because there are no
13 project features within or visible from these cities. Therefore, this alternative would be
14 consistent with the protection of visual resources covered under those general plans.
- 15 • The Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992, Delta Protection
16 Commission Land Use and Resource Management Plan for the Primary Zone of the Delta, Delta
17 Plan, Brannan Island and Franks Tract State Recreation Areas General Plan are all focused on
18 the protection of resources, including visual resources, within the Delta. While constructing and
19 operating conveyance facilities under this alternative are intended to provide ecosystem
20 benefits in the Delta, constructing these conveyance elements could be considered incompatible
21 with measures to protect the unique visual environment of the Delta because agricultural lands
22 and riverbanks would be converted to other uses and the scale of construction would result in
23 changes to the landscape that may be considered disruptive to the current Delta environment
24 and visual quality.
- 25 • Contra Costa, Sacramento, San Joaquin, and Solano Counties all have policies to preserve and
26 protect the scenic qualities of the Delta as summarized in *Section 17.2 Regulatory Setting*. In
27 addition, Alameda, Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties are focused
28 on the protection of visual resources and preserving agricultural lands. The general plans for
29 these counties include policies for the protection of visual resources, trees, waterways, and
30 landscaping and for avoiding impacts such as the alteration of landforms and the introduction of
31 utilities and new sources of light. These policies seek to minimize visual impacts and enhance
32 scenic qualities and also encourage placing utility lines underground. The conversion of
33 agricultural lands and riverbanks to intake facilities, conveyance facility changes and
34 introduction of new lighting and transmission lines where none presently exist would
35 substantially alter the landscape and could be considered incompatible with local policies aimed
36 at protecting visual resources in these counties. Potential incompatibilities with Sacramento
37 County and San Joaquin County policies would be most likely because most of the project
38 features occur in these counties. Alameda and Contra Costa Counties have much smaller
39 portions of project features that surround the Clifton Court Forebay. Yolo County would be
40 affected by intakes located on the east bank of the Sacramento River that would affect views
41 from South River Road. Alternative 4 would not be incompatible with Solano County policies
42 because conveyance facilities would not be located in this area.

1 **Other Conservation Measures**

- 2 • The Yolo Bypass would be altered under CM2. Views of and from South River Road would not be
 3 affected. However, new fish screens, ladders, ramps, barriers, realignment of waterways,
 4 additional hydrologic monitoring stations, fish rearing pilot project at Knaggs Ranch, operations
 5 buildings, parking lots, access facilities such as roads and bridges, and modification, removal,
 6 and construction of berms, levees, and water control structures would result in changes to the
 7 landscape that may be incompatible with the Yolo County General Plan Policies LU-3.7, CC-1.2,
 8 CC-1.3, and CC-1.4 that protect scenic areas, the rural landscape character, and the night sky.
- 9 • CM4–CM11 would result in the conversion of primarily agricultural lands to restored or
 10 enhanced habitat across all 11 CZs, with specific focus on ROAs (refer to Figure 3-1). Therefore,
 11 associated regulations may apply. Restored areas would largely be natural habitat areas.
 12 Alterations such as channel and levee modifications, landform alteration from dredge spoil
 13 placement, and floodplain lowering could change the visual landscape. Restoring areas and
 14 views to natural, native habitat would likely be beneficial and would increase visual diversity.
 15 However, converting agricultural lands may be incompatible with one or more regulation
 16 protecting visual resources, although it may facilitate regulations set in place to protect and
 17 restore the Delta. If facilities, such as buildings, parking lots, or roads, are built, they would also
 18 have the potential to be incompatible with relevant regulations that protect scenic areas, the
 19 landscape character, the night sky, and the Delta.
- 20 • CM15 and CM21 would occur across all 11 CZs and could result in physical changes to the visual
 21 environment at a number of locations and where relevant regulations may apply. This may have
 22 beneficial or adverse effects based on the size of proposed projects and pre-and post-project
 23 conditions (e.g., if restoration is implemented and improves pre-project conditions or if natural
 24 vegetation is removed and replaced with rip rap or a new diversion structure that degrades pre-
 25 project conditions). Vegetation removal and replacement with rip rap or a diversion structure
 26 could be incompatible with relevant regulations that protect scenic areas,
 27 the landscape character, the night sky, and the Delta.
- 28 • CM16 could use sound, light, and bubbles at the head of the Delta Cross Channel and Georgiana
 29 Slough in Sacramento County; Old River, Turner Cut, and Columbia Cut in San Joaquin County,
 30 the Delta-Mendota Canal intake in Alameda County; and Clifton Court Forebay in Contra Costa
 31 County to direct fish passage. Small scale changes may be visible on the banks or in the water
 32 used for anchoring that could result in adverse visual effects, but it is anticipated that these
 33 changes would be compatible with County general plan policies that protect visual resources.
- 34 • Building a new hatchery that consists of a facility on the edge of the Sacramento River and a
 35 larger supplementation production facility nearby, through CM18, would result in visual
 36 changes and conversion of existing land uses along and near the river would be required to
 37 build facilities. These facilities could be located in Sacramento, Yolo, or Solano Counties and also
 38 fall within the Delta. Therefore, corresponding regulations may apply. The size and locations of
 39 these facilities are unknown, but it is likely that conversion of existing land uses, and potentially
 40 undeveloped land would alter the visual character along the Sacramento River and would be
 41 incompatible with one or more plans or policies for the protection of visual resources in these
 42 regions.

43 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
 44 physical consequence to the environment. The physical effects they suggest are discussed in impacts

1 AES-1 through AES-6, above and no additional CEQA conclusion is required related to the
2 compatibility of Alternative 4 with relevant plans and policies.

3 **17.3.3.10 Alternative 5—Dual Conveyance with Pipeline/Tunnel and** 4 **Intake 1 (3,000 cfs; Operational Scenario C)**

5 Table 17D-1 in Appendix 17D, *Permanent Impacts after Construction is Complete*, describes existing
6 visual characteristics and the BDCP-related permanent effects of Alternative 1A on visual quality
7 and character, scenic vistas, scenic roadways, and from light and glare sources after construction is
8 complete and identifies the overall effect on viewers. Appendix E, *Permanent Features*, identifies the
9 viewer groups and viewing locations that would be affected by permanent alternative features.
10 Effects would be similar for this alternative. Under Alternative 5, the conveyance alignment from the
11 intakes to the Byron Tract Forebay, along with the associated shaft site, access road, transmission
12 line, pumping plants, barge unloading facility sites, and spoil/borrow and RTM areas would be
13 identical to Alternative 1A. The difference between this alternative and Alternative 1A on visual
14 resources is the location and number of intakes. Alternative 5 would use only one intake: Intake 1.
15 The effects associated with construction of Intake 1 are discussed in detail under Alternative 1A, and
16 those effects would be the same under Alternative 5. In addition, the Byron Tract Forebay would be
17 200-acres instead of 600-acres.

18 **Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during** 19 **Construction of Conveyance Facilities**

20 **NEPA Effects:** Effects related to visual resources under this alternative would be similar to those
21 described for Alternative 1A. However, the severity of these effects would be decreased because
22 there would only be one intake structure instead of five. The primary features that would affect the
23 existing visual quality and character under Alternative 5, once the facility has been constructed,
24 would be the intake, the intermediate forebay and Byron Tract Forebay, transmission lines, and
25 resulting landscape effects left behind from spoil/borrow and RTM areas, and concrete batch plants
26 and fuel stations.

27 Overall, construction would take 9 years, and the intensity of the activities in contrast to the current
28 rural/agricultural nature of the area would be substantial. Construction of intakes, and the
29 accompanying pumping plants, surge towers, borrow/spoil areas, and RTM areas would introduce
30 visually dominant and discordant features in the foreground and middleground views, and these
31 elements would be very noticeable to all viewer groups.

32 After construction, areas surrounding the intake, spoil/borrow areas, RTM areas, shaft sites, and
33 locations where concrete batch plants and fuel stations were located may be denuded of vegetation
34 for a short period of time until the landscaping plans designed under WREM No. 30a are
35 implemented. Once installed, the landscape would still appear to be denuded of vegetation or to
36 have little vegetative cover because immature landscaping would be similar in appearance to tilled
37 or newly planted agricultural fields. The sites would be in a transitional state, and over a period of a
38 few years, plant species would mature and vegetation would recolonize the sites. These changes
39 would happen in an area known for its open space, agricultural landscapes, and rural characteristics
40 and would segment the visual landscape of the study area, reduce the amount of open space lands
41 available to viewers, and eliminate valued visual resources. The effects of permanent access roads
42 on visual resources would not be adverse. The effects of shaft site access hatches on the existing
43 scenic character may be adverse. Operation of the intakes, the visual presence of large-scale

1 borrow/spoil and RTM area landscape effects, and transmission lines would result in adverse effects
2 on the existing visual character. In addition, construction of all of these features has the potential to
3 negatively affect wildlife viewing and the overall enjoyment of scenic views in the study area.
4 Therefore, because of the long-term nature of construction combined with the proximity to sensitive
5 receptors, razing of residences and agricultural buildings, removal of vegetation, and changes to
6 topography through grading, this overall effect of conveyance facility construction on existing visual
7 quality and character is considered adverse. Mitigation Measures AES-1a through AES-1g are
8 available to address visual effects resulting from construction of Alternative 5 water conveyance
9 facilities.

10 **CEQA Conclusion:** Construction of Alternative 5 would substantially alter the existing visual quality
11 and character present in the study area. The long-term nature of construction of the intake,
12 pipeline/tunnel, work areas, spoil/borrow and RTM areas, shaft sites, barge unloading facilities;
13 presence and visibility of heavy construction equipment; proximity to sensitive receptors; relocation
14 of residences and agricultural buildings; removal of riparian vegetation and other mature vegetation
15 or landscape plantings; earthmoving and grading that result in changes to topography in areas that
16 are predominantly flat; addition of large-scale industrial structures (intakes and related facilities);
17 remaining presence of large-scale borrow/spoil and RTM area landscape effects; and introduction of
18 tall, steel transmission lines would all contribute to this impact.

19 Overall, construction would last up to 9 years and would change the existing visual character in the
20 vicinity of project elements from those of agricultural, rural residential, or riparian and riverine
21 settings to areas involving heavy construction equipment, temporary construction structures, work
22 crews, other support vehicles and other activities that would modify and disrupt short- and long-
23 range views. These activities would be disruptive to some viewers. Once construction is complete,
24 the alternative would result in the placement of large, multi-story industrial concrete and steel
25 structures, pumping plants, fencing, and other similar anthropogenic features where none presently
26 exist. Because of the landscape sensitivity and visual dominance of these features, these changes
27 would result in reduced scenic quality throughout the study area (see 17.3.1.3, *Analysis of the*
28 *Alternatives' Impact on Visual Resources*). Thus, Alternative 5 would result in significant impacts on
29 the existing visual quality and character in the study area.

30 Mitigation Measures AES-1a through AES-1g would partially reduce impacts by locating new
31 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
32 needed where feasible, installing visual barriers between construction work areas and sensitive
33 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
34 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
35 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
36 visual resources and receptors and restoring the sites upon removal of facilities, and using best
37 management practices to implement a project landscaping plan. However, impacts may not be
38 reduced to a less-than-significant level because even though mitigation measures would reduce
39 some aspects of the impact on visual quality and character, it is not certain the mitigation would
40 reduce the level of the impact to less than significant in all instances. In addition, the size of the
41 study area and the nature of changes introduced by the alternative would result in permanent
42 changes to the regional landscape such that there would be noticeable to very noticeable changes
43 that do not blend or are not in keeping with the existing visual environment. Thus, Alternative 5
44 would result in significant and unavoidable impacts on the existing visual quality and character in
45 the study area.

1 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 2 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 3 **Transmission Lines and Underground Transmission Lines Where Feasible**

4 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 5 Alternative 1A.

6 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 7 **Sensitive Receptors**

8 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 9 Alternative 1A.

10 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 11 **Material Area Management Plan**

12 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 13 Alternative 1A.

14 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

15 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 16 Alternative 1A.

17 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 18 **Extent Feasible**

19 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 20 Alternative 1A.

21 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 22 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

23 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 24 Alternative 1A.

25 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 26 **Landscaping Plan**

27 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 28 Alternative 1A.

29 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

30 **NEPA Effects:** Scenic vistas are mapped and included in Appendix Figure 17D-1. Effects related to
 31 scenic vistas under this alternative would be similar to those described for Alternative 1A Impact
 32 AES-2. During construction the introduction of construction equipment and removal of vegetation
 33 would alter the scenic elements that contribute to the viewing experience from scenic vistas. The
 34 intake would introduce visually dominant and discordant features in the foreground and
 35 middleground views in vistas that would be very noticeable to all viewer groups in areas of high
 36 landscape sensitivity levels. However, the severity of these effects related to the north Delta intakes
 37 along the Sacramento River would be decreased because there would only be one intake structure

1 instead of five. As described for Alternative 1A, the effects of permanent access roads effects on
 2 scenic vistas would not be adverse. The effects of shaft site access hatches on scenic vistas could be
 3 adverse. The large scale of intakes, the visual presence of large-scale borrow/spoil and RTM area
 4 landscape effects, and transmission lines may result in adverse effects on scenic vistas (see
 5 discussions under 17.3.1.2 and 17.3.1.3). Overall, effects on scenic vistas associated with Alternative
 6 5, although reduced in scale for the north Delta intakes relative to Alternative 1A, may be adverse.
 7 Mitigation Measures AES-1a, AES-1c, and AES-1e are available to address these effects.

8 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 9 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
 10 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
 11 and transmission lines would result in significant impacts on scenic vistas because construction and
 12 operation would result in a reduction in the visual quality in some locations and introduce dominant
 13 visual elements that would result in noticeable changes in the visual character of scenic vista
 14 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
 15 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
 16 from public viewing areas.

17 Mitigation Measure AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 18 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 19 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 20 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 21 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 22 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 23 hatches to less than significant. However, the impacts on scenic vistas associated with other
 24 structures would not be reduced to a less-than-significant level because even though mitigation
 25 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 26 level of the impact to less than significant in all instances. In addition, the size of the study area and
 27 the nature of changes introduced by the alternative would result in permanent changes to the
 28 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 29 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 30 with Alternative 5 would be significant and unavoidable.

31 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 32 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 33 **Transmission Lines and Underground Transmission Lines Where Feasible**

34 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 35 Alternative 1A.

36 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 37 **Material Area Management Plan**

38 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 39 Alternative 1A.

1 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 2 **Extent Feasible**

3 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 6 **Construction of Conveyance Facilities**

7 **NEPA Effects:** Effects on state scenic highways under this alternative would be similar to those
 8 described for Alternative 1A, Impact AES-3. Intake 1, the spoils/borrow and RTM area south of
 9 Intake 1, and the intermediate forebay would be immediately and prominently visible in the
 10 foreground from SR 160 and would result in an overall noticeable effect on viewers relative to their
 11 current experience and enjoyment of the study area's scenic resources along SR 160 and River Road,
 12 where the landscape sensitivity level is high. However, the severity of these effects related to the
 13 north Delta intakes along the Sacramento River would be decreased because there would only be
 14 one intake structure instead of five. Nevertheless, as described for Alternative 1A, these visual
 15 elements introduced by the intake, spoil/borrow and RTM areas south of Intake 1, and intermediate
 16 forebay would conflict with the existing forms, patterns, colors, and textures along River Road and
 17 SR 160; would dominate the riverfront available from SR 160; and would alter broad views and the
 18 general nature of the visual experience presently available from River Road and SR 160 and may
 19 result in adverse effects. These changes would reduce the visual quality near the intake structure
 20 location and result in noticeable changes in the visual character of scenic vista viewsheds in the
 21 study area. These changes would not blend, would not be in keeping or would be incompatible with
 22 the existing visual environment, and could be viewed by sensitive receptors or from public viewing
 23 areas. This effect would be adverse (see discussion under 17.3.1.2 and 17.3.1.3). Mitigation
 24 Measures AES-1a, AES-1c, and AES-1e are available to address these effects.

25 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 26 would have less-than-significant impacts on scenic vistas. The presence of the intake structure and
 27 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
 28 and transmission lines would result in significant impacts on scenic vistas because construction and
 29 operation would result in a reduction in the visual quality in some locations and introduce dominant
 30 visual elements that would result in noticeable changes in the visual character of scenic vista
 31 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
 32 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
 33 from public viewing areas.

34 Mitigation Measures AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 35 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 36 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 37 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 38 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 39 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 40 hatches to less than significant. However, the impacts on scenic vistas associated with other
 41 structures would not be reduced to a less-than-significant level because even though mitigation
 42 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 43 level of the impact to less than significant in all instances. In addition, the size of the study area and
 44 the nature of changes introduced by the alternative would result in permanent changes to the

1 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 2 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 3 with Alternative 5 would be significant and unavoidable.

4 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 5 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 6 **Transmission Lines and Underground Transmission Lines Where Feasible**

7 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 8 Alternative 1A.

9 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 10 **Material Area Management Plan**

11 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 12 Alternative 1A.

13 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 14 **Extent Feasible**

15 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 16 Alternative 1A.

17 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 18 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

19 **NEPA Effects:** Effects resulting from light and glare under this alternative would be similar to those
 20 described for Alternative 1A, Impact AES-4. Intake 1 and associated pumping plant, surge tower, and
 21 facilities and the pumping plant at the intermediate forebay would create very noticeable effects
 22 relating to light and glare (Figures 17-76 through 17-78). Light building colors over a large surface
 23 area would reflect off of those surfaces and increase glare, especially when combined with the
 24 removal of vegetation that absorbs light, provides shade, and screens glare. Sunlight would reflect
 25 off the new water surfaces of the forebay, creating new sources of glare where none presently exist.
 26 However, the severity of these effects related to the north Delta intakes on the Sacramento River
 27 would be decreased because there would only be one intake structure instead of five. Nighttime
 28 construction could also result in headlights flashing into nearby residents' homes when construction
 29 vehicles are turning onto or off of construction access routes. Proposed surge towers would require
 30 the use of safety lights that would alert low-flying aircraft to the presence of these structures
 31 because of their height. Overall, because the study area currently experiences low levels of light and
 32 because there are a larger number of viewers in and around the waterways, intake structure, and
 33 forebay that would be affected by these noticeable changes that contrast with the existing rural
 34 character, effects associated with new sources of daytime and nighttime light and glare are
 35 considered adverse. Mitigation Measures AES-4a through AES-4c are available to address these
 36 effects.

37 **CEQA Conclusion:** The impacts associated with light and glare under Alternative 5 are significant
 38 because there are a larger number of viewers in and around the waterways, intake structures, and
 39 intermediate forebay; BDCP facilities would increase the amount of nighttime lighting in the Delta
 40 above existing ambient light levels; and the study area currently experiences low levels of light
 41 because there are fewer light/glare producers than are typical in urban areas. Mitigation Measures

1 AES-4a through AES-4c would help reduce these impacts by limiting construction to daylight hours
 2 within 0.25 mile of residents, minimizing fugitive light from portable sources used for construction,
 3 and installing visual barriers along access routes, where necessary, to prevent light spill from truck
 4 headlights toward residences; however, these mitigation measures would not reduce impacts to a
 5 less-than-significant level because even though mitigation measures would reduce some aspects of
 6 the impact, it is not certain the mitigation would reduce the level of the impact to less than
 7 significant in all instances. In addition, the size of the study area and the nature of changes
 8 introduced by the new light and glare sources would result in permanent changes to the regional
 9 landscape such that there would be noticeable changes to the visual character that do not blend or
 10 are not in keeping with the existing visual environment. Thus, the new sources of daytime and
 11 nighttime light and glare associated with Alternative 5 would result in significant and unavoidable
 12 impacts on public views in the project vicinity.

13 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 14 **Residents**

15 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 16 Alternative 1A.

17 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 18 **Construction**

19 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 20 Alternative 1A.

21 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 22 **to Prevent Light Spill from Truck Headlights toward Residences**

23 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 24 Alternative 1A.

25 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

26 **NEPA Effects:** Effects on the visual environment through operations and maintenance of the water
 27 conveyance facilities (CM1) under this alternative would be similar to those described for
 28 Alternative 1A, Impact AES-5. Once the facility is in operation, visible regular and periodic
 29 maintenance would be required on all major structures. Activities such as painting, cleaning,
 30 vegetation maintenance (removal), repairs, and inspections would be visible from viewpoints on
 31 water and land. The greatest visual effects resulting from operations would be maintenance of the
 32 intake and dredging the forebays. However, under Alternative 5, the severity of these effects in the
 33 vicinity of the north Delta intakes and Byron Tract Forebay relative to Alternative 1A would be
 34 decreased because there would only be one intake structure instead of five and the Byron Tract
 35 Forebay would be reduced from 600 to 200 acres. Because temporary maintenance activities are
 36 anticipated to occur within a short period of time, these effects would not be adverse because the
 37 activities would not result in further substantial changes to the existing natural viewshed or terrain,
 38 alter existing visual quality of the region or eliminate visual resources, or obstruct or permanently
 39 reduce visually important features.

40 **CEQA Conclusion:** Maintenance of the conveyance facilities (i.e., intake, tunnels, forebays and
 41 transmission lines) would be required periodically and would involve painting, cleaning, and repair

1 of structures; dredging at forebays (at approximately 50-year intervals); vegetation removal and
 2 care along embankments; tunnel inspection; and vegetation removal within transmission line ROWs.
 3 These visible maintenance activities would be temporary, intermittent, and short-term impacts and
 4 would be considered less than significant. Maintenance and operation of Alternative 5 once
 5 constructed, would not result in further substantial changes to the existing natural viewshed or
 6 terrain, alter existing visual quality of the region or eliminate visual resources, or obstruct or
 7 permanently reduce visually important features. Thus, overall, Alternative 5 would have a less-than-
 8 significant impact on existing visual quality and character during maintenance and operation of the
 9 facilities in the study area. No mitigation is required.

10 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during**
 11 **Implementation of CM2–CM22**

12 **NEPA Effects:** Under Alternative 5, these conservation measures would be identical to those under
 13 Alternative 1A. Therefore, visual effects related to the existing visual character, scenic vistas, scenic
 14 highways, and light and glare resulting from implementation of CM2–CM22 would be the same as
 15 those described under Alternative 1A, Impact AES-6. There may be site-specific, localized adverse
 16 visual effects. These conservation measures would alter the Delta landscape by incrementally, and
 17 substantially, introducing elements into the study area over time. CM2–CM22, when combined with
 18 CM1, could substantially alter the visual character of the study area, which is strongly identified by
 19 its agricultural and water-based Delta landscapes and communities. These landscapes and
 20 communities could be adversely affected by the introduction of discordant visual features, removal
 21 of existing buildings and landscape elements of value, and through the potential for indirect impacts
 22 associated with other development potentially setting a precedent for other development to occur.
 23 All of these effects would alter the visual character of the existing regional landscape.

24 Because of the unknown location of site-specific restoration activities, potential presence of
 25 sensitive viewers, potential for construction periods to last longer than 2 years, and varying
 26 intensity of construction, effects associated with implementation of CM2–CM22 are considered
 27 adverse. However, the visual characteristics of restored/enhanced landscapes would be similar to
 28 other areas of the Delta that are in a natural marsh or wetland state and more limited in extent than
 29 the widespread areas of agricultural development. In this sense, the BDCP would have an overall
 30 beneficial effect related to the enhancement and creation of scenic vistas in the Delta.

31 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a through AES-4c are
 32 available to address effects from habitat restoration and enhancement actions under CM2–CM22. In
 33 addition, Mitigation Measures AES-6a and AES-6b are available to help reduce adverse visual effects.
 34 Upon development of site-specific design information and plans, additional mitigation measures
 35 may be identified to address action-specific adverse effects. However, each individual project under
 36 CM2–CM22 would undergo the environmental compliance process that would be used to determine
 37 what additional mitigation measures, would be deemed appropriate to reduce adverse effects and to
 38 assess compliance with relevant regulations. Finally, Mitigation Measure AES-6c is available to help
 39 inventory, classify, and protect the unique visual landscape of the Delta.

40 **CEQA Conclusion:** Implementation of conservation measures under Alternative 5 has the potential
 41 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
 42 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
 43 and character would be significant where use of large numbers of heavy construction equipment,
 44 changes in topography, and introduction of new structures or facilities where none presently exist

1 would take place in the vicinity of sensitive receptors. However, because a number of factors that
2 would determine the level of change are unknown—the location of site-specific restoration
3 activities, potential presence of sensitive viewers, potential for construction periods to last longer
4 than 2 years, and varying intensity of construction—impacts associated with implementation of
5 CM2–CM22 on visual quality and character, scenic vistas, and light and glare sources, are considered
6 significant. Because of the distance of implemented conservation measures from scenic highways,
7 changes associated with these activities would not affect the visual quality along these scenic
8 highway corridors and this impact would be less than significant. Site-specific restoration
9 information and plans need to be developed before the site-specific effects on the existing visual
10 character, scenic vistas, and light and glare can be determined.

11 Several mitigation measures are available to minimize the impacts on visual quality and character in
12 the study area that could result from implementation of these conservation measures. As
13 summarized below, these measures could be applied to individual restoration projects or actions as
14 appropriate for the site-specific conditions and design considerations. In addition, each restoration
15 project or action would undergo an environmental compliance process that would be used to
16 determine what additional mitigation measures would be deemed appropriate to reduce significant
17 effects. Mitigation Measures AES-1a through AES-1g could be applied to minimize impacts by
18 locating new transmission lines and access routes to minimize the removal of trees and shrubs and
19 pruning needed where feasible, installing visual barriers between construction work areas and
20 sensitive receptors, developing and implementing a spoil/borrow and RTM area management plan,
21 restoring barge unloading facility sites once decommissioned, applying aesthetic design treatments
22 to all structures to the extent feasible, locating concrete batch plants and fuel stations away from
23 sensitive visual resources and receptors and restoring the sites upon removal of facilities, and using
24 best management practices to implement a project landscaping plan. Mitigation Measures AES-4a
25 through AES-4c could be used to reduce the effects of new light and glare sources by limiting
26 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
27 sources used for construction, and installing visual barriers along access routes, where necessary, to
28 prevent light spill from truck headlights toward residences. In addition, Mitigation Measures AES-6a
29 and AES-6b would further minimize impacts on visual resources by undergrounding new or
30 relocated utility lines, where feasible, and through an evaluation of an afterhours low-intensity and
31 lights off policy. Finally, implementation of Mitigation Measure AES-6c would provide a strategy for
32 the protection of the unique visual landscape of the Delta.

33 While some of the conservation measures could result in beneficial impacts through the restoration
34 of natural habitat and these mitigation measures would reduce the severity of impacts, it is
35 unknown whether they would be reduced to a less-than-significant level because of uncertainties
36 associated with future implementation of CM2–CM22. In addition, the size of the study area and the
37 nature of changes introduced by these conservation measures would result in permanent changes to
38 the regional landscape such that there would be noticeable changes to the visual character that may
39 or may not blend or be in keeping with the existing visual environment. Thus, implementation of
40 CM2–CM22 would result in significant and unavoidable impacts on the existing visual quality and
41 character in the study area.

1 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
2 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
3 **Transmission Lines and Underground Transmission Lines Where Feasible**

4 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
5 Alternative 1A.

6 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
7 **Sensitive Receptors**

8 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
9 Alternative 1A.

10 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
11 **Material Area Management Plan**

12 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
13 Alternative 1A.

14 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

15 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
16 Alternative 1A.

17 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
18 **Extent Feasible**

19 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
20 Alternative 1A.

21 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
22 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

23 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
24 Alternative 1A.

25 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
26 **Landscaping Plan**

27 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
28 Alternative 1A.

29 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
30 **Residents**

31 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
32 Alternative 1A.

1 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 2 **Construction**

3 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 6 **to Prevent Light Spill from Truck Headlights toward Residences**

7 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 8 Alternative 1A.

9 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

10 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
 11 Alternative 1A.

12 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
 13 **Lights Off Policy**

14 Please refer to Mitigation Measure AES-6b under Impact AES-6 in the discussion of
 15 Alternative 1A.

16 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
 17 **Plan for the Delta and Study Area**

18 Please refer to Mitigation Measure AES-6c under Impact AES-6 in the discussion of
 19 Alternative 1A.

20 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
 21 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
 22 **Addressing Aesthetics and Visual Resources**

23 **NEPA Effects:** Constructing conveyance facilities (CM1) and implementing CM2–CM22 under
 24 Alternative 5 would generally have the same potential for incompatibilities with one or more plans
 25 and policies related to preserving the visual quality and character of the Delta as described for
 26 Alternative 1A, Impact AES-7. The primary differences under Alternative 5 are that only Intake 1
 27 would be constructed and the Byron Tract Forebay would be 200 acres instead of 600 acres. As
 28 described under Alternative 1A, there would be potential for the alternative to be incompatible with
 29 plans and policies related to preserving the visual quality and character of the Delta (i.e., The
 30 Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992, Delta Protection Commission Land
 31 Use and Resource Management Plan for the Primary Zone of the Delta, Delta Plan, Brannan Island
 32 and Franks Tract State Recreation Areas General Plan). In addition, with the exception of Solano
 33 County, the alternative may be incompatible with county general plan policies that protect visual
 34 resources in the study area.

35 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
 36 physical consequence to the environment. The physical effects they suggest are discussed in impacts
 37 AES-1 through AES-6, above, and no additional CEQA conclusion is required related to the
 38 compatibility of Alternative 5 with relevant plans and policies.

17.3.3.11 Alternative 6A—Isolated Conveyance with Pipeline/Tunnel and Intakes 1–5 (15,000 cfs; Operational Scenario D)

Table 17D-1 in Appendix 17D, *Permanent Impacts after Construction is Complete*, describes existing visual characteristics and the BDCP-related permanent effects of Alternative 1A on visual quality and character, scenic vistas, scenic roadways, and from light and glare sources after construction is complete and identifies the overall effect on viewers. Appendix E, *Permanent Features*, identifies the viewer groups and viewing locations that would be affected by permanent alternative features. Effects would be similar for this alternative. Under Alternative 6A, the conveyance alignment from the intakes to the Byron Tract Forebay, along with the associated shaft site, access road, transmission line, pumping plants, barge unloading facility sites, and spoil/borrow and RTM areas would be identical to Alternative 1A. This alternative would not make use of the existing SWP and CVP south Delta export facilities for Clifton Court Forebay and Jones pumping plant; however, this change would not result in different effects on visual resources.

Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during Construction of Conveyance Facilities

NEPA Effects: Effects related to visual resources under this alternative would be the same as those described for Alternative 1A. The primary features that would affect the existing visual quality and character under Alternative 6A, once the facility has been constructed, would be the intakes, the intermediate forebay and Byron Tract Forebay, transmission lines, and resulting landscape effects left behind from spoil/borrow and RTM areas, and concrete batch plants and fuel stations. These changes would be most evident in the northern portion of the study area, which would undergo extensive changes from the permanent establishment of large industrial facilities and the supporting infrastructure along and surrounding the segment of the Sacramento River where the intakes would be situated.

Overall, construction would take 9 years, and the intensity of the activities in contrast to the current rural/agricultural nature of the area would be substantial. Construction of intakes, and the accompanying pumping plants, surge towers, borrow/spoil areas, and RTM areas would introduce visually dominant and discordant features in the foreground and middleground views, and these elements would be very noticeable to all viewer groups.

After construction, areas surrounding the intakes, spoil/borrow areas, RTM areas, shaft sites, and locations where concrete batch plants and fuel stations were located may be denuded of vegetation for a short period of time until the landscaping plans designed under WREM No. 30a are implemented. Once installed, the landscape would still appear to be denuded of vegetation or to have little vegetative cover because immature landscaping would be similar in appearance to tilled or newly planted agricultural fields. The sites would be in a transitional state, and over a period of a few years, plant species would mature and vegetation would recolonize the sites. These changes would happen in an area known for its open space, agricultural landscapes, and rural characteristics and would segment the visual landscape of the study area, reduce the amount of open space lands available to viewers, and eliminate valued visual resources. The effects of permanent access roads on visual resources would not be adverse. The effects of shaft site access hatches on the existing scenic character may be adverse. Operation of the intakes, the visual presence of large-scale borrow/spoil and RTM area landscape effects, and transmission lines would result in adverse effects on the existing visual character. In addition, construction of all of these features has the potential to negatively affect wildlife viewing and the overall enjoyment of scenic views in the study area.

1 Therefore, because of the long-term nature of construction combined with the proximity to sensitive
2 receptors, razing of residences and agricultural buildings, removal of vegetation, and changes to
3 topography through grading, this overall effect of conveyance facility construction on existing visual
4 quality and character is considered adverse. Mitigation Measures AES-1a through AES-1g are
5 available to address visual effects resulting from construction of Alternative 6A water conveyance
6 facilities.

7 **CEQA Conclusion:** Construction of Alternative 6A would substantially alter the existing visual
8 quality and character present in the study area. The long-term nature of construction of the intakes,
9 pipeline/tunnel, work areas, spoil/borrow and RTM areas, shaft sites, barge unloading facilities;
10 presence and visibility of heavy construction equipment; proximity to sensitive receptors; relocation
11 of residences and agricultural buildings; removal of riparian vegetation and other mature vegetation
12 or landscape plantings; earthmoving and grading that result in changes to topography in areas that
13 are predominantly flat; addition of large-scale industrial structures (intakes and related facilities);
14 remaining presence of large-scale borrow/spoil and RTM area landscape effects; and introduction of
15 tall, steel transmission lines would all contribute to this impact.

16 Overall, construction would last up to 9 years and would change the existing visual character in the
17 vicinity of project elements from those of agricultural, rural residential, or riparian and riverine
18 settings to areas involving heavy construction equipment, temporary construction structures, work
19 crews, other support vehicles and other activities that would modify and disrupt short- and long-
20 range views. These activities would be disruptive to some viewers. Once construction is complete,
21 the alternative would result in the placement of large, multi-story industrial concrete and steel
22 structures, pumping plants, fencing, and other similar anthropogenic features where none presently
23 exist. Because of the landscape sensitivity and visual dominance of these features, these changes
24 would result in reduced scenic quality throughout the study area (see 17.3.1.3, *Analysis of the*
25 *Alternatives' Impact on Visual Resources*). Thus, Alternative 6A would result in significant impacts on
26 the existing visual quality and character in the study area.

27 Mitigation Measures AES-1a through AES-1g would partially reduce impacts by locating new
28 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
29 needed where feasible, installing visual barriers between construction work areas and sensitive
30 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
31 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
32 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
33 visual resources and receptors and restoring the sites upon removal of facilities, and using best
34 management practices to implement a project landscaping plan. However, impacts may not be
35 reduced to a less-than-significant level because even though mitigation measures would reduce
36 some aspects of the impact on visual quality and character, it is not certain the mitigation would
37 reduce the level of the impact to less than significant in all instances. In addition, the size of the
38 study area and the nature of changes introduced by the alternative would result in permanent
39 changes to the regional landscape such that there would be noticeable to very noticeable changes
40 that do not blend or are not in keeping with the existing visual environment. Thus, Alternative 6A
41 would result in significant and unavoidable impacts on the existing visual quality and character in
42 the study area.

1 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 2 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 3 **Transmission Lines and Underground Transmission Lines Where Feasible**

4 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 5 Alternative 1A.

6 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 7 **Sensitive Receptors**

8 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 9 Alternative 1A.

10 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 11 **Material Area Management Plan**

12 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 13 Alternative 1A.

14 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

15 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 16 Alternative 1A.

17 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 18 **Extent Feasible**

19 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 20 Alternative 1A.

21 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 22 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

23 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 24 Alternative 1A.

25 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 26 **Landscaping Plan**

27 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 28 Alternative 1A.

29 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

30 **NEPA Effects:** Scenic vistas are mapped and included in Appendix Figure 17D-1. Effects on scenic
 31 vistas under this alternative would be similar to those under Alternative 1A, Impact AES-2. During
 32 construction the introduction of construction equipment and removal of vegetation would alter the
 33 scenic elements that contribute to the viewing experience from scenic vistas. The intakes would
 34 introduce visually dominant and discordant features in the foreground and middleground views in
 35 vistas that would be very noticeable to all viewer groups in areas of low to high landscape sensitivity
 36 levels. The large scale of intakes, the visual presence of large-scale borrow/spoil and RTM area
 37 landscape effects, and transmission lines may result in adverse effects on scenic vistas (see

1 discussions under 17.3.1.2 and 17.3.1.3). Mitigation Measures AES-1a, AES-1c, and AES-1e are
2 available to address these effects.

3 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
4 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
5 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
6 and transmission lines would result in significant impacts on scenic vistas because construction and
7 operation would result in a reduction in the visual quality in some locations and introduce dominant
8 visual elements that would result in noticeable changes in the visual character of scenic vista
9 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
10 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
11 from public viewing areas.

12 Mitigation Measure AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
13 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
14 needed where feasible, developing and implementing a spoil/borrow and RTM area management
15 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
16 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
17 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
18 hatches to less than significant. However, the impacts on scenic vistas associated with other
19 structures would not be reduced to a less-than-significant level because even though mitigation
20 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
21 level of the impact to less than significant in all instances. In addition, the size of the study area and
22 the nature of changes introduced by the alternative would result in permanent changes to the
23 regional landscape such that there would be noticeable to very noticeable changes that do not blend
24 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
25 with Alternative 6A would be significant and unavoidable.

26 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
27 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
28 **Transmission Lines and Underground Transmission Lines Where Feasible**

29 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
30 Alternative 1A.

31 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
32 **Material Area Management Plan**

33 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
34 Alternative 1A.

35 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
36 **Extent Feasible**

37 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
38 Alternative 1A.

1 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
2 **Construction of Conveyance Facilities**

3 **NEPA Effects:** Effects on state scenic highways under this alternative would be similar to those
4 described for Alternative 1A, Impact AES-3. Intakes 1–5, the spoils/borrow and RTM area north of
5 Intake 2, and the intermediate forebay would be immediately and prominently visible in the
6 foreground from SR 160 and would result in an overall noticeable effect on viewers relative to their
7 current experience and enjoyment of the study area’s scenic resources along SR 160 and River Road,
8 where the landscape sensitivity level is high. As described for Alternative 1A, visual elements
9 associated with the conveyance facilities would conflict with the existing forms, patterns, colors, and
10 textures along River Road and SR 160; would dominate riverfront available from SR 160; and would
11 alter broad views and general nature of the visual experience presently available from River Road
12 and SR 160. These changes would reduce the visual quality near intake structure locations and
13 result in noticeable changes in the visual character of scenic vista viewsheds in the study area. These
14 changes would not blend, would not be in keeping or would be incompatible with the existing visual
15 environment, and could be viewed by sensitive receptors or from public viewing areas. This effect
16 would be adverse (see discussion under 17.3.1.2 and 17.3.1.3). Mitigation Measures AES-1a, AES-1c,
17 and AES-1e are available to address these effects.

18 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
19 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
20 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
21 and transmission lines would result in significant impacts on scenic vistas because construction and
22 operation would result in a reduction in the visual quality in some locations and introduce dominant
23 visual elements that would result in noticeable changes in the visual character of scenic vista
24 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
25 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
26 from public viewing areas.

27 Mitigation Measures AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
28 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
29 needed where feasible, developing and implementing a spoil/borrow and RTM area management
30 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
31 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
32 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
33 hatches to less than significant. However, the impacts on scenic vistas associated with other
34 structures would not be reduced to a less-than-significant level because even though mitigation
35 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
36 level of the impact to less than significant in all instances. In addition, the size of the study area and
37 the nature of changes introduced by the alternative would result in permanent changes to the
38 regional landscape such that there would be noticeable to very noticeable changes that do not blend
39 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
40 with Alternative 6A would be significant and unavoidable.

1 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 2 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 3 **Transmission Lines and Underground Transmission Lines Where Feasible**

4 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 5 Alternative 1A.

6 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 7 **Material Area Management Plan**

8 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 9 Alternative 1A.

10 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 11 **Extent Feasible**

12 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 13 Alternative 1A.

14 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 15 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

16 **NEPA Effects:** Effects resulting from light and glare under this alternative would be similar to those
 17 described for Alternative 1A, Impact AES-4. Intakes 1–5 and their associated pumping plants, surge
 18 towers, and facilities and the pumping plant at the intermediate forebay would create very
 19 noticeable effects relating to light and glare (Figures 17-76 through 17-78). Light building colors
 20 over a large surface area would reflect off of those surfaces and increase glare, especially when
 21 combined with the removal of vegetation that absorbs light, provides shade, and screens glare.
 22 Sunlight would reflect off the new water surfaces of the forebay, creating new sources of glare
 23 where none presently exist. Nighttime construction could also result in headlights flashing into
 24 nearby residents' homes when construction vehicles are turning onto or off of construction access
 25 routes. Proposed surge towers would require the use of safety lights that would alert low-flying
 26 aircraft to the presence of these structures because of their height. Overall, because the study area
 27 currently experiences low levels of light and because there are a larger number of viewers in and
 28 around the waterways, intake structures, and forebay that would be affected by these noticeable
 29 changes that contrast with the existing rural character, effects associated with new sources of
 30 daytime and nighttime light and glare are considered adverse. Mitigation Measures AES-4a through
 31 AES-4c are available to address these effects.

32 **CEQA Conclusion:** The impacts associated with light and glare under Alternative 6A are significant
 33 because there are a larger number of viewers in and around the waterways, intake structures, and
 34 intermediate forebay; BDCP facilities would increase the amount of nighttime lighting in the Delta
 35 above existing ambient light levels; and the study area currently experiences low levels of light
 36 because there are fewer light/glare producers than are typical in urban areas. Mitigation Measures
 37 AES-4a through AES-4c would help reduce these impacts by limiting construction to daylight hours
 38 within 0.25 mile of residents, minimizing fugitive light from portable sources used for construction,
 39 and installing visual barriers along access routes, where necessary, to prevent light spill from truck
 40 headlights toward residences; however, these mitigation measures would not reduce impacts to a
 41 less-than-significant level because even though mitigation measures would reduce some aspects of
 42 the impact, it is not certain the mitigation would reduce the level of the impact to less than

1 significant in all instances. In addition, the size of the study area and the nature of changes
 2 introduced by the new light and glare sources would result in permanent changes to the regional
 3 landscape such that there would be noticeable changes to the visual character that do not blend or
 4 are not in keeping with the existing visual environment. Thus, the new sources of daytime and
 5 nighttime light and glare associated with Alternative 6A would result in significant and unavoidable
 6 impacts on public views in the project vicinity.

7 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 8 **Residents**

9 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 10 Alternative 1A.

11 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 12 **Construction**

13 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 14 Alternative 1A.

15 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 16 **to Prevent Light Spill from Truck Headlights toward Residences**

17 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 18 Alternative 1A.

19 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

20 **NEPA Effects:** Effects on the visual environment through operations and maintenance of the water
 21 conveyance facilities under this alternative would be similar to those described for Alternative 1A,
 22 Impact AES-5. Once the facility is in operation, visible regular and periodic maintenance would be
 23 required on all major structures, including the operable barrier at the head of Old River. Activities
 24 such as painting, cleaning, vegetation maintenance (removal), repairs, and inspections would be
 25 visible from viewpoints on water and land.

26 The greatest visual effects resulting from operations would be maintenance of the intakes and
 27 dredging the forebays. The operable barrier would also require periodic dredging. However, these
 28 temporary maintenance activities are anticipated to occur within a short period of time, and effects
 29 would not be adverse because the activities would not result in further substantial changes to the
 30 existing natural viewshed or terrain, alter existing visual quality of the region or eliminate visual
 31 resources, or obstruct or permanently reduce visually important features.

32 **CEQA Conclusion:** Maintenance of the conveyance facilities (i.e., intakes, tunnels, forebays and
 33 transmission lines) would be required periodically and would involve painting, cleaning, and repair
 34 of structures; dredging at forebays (at approximately 50-year intervals); vegetation removal and
 35 care along embankments; tunnel inspection; and vegetation removal within transmission line ROWs.
 36 These visible maintenance activities would be temporary, intermittent, and short-term impacts and
 37 would be considered less than significant. Maintenance and operation of Alternative 6A once
 38 constructed, would not result in further substantial changes to the existing natural viewshed or
 39 terrain, alter existing visual quality of the region or eliminate visual resources, or obstruct or
 40 permanently reduce visually important features. Thus, overall, Alternative 6A would have a less-

1 than-significant impact on existing visual quality and character during maintenance and operation
2 of the facilities in the study area. No mitigation is required.

3 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during**
4 **Implementation of CM2–CM22**

5 **NEPA Effects:** Under Alternative 6A, these conservation measures would be identical to those under
6 Alternative 1A. Therefore, visual effects related to the existing visual character, scenic vistas, scenic
7 highways, and light and glare resulting from implementation of CM2–CM22 would be the same as
8 those described under Alternative 1A, Impact AES-6. There may be site-specific, localized adverse
9 visual effects. These conservation measures would alter the Delta landscape by incrementally, and
10 substantially, introducing elements into the study area over time. CM2–CM22, when combined with
11 CM1, could substantially alter the visual character of the study area, which is strongly identified by
12 its agricultural and water-based Delta landscapes and communities. These landscapes and
13 communities could be adversely affected by the introduction of discordant visual features, removal
14 of existing buildings and landscape elements of value, and through the potential for indirect impacts
15 associated with other development potentially setting a precedent for other development to occur.
16 All of these effects would alter the visual character of the existing regional landscape.

17 Because of the unknown location of site-specific restoration activities, potential presence of
18 sensitive viewers, potential for construction periods to last longer than 2 years, and varying
19 intensity of construction, effects associated with implementation of CM2–CM22 are considered
20 adverse. However, the visual characteristics of restored/enhanced landscapes would be similar to
21 other areas of the Delta that are in a natural marsh or wetland state and more limited in extent than
22 the widespread areas of agricultural development. In this sense, the BDCP would have an overall
23 beneficial effect related to the enhancement and creation of scenic vistas in the Delta.

24 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a through AES-4c are
25 available to address effects from habitat restoration and enhancement actions under CM2–CM22. In
26 addition, Mitigation Measures AES-6a and AES-6b are available to help reduce adverse visual effects.
27 Upon development of site-specific design information and plans, additional mitigation measures
28 may be identified to address action-specific adverse effects. However, each individual project under
29 CM2–CM22 would undergo the environmental compliance process that would be used to determine
30 what additional mitigation measures, would be deemed appropriate to reduce adverse effects and to
31 assess compliance with relevant regulations. Finally, Mitigation Measure AES-6c is available to help
32 inventory, classify, and protect the unique visual landscape of the Delta.

33 **CEQA Conclusion:** Implementation of conservation measures under Alternative 6A has the potential
34 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
35 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
36 and character would be significant where use of large numbers of heavy construction equipment,
37 changes in topography, and introduction of new structures or facilities where none presently exist
38 would take place in the vicinity of sensitive receptors. However, because a number of factors that
39 would determine the level of change are unknown—the location of site-specific restoration
40 activities, potential presence of sensitive viewers, potential for construction periods to last longer
41 than 2 years, and varying intensity of construction—impacts associated with implementation of
42 CM2–CM22 on visual quality and character, scenic vistas, and light and glare sources, are considered
43 significant. Because of the distance of implemented conservation measures from scenic highways,
44 changes associated with these activities would not affect the visual quality along these scenic

1 highway corridors and this impact would be less than significant. Site-specific restoration
 2 information and plans need to be developed before the site-specific effects on the existing visual
 3 character, scenic vistas, and light and glare can be determined.

4 Several mitigation measures are available to minimize the impacts on visual quality and character in
 5 the study area that could result from implementation of these conservation measures. As
 6 summarized below, these measures could be applied to individual restoration projects or actions as
 7 appropriate for the site-specific conditions and design considerations. In addition, each restoration
 8 project or action would undergo an environmental compliance process that would be used to
 9 determine what additional mitigation measures would be deemed appropriate to reduce significant
 10 effects. Mitigation Measures AES-1a through AES-1g could be applied to minimize impacts by
 11 locating new transmission lines and access routes to minimize the removal of trees and shrubs and
 12 pruning needed where feasible, installing visual barriers between construction work areas and
 13 sensitive receptors, developing and implementing a spoil/borrow and RTM area management plan,
 14 restoring barge unloading facility sites once decommissioned, applying aesthetic design treatments
 15 to all structures to the extent feasible, locating concrete batch plants and fuel stations away from
 16 sensitive visual resources and receptors and restoring the sites upon removal of facilities, and using
 17 best management practices to implement a project landscaping plan. Mitigation Measures AES-4a
 18 through AES-4c could be used to reduce the effects of new light and glare sources by limiting
 19 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
 20 sources used for construction, and installing visual barriers along access routes, where necessary, to
 21 prevent light spill from truck headlights toward residences. In addition, Mitigation Measures AES-6a
 22 and AES-6b would further minimize impacts on visual resources by undergrounding new or
 23 relocated utility lines, where feasible, and through an evaluation of an afterhours low-intensity and
 24 lights off policy. Finally, implementation of Mitigation Measure AES-6c would provide a strategy for
 25 the protection of the unique visual landscape of the Delta.

26 While some of the conservation measures could result in beneficial impacts through the restoration
 27 of natural habitat and these mitigation measures would reduce the severity of impacts, it is
 28 unknown whether they would be reduced to a less-than-significant level because of uncertainties
 29 associated with future implementation of CM2–CM22. In addition, the size of the study area and the
 30 nature of changes introduced by these conservation measures would result in permanent changes to
 31 the regional landscape such that there would be noticeable changes to the visual character that may
 32 or may not blend or be in keeping with the existing visual environment. Thus, implementation of
 33 CM2–CM22 would result in significant and unavoidable impacts on the existing visual quality and
 34 character in the study area.

35 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 36 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 37 **Transmission Lines and Underground Transmission Lines Where Feasible**

38 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 39 Alternative 1A.

40 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 41 **Sensitive Receptors**

42 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 43 Alternative 1A.

1 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 2 **Material Area Management Plan**

3 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

6 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 7 Alternative 1A.

8 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 9 **Extent Feasible**

10 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 11 Alternative 1A.

12 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 13 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

14 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 15 Alternative 1A.

16 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 17 **Landscaping Plan**

18 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 19 Alternative 1A.

20 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 21 **Residents**

22 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 23 Alternative 1A.

24 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 25 **Construction**

26 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 27 Alternative 1A.

28 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 29 **to Prevent Light Spill from Truck Headlights toward Residences**

30 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 31 Alternative 1A.

32 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

33 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
 34 Alternative 1A.

1 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
 2 **Lights Off Policy**

3 Please refer to Mitigation Measure AES-6b under Impact AES-6 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
 6 **Plan for the Delta and Study Area**

7 Please refer to Mitigation Measure AES-6c under Impact AES-6 in the discussion of
 8 Alternative 1A.

9 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
 10 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
 11 **Addressing Aesthetics and Visual Resources**

12 **NEPA Effects:** Constructing conveyance facilities (CM1) and implementing CM2–CM22 under
 13 Alternative 6A would generally have the same potential for incompatibilities with one or more plans
 14 and policies related to preserving the visual quality and character of the Delta as described for
 15 Alternative 1A, Impact AES-7. As described under Alternative 1A, there would be potential for the
 16 alternative to be incompatible with plans and policies related to preserving the visual quality and
 17 character of the Delta (i.e., The Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992, Delta
 18 Protection Commission Land Use and Resource Management Plan for the Primary Zone of the Delta,
 19 Delta Plan, Brannan Island and Franks Tract State Recreation Areas General Plan). In addition, with
 20 the exception of Solano County, the alternative may be incompatible with county general plan
 21 policies that protect visual resources in the study area.

22 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
 23 physical consequence to the environment. The physical effects they suggest are discussed in impacts
 24 AES-1 through AES-6, above and no additional CEQA conclusion is required related to the
 25 compatibility of Alternative 6A with relevant plans and policies.

26 **17.3.3.12 Alternative 6B—Isolated Conveyance with East Alignment and**
 27 **Intakes 1–5 (15,000 cfs; Operational Scenario D)**

28 Table 17D-2 in Appendix 17D, *Permanent Impacts after Construction is Complete*, describes existing
 29 visual characteristics and the BDCP-related permanent effects of Alternative 1A on visual quality
 30 and character, scenic vistas, scenic roadways, and from light and glare sources after construction is
 31 complete and identifies the overall effect on viewers. Appendix E, *Permanent Features*, identifies the
 32 viewer groups and viewing locations that would be affected by permanent alternative features.
 33 Effects would be similar for this alternative. Under Alternative 6B, the conveyance alignment from
 34 the intakes to the Byron Tract Forebay, along with the associated shaft sites, access road,
 35 transmission line, pumping plants, canals, and spoil/borrow and RTM areas would be identical to
 36 Alternative 1B. Conservation measures would be identical to Alternative 1A. This alternative would
 37 not make use of the existing SWP and CVP south Delta export facilities for Clifton Court Forebay and
 38 Jones pumping plant; however, this change would not result in different effects on visual resources.

1 **Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during**
 2 **Construction of Conveyance Facilities**

3 **NEPA Effects:** Effects related to visual resources under this alternative would be similar to those
 4 described for Alternative 1B. The construction period would last for 9 years and the intensity of the
 5 activities in contrast to the current rural/agricultural nature of the area would be substantial.
 6 Construction of intakes and the accompanying pumping plants, surge towers, canals, borrow/spoil
 7 areas, RTM areas, forebay, operable barrier, access roads, transmission lines, and concrete batch
 8 plants and fuel stations would introduce visually discordant features into foreground and
 9 middleground views with low to high landscape sensitivity level. These elements would introduce
 10 visually dominant features that would be very noticeable to all viewer groups and would segment
 11 the visual landscape of the study area, reduce the amount of open space lands available to viewers,
 12 and eliminate valued visual resources. Accordingly, because of the long-term nature of construction,
 13 proximity to sensitive receptors, razing of residences and agricultural buildings, removal of
 14 vegetation, and changes to topography through grading, this effect on existing visual quality and
 15 character would be adverse. In San Joaquin County, the canal would be visible in the middleground
 16 from I-5; the canal and a bridge would cross West Eight Mile Road; and the canal, a bridge, and
 17 borrow/spoil areas would cross and be in foreground views from roads on Roberts Island north of
 18 SR 4 and SR 4. While not officially designated state scenic highways, and therefore not discussed
 19 under *Impact AES-3: Permanent damage to scenic resources along a state scenic highway from*
 20 *construction of conveyance facilities*, these roads are San Joaquin County Scenic Routes (see Section
 21 17.2.3.2, *County and City General Plans – San Joaquin County*). These features would detract from the
 22 visual quality of views from these routes. In addition, construction of all features has the potential to
 23 adversely affect wildlife viewing and the overall enjoyment of scenic views in the study area. Effects
 24 on the existing visual character under Alternative 6B would be greater than under Alternative 6A
 25 because of the extent of the canals visible on the landscape surface, landscape effects left behind by
 26 spoil/borrow areas, and introduction of bridges.

27 Overall, effects on the existing visual character associated with construction of Alternative 6B would
 28 be adverse because the alternative would result in reductions to the visual quality in some locations
 29 and introduce dominant visual elements that would result in very noticeable changes that do not
 30 blend and are not in keeping or are incompatible with the existing visual environment. These
 31 changes would be viewed by sensitive receptors and from public viewing areas. Mitigation Measures
 32 AES-1a through AES-1g are available to address visual effects resulting from construction of
 33 Alternative 6B water conveyance facilities.

34 **CEQA Conclusion:** Because of the long-term nature of construction, proximity to sensitive receptors,
 35 razing of residences and agricultural buildings, removal of vegetation, and changes to topography
 36 through grading, the impacts associated with constructing intakes and the accompanying pumping
 37 plants, surge towers, canals, borrow/spoil areas, RTM areas, forebay, operable barrier, access roads,
 38 and transmission lines are considered significant. These changes under Alternative 6B would result
 39 in reductions to the visual quality in some locations and introduce dominant visual elements that
 40 would result in noticeable changes that do not blend and are not in keeping or are incompatible with
 41 the existing visual environment. These changes would be viewed by sensitive receptors and from
 42 public viewing areas. Impacts on the existing visual quality and character under Alternative 6B
 43 would be greater than under Alternative 6A because of the extent of the canals visible on the
 44 landscape surface, landscape effects left behind by spoil/borrow areas, and introduction of bridges.

1 Mitigation Measures AES-1a through AES-1g would partially reduce these impacts by locating new
2 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
3 needed where feasible, installing visual barriers between construction work areas and sensitive
4 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
5 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
6 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
7 visual resources and receptors and restoring the sites upon removal of facilities, and using best
8 management practices to implement a project landscaping plan. However, impacts may not be
9 reduced to a less-than-significant level because even though mitigation measures would reduce
10 some aspects of the impact on visual quality and character, it is not certain the mitigation would
11 reduce the level of the impact to less than significant in all instances. In addition, the size of the
12 study area and the nature of changes introduced by the alternative would result in permanent
13 changes to the regional landscape such that there would be noticeable to very noticeable changes
14 that do not blend or are not in keeping with the existing visual environment. Thus, Alternative 6B
15 would result in significant and unavoidable impacts on the existing visual quality and character in
16 the study area.

17 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
18 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
19 **Transmission Lines and Underground Transmission Lines Where Feasible**

20 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
21 Alternative 1A.

22 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
23 **Sensitive Receptors**

24 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
25 Alternative 1A.

26 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
27 **Material Area Management Plan**

28 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
29 Alternative 1A.

30 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

31 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
32 Alternative 1A.

33 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
34 **Extent Feasible**

35 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
36 Alternative 1A.

1 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 2 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

3 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 6 **Landscaping Plan**

7 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 8 Alternative 1A.

9 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

10 **NEPA Effects:** Effects on scenic vistas under this alternative would be similar to those under
 11 Alternative 1B, Impact AES-2. During construction the introduction of construction equipment and
 12 removal of vegetation would alter the scenic elements that contribute to the viewing experience
 13 from scenic vistas. The intakes would introduce visually dominant and discordant features in the
 14 foreground and middleground views in vistas that would be very noticeable to all viewer groups in
 15 areas of low to high landscape sensitivity levels. The large scale of intakes, the visual presence of
 16 large-scale borrow/spoil and RTM area landscape effects, and transmission lines may result in
 17 adverse effects on scenic vistas (see discussions under 17.3.1.2 and 17.3.1.3). Mitigation Measures
 18 AES-1a, AES-1c, and AES-1e are available to address these effects.

19 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 20 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
 21 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
 22 and transmission lines would result in significant impacts on scenic vistas because construction and
 23 operation would result in a reduction in the visual quality in some locations and introduce dominant
 24 visual elements that would result in noticeable changes in the visual character of scenic vista
 25 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
 26 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
 27 from public viewing areas.

28 Mitigation Measure AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 29 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 30 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 31 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 32 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 33 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 34 hatches to less than significant. However, the impacts on scenic vistas associated with other
 35 structures would not be reduced to a less-than-significant level because even though mitigation
 36 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 37 level of the impact to less than significant in all instances. In addition, the size of the study area and
 38 the nature of changes introduced by the alternative would result in permanent changes to the
 39 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 40 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 41 with Alternative 6B would be significant and unavoidable.

1 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 2 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 3 **Transmission Lines and Underground Transmission Lines Where Feasible**

4 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 5 Alternative 1A.

6 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 7 **Material Area Management Plan**

8 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 9 Alternative 1A.

10 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 11 **Extent Feasible**

12 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 13 Alternative 1A.

14 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 15 **Construction of Conveyance Facilities**

16 **NEPA Effects:** Effects on state scenic highways under this alternative would be similar to those
 17 described for Alternative 1B Impact AES-3. Intakes 1–5, the spoils/borrow and RTM area north of
 18 Intake 2, and the intermediate forebay would be immediately and prominently visible in the
 19 foreground from SR 160 and would result in an overall noticeable effect on viewers relative to their
 20 current experience and enjoyment of the study area’s scenic resources along SR 160 and River Road,
 21 where the landscape sensitivity level is high. The visual elements introduced by the intakes,
 22 spoil/borrow and RTM areas north of Intake 2 associated with Alternative 6B would conflict with
 23 the existing forms, patterns, colors, and textures along River Road and SR 160; would dominate
 24 riverfront views available from SR 160; and would alter broad views and the general nature of the
 25 visual experience presently available from River Road and SR 160. These changes would reduce the
 26 visual quality near intake structure locations and result in noticeable changes in the visual character
 27 of scenic vista viewsheds in the study area. These changes would not blend, would not be in keeping
 28 or would be incompatible with the existing visual environment, and could be viewed by sensitive
 29 receptors or from public viewing areas. This effect would be adverse (see discussion under 17.3.1.2
 30 and 17.3.1.3). Mitigation Measures AES-1a, AES-1c, and AES-1e are available to address these effects.

31 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 32 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
 33 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
 34 and transmission lines would result in significant impacts on scenic vistas because construction and
 35 operation would result in a reduction in the visual quality in some locations and introduce dominant
 36 visual elements that would result in noticeable changes in the visual character of scenic vista
 37 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
 38 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
 39 from public viewing areas.

40 Mitigation Measures AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 41 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning

1 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 2 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 3 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 4 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 5 hatches to less than significant. However, the impacts on scenic vistas associated with other
 6 structures would not be reduced to a less-than-significant level because even though mitigation
 7 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 8 level of the impact to less than significant in all instances. In addition, the size of the study area and
 9 the nature of changes introduced by the alternative would result in permanent changes to the
 10 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 11 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 12 with Alternative 6B would be significant and unavoidable.

13 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 14 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 15 **Transmission Lines and Underground Transmission Lines Where Feasible**

16 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 17 Alternative 1A.

18 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 19 **Material Area Management Plan**

20 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 21 Alternative 1A.

22 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 23 **Extent Feasible**

24 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 25 Alternative 1A.

26 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 27 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

28 **NEPA Effects:** Effects resulting from light and glare under this alternative would be similar to those
 29 described for Alternatives 1A and 1B, Impact AES-4. Intakes 1–5 and their associated pumping
 30 plants, surge towers, and facilities and the pumping plant at the intermediate forebay would create
 31 very noticeable effects relating to light and glare (Figures 17-76 through 17-78). Light building
 32 colors over a large surface area would reflect off of those surfaces and increase glare, especially
 33 when combined with the removal of vegetation that absorbs light, provides shade, and screens glare.
 34 Sunlight would reflect off the new water surfaces of the forebay and canals, creating new sources of
 35 glare where none presently exist. Nighttime construction could also result in headlights flashing into
 36 nearby residents' homes when construction vehicles are turning onto or off of construction access
 37 routes. Proposed surge towers would require the use of safety lights that would alert low-flying
 38 aircraft to the presence of these structures because of their height. Overall, because the study area
 39 currently experiences low levels of light and because there are a larger number of viewers in and
 40 around the waterways, intake structures, and forebay that would be affected by these noticeable
 41 changes that contrast with the existing rural character, effects associated with new sources of

1 daytime and nighttime light and glare are considered adverse. Mitigation Measures AES-4a through
2 AES-4c are available to address these effects.

3 **CEQA Conclusion:** The impacts associated with light and glare under Alternative 6B are significant
4 because there are a larger number of viewers in and around the waterways, intake structures, and
5 intermediate forebay; BDCP facilities would increase the amount of nighttime lighting in the Delta
6 above existing ambient light levels; and the study area currently experiences low levels of light
7 because there are fewer light/glare producers than are typical in urban areas. Mitigation Measures
8 AES-4a through AES-4c would help reduce these impacts by limiting construction to daylight hours
9 within 0.25 mile of residents, minimizing fugitive light from portable sources used for construction,
10 and installing visual barriers along access routes, where necessary, to prevent light spill from truck
11 headlights toward residences; however, these mitigation measures would not reduce impacts to a
12 less-than-significant level because even though mitigation measures would reduce some aspects of
13 the impact, it is not certain the mitigation would reduce the level of the impact to less than
14 significant in all instances. In addition, the size of the study area and the nature of changes
15 introduced by the new light and glare sources would result in permanent changes to the regional
16 landscape such that there would be noticeable changes to the visual character that do not blend or
17 are not in keeping with the existing visual environment. Thus, the new sources of daytime and
18 nighttime light and glare associated with Alternative 6B would result in significant and unavoidable
19 impacts on public views in the project vicinity.

20 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
21 **Residents**

22 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
23 Alternative 1A.

24 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
25 **Construction**

26 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
27 Alternative 1A.

28 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
29 **to Prevent Light Spill from Truck Headlights toward Residences**

30 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
31 Alternative 1A.

32 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

33 **NEPA Effects:** Effects on the visual environment through operations and maintenance of the water
34 conveyance facilities (CM1) under this alternative would be similar to those described for
35 Alternative 1A and 1B, Impact AES-5. Once the facility is in operation, visible regular and periodic
36 maintenance would be required on all major structures. Activities such as painting, cleaning,
37 vegetation maintenance (removal), repairs, and inspections would be visible from viewpoints on
38 water and land. Although under Alternative 6B there would not be an intermediate forebay, the
39 canal and Byron Tract Forebay would require cleaning and periodic dredging. The greatest visual
40 effects resulting from operations would be maintenance on the intakes and cleaning the canals.
41 However, these temporary maintenance activities are anticipated to occur within short periods of

1 time, and effects would not be adverse because the activities would not result in further substantial
 2 changes to the existing natural viewshed or terrain, alter existing visual quality of the region or
 3 eliminate visual resources, or obstruct or permanently reduce visually important features.

4 **CEQA Conclusion:** Maintenance of the conveyance facilities (i.e., intakes, canals, forebay,
 5 transmission lines, and operable barrier) would be required periodically and would involve
 6 painting, cleaning, and repair of structures; dredging at the Byron Tract Forebay and operable
 7 barrier, cleaning canals; vegetation removal and care along embankments; canal inspection; and
 8 vegetation removal within transmission line ROWs. These visible maintenance activities would be
 9 temporary, intermittent, and short-term impacts and would be considered less than significant.
 10 Maintenance and operation of Alternative 6B, once constructed, would not result in further
 11 substantial changes to the existing natural viewshed or terrain, alter existing visual quality of the
 12 region or eliminate visual resources, or obstruct or permanent reduce visually important features.
 13 Thus, overall, Alternative 6B would have a less-than-significant impact on existing visual quality and
 14 character during maintenance and operation of the facilities in the study area. No mitigation is
 15 required.

16 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during** 17 **Implementation of CM2–CM22**

18 **NEPA Effects:** Under Alternative 6B, these conservation measures would be identical to those under
 19 Alternative 1A. Therefore, visual effects related to the existing visual character, scenic vistas, scenic
 20 highways, and light and glare resulting from implementation of CM2–CM22 would be the same as
 21 those described under Alternative 1A, Impact AES-6. There may be site-specific, localized adverse
 22 visual effects. These conservation measures would alter the Delta landscape by incrementally, and
 23 substantially, introducing elements into the study area over time. CM2–CM22, when combined with
 24 CM1, could substantially alter the visual character of the study area, which is strongly identified by
 25 its agricultural and water-based Delta landscapes and communities. These landscapes and
 26 communities could be adversely affected by the introduction of discordant visual features, removal
 27 of existing buildings and landscape elements of value, and through the potential for indirect impacts
 28 associated with other development potentially setting a precedent for other development to occur.
 29 All of these effects would alter the visual character of the existing regional landscape.

30 Because of the unknown location of site-specific restoration activities, potential presence of
 31 sensitive viewers, potential for construction periods to last longer than 2 years, and varying
 32 intensity of construction, effects associated with implementation of CM2–CM22 are considered
 33 adverse. However, the visual characteristics of restored/enhanced landscapes would be similar to
 34 other areas of the Delta that are in a natural marsh or wetland state and more limited in extent than
 35 the widespread areas of agricultural development. In this sense, the BDCP would have an overall
 36 beneficial effect related to the enhancement and creation of scenic vistas in the Delta.

37 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a through AES-4c are
 38 available to address effects from habitat restoration and enhancement actions under CM2–CM22. In
 39 addition, Mitigation Measures AES-6a and AES-6b are available to help reduce adverse visual effects.
 40 Upon development of site-specific design information and plans, additional mitigation measures
 41 may be identified to address action-specific adverse effects. However, each individual project under
 42 CM2–CM22 would undergo the environmental compliance process that would be used to determine
 43 what additional mitigation measures, would be deemed appropriate to reduce adverse effects and to

1 assess compliance with relevant regulations. Finally, Mitigation Measure AES-6c is available to help
2 inventory, classify, and protect the unique visual landscape of the Delta.

3 **CEQA Conclusion:** Implementation of conservation measures under Alternative 6B has the potential
4 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
5 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
6 and character would be significant where use of large numbers of heavy construction equipment,
7 changes in topography, and introduction of new structures or facilities where none presently exist
8 would take place in the vicinity of sensitive receptors. However, because a number of factors that
9 would determine the level of change are unknown—the location of site-specific restoration
10 activities, potential presence of sensitive viewers, potential for construction periods to last longer
11 than 2 years, and varying intensity of construction—impacts associated with implementation of
12 CM2–CM22 on visual quality and character, scenic vistas, and light and glare sources, are considered
13 significant. Because of the distance of implemented conservation measures from scenic highways,
14 changes associated with these activities would not affect the visual quality along these scenic
15 highway corridors and this impact would be less than significant. Site-specific restoration
16 information and plans need to be developed before the site-specific effects on the existing visual
17 character, scenic vistas, and light and glare can be determined.

18 Several mitigation measures are available to minimize the impacts on visual quality and character in
19 the study area that could result from implementation of these conservation measures. As
20 summarized below, these measures could be applied to individual restoration projects or actions as
21 appropriate for the site-specific conditions and design considerations. In addition, each restoration
22 project or action would undergo an environmental compliance process that would be used to
23 determine what additional mitigation measures would be deemed appropriate to reduce significant
24 effects. Mitigation Measures AES-1a through AES-1g could be applied to minimize impacts by
25 locating new transmission lines and access routes to minimize the removal of trees and shrubs and
26 pruning needed where feasible, installing visual barriers between construction work areas and
27 sensitive receptors, developing and implementing a spoil/borrow and RTM area management plan,
28 restoring barge unloading facility sites once decommissioned, applying aesthetic design treatments
29 to all structures to the extent feasible, locating concrete batch plants and fuel stations away from
30 sensitive visual resources and receptors and restoring the sites upon removal of facilities, and using
31 best management practices to implement a project landscaping plan. Mitigation Measures AES-4a
32 through AES-4c could be used to reduce the effects of new light and glare sources by limiting
33 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
34 sources used for construction, and installing visual barriers along access routes, where necessary, to
35 prevent light spill from truck headlights toward residences. In addition, Mitigation Measures AES-6a
36 and AES-6b would further minimize impacts on visual resources by undergrounding new or
37 relocated utility lines, where feasible, and through an evaluation of an afterhours low-intensity and
38 lights off policy. Finally, implementation of Mitigation Measure AES-6c would provide a strategy for
39 the protection of the unique visual landscape of the Delta.

40 While some of the conservation measures could result in beneficial impacts through the restoration
41 of natural habitat and these mitigation measures would reduce the severity of impacts, it is
42 unknown whether they would be reduced to a less-than-significant level because of uncertainties
43 associated with future implementation of CM2–CM22. In addition, the size of the study area and the
44 nature of changes introduced by these conservation measures would result in permanent changes to
45 the regional landscape such that there would be noticeable changes to the visual character that may
46 or may not blend or be in keeping with the existing visual environment. Thus, implementation of

1 CM2–CM22 would result in significant and unavoidable impacts on the existing visual quality and
2 character in the study area.

3 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
4 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
5 **Transmission Lines and Underground Transmission Lines Where Feasible**

6 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
7 Alternative 1A.

8 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
9 **Sensitive Receptors**

10 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
11 Alternative 1A.

12 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
13 **Material Area Management Plan**

14 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
15 Alternative 1A.

16 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

17 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
18 Alternative 1A.

19 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
20 **Extent Feasible**

21 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
22 Alternative 1A.

23 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
24 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

25 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
26 Alternative 1A.

27 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
28 **Landscaping Plan**

29 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
30 Alternative 1A.

31 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
32 **Residents**

33 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
34 Alternative 1A.

1 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 2 **Construction**

3 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 6 **to Prevent Light Spill from Truck Headlights toward Residences**

7 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 8 Alternative 1A.

9 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

10 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
 11 Alternative 1A.

12 **Mitigation Measure AES-6b: Develop and Implement a Afterhours Low-Intensity and**
 13 **Lights Off Policy**

14 Please refer to Mitigation Measure AES-6b under Impact AES-6 in the discussion of
 15 Alternative 1A.

16 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
 17 **Plan for the Delta and Study Area**

18 Please refer to Mitigation Measure AES-6c under Impact AES-6 in the discussion of
 19 Alternative 1A.

20 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
 21 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
 22 **Addressing Aesthetics and Visual Resources**

23 **NEPA Effects:** Constructing conveyance facilities (CM1) and implementing CM2–CM22 under
 24 Alternative 6B would generally have the same potential for incompatibilities with one or more plans
 25 and policies related to preserving the visual quality and character of the Delta as described for
 26 Alternative 1B, Impact AES-7. These features would fall under the same jurisdictions as discussed
 27 under Alternative 1B, and so, overall the potential for incompatibility is the same. As described
 28 under Alternative 1B, there would be potential for the alternative to be incompatible with plans and
 29 policies related to preserving the visual quality and character of the Delta (i.e., The Johnston-Baker-
 30 Andal-Boatwright Delta Protection Act of 1992, Delta Protection Commission Land Use and
 31 Resource Management Plan for the Primary Zone of the Delta, Delta Plan, Brannan Island and Franks
 32 Tract State Recreation Areas General Plan). In addition, with the exception of Solano County, the
 33 alternative may be incompatible with county general plan policies that protect visual resources in
 34 the study area.

35 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
 36 physical consequence to the environment. The physical effects they suggest are discussed in impacts
 37 AES-1 through AES-6, above and no additional CEQA conclusion is required related to the
 38 compatibility of Alternative 6B with relevant plans and policies.

17.3.3.13 Alternative 6C—Isolated Conveyance with West Alignment and Intakes W1–W5 (15,000 cfs; Operational D)

Table 17D-3 in Appendix 17D, *Permanent Impacts after Construction is Complete*, describes existing visual characteristics and the BDCP-related permanent effects of Alternative 1A on visual quality and character, scenic vistas, scenic roadways, and from light and glare sources after construction is complete and identifies the overall effect on viewers. Appendix E, *Permanent Features*, identifies the viewer groups and viewing locations that would be affected by permanent alternative features. Effects would be similar for Alternative 6C (see Figures 3-6 and 3-7 and Mapbook Figure M3-3). Under Alternative 6C, the conveyance alignment from the intakes to the Byron Tract Forebay, along with the associated shaft sites, access road, transmission line, pumping plants, canals, and spoil/borrow and RTM areas would be identical to those under Alternative 1C. Conservation measures would be identical to those under Alternative 1A. This alternative would not make use of the existing SWP and CVP south Delta export facilities for Clifton Court Forebay and Jones pumping plant; however, this change would not result in different effects on visual resources.

Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during Construction of Conveyance Facilities

NEPA Effects: Effects related to visual resources under this alternative would be similar to those described for Alternative 1C. The construction period would last up to 9 years and the intensity of activities in contrast to the current rural/agricultural nature of the area would be substantial. Construction of Intakes W1–W5 and accompanying pumping plants, surge towers, canals, borrow/spoil areas, RTM areas, forebay, operable barrier, access roads, and transmission lines would introduce visually discordant features in the foreground and middleground views of scenic vistas and from scenic roadways, and these elements would be visible to all viewer groups. The existing visual character would be greatly altered by the presence of a large-scale intakes and concrete-lined and water-filled channels traversing the landscape. In addition, construction of all features has the potential to adversely affect wildlife viewing and the overall enjoyment and segment the visual landscape of the study area, reduce the amount of open space lands available to viewers, and eliminate valued visual resources within scenic views in the study area.

After construction, areas surrounding Intakes W1–W5, spoil/borrow areas, RTM areas, and shaft sites may be denuded of vegetation for a short period of time until the landscaping plans designed under WREM No. 30a are implemented. Once installed, the landscape would still appear to be denuded of vegetation from a distance because of immature planted vegetation would be similar in appearance to tilled or newly planted agricultural fields.

Because of the long-term nature of construction, proximity to sensitive receptors, razing of residences and agricultural buildings, removal of vegetation, and changes to topography through grading, this effect is considered adverse. Effects on the existing visual quality and character under Alternative 6C would be greater than those under Alternatives 6A and 6B because of the extent of the canals visible on the landscape surface, landscape effects left behind by spoil/borrow areas, introduction of bridges, and closer proximity to a greater number of sensitive viewers. Overall, effects on the existing visual character associated with construction of Alternative 6C would be adverse because the alternative would result in reductions to the visual quality in some locations and introduce dominant visual elements that would result in noticeable changes that do not blend and are not in keeping or are incompatible with the existing visual environment. These changes

1 would be viewed by sensitive receptors and from public viewing areas. Mitigation Measures AES-1a
2 through AES-1g are available to address these effects.

3 **CEQA Conclusion:** Because of the long-term nature of construction, proximity to sensitive receptors,
4 razing of residences and agricultural buildings, removal of vegetation, and changes to topography
5 through grading, the impacts associated with constructing Intakes W1–W5 and accompanying
6 pumping plants, surge towers, canals, borrow/spoil areas, RTM areas, and forebay are considered
7 significant. These changes under Alternative 6C would result in reductions to the visual quality in
8 some locations and introduce dominant visual elements that would result in noticeable changes that
9 do not blend and are not in keeping or are incompatible with the existing visual environment. These
10 changes would be viewed by sensitive receptors and from public viewing areas. Impacts on the
11 existing visual character under Alternative 6C would be greater than those under Alternatives 6A
12 and 6B because of the extent of the canals visible on the landscape, landscape effects left behind by
13 spoil/borrow areas, introduction of bridges, and closer proximity to a greater number of sensitive
14 viewers.

15 Mitigation Measures AES-1a through AES-1g would partially reduce these impacts by locating new
16 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
17 needed where feasible, installing visual barriers between construction work areas and sensitive
18 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
19 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
20 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
21 visual resources and receptors and restoring the sites upon removal of facilities, and using best
22 management practices to implement a project landscaping plan. However, impacts may not be
23 reduced to a less-than-significant level because even though mitigation measures would reduce
24 some aspects of the impact on visual quality and character, it is not certain the mitigation would
25 reduce the level of the impact to less than significant in all instances. In addition, the size of the
26 study area and the nature of changes introduced by the alternative would result in permanent
27 changes to the regional landscape such that there would be noticeable to very noticeable changes
28 that do not blend or are not in keeping with the existing visual environment. Thus, Alternative 6C
29 would result in significant and unavoidable impacts on the existing visual quality and character in
30 the study area.

31 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
32 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
33 **Transmission Lines and Underground Transmission Lines Where Feasible**

34 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
35 Alternative 1A.

36 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
37 **Sensitive Receptors**

38 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
39 Alternative 1A.

1 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 2 **Material Area Management Plan**

3 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

6 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 7 Alternative 1A.

8 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 9 **Extent Feasible**

10 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 11 Alternative 1A.

12 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 13 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

14 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 15 Alternative 1A.

16 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 17 **Landscaping Plan**

18 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 19 Alternative 1A.

20 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

21 **NEPA Effects:** Scenic vistas are mapped and included in Appendix Figure 17D-1. Effects on scenic
 22 vistas under this alternative would be similar to those under Alternative 1C, Impact AES-2. During
 23 construction the introduction of construction equipment and removal of vegetation would alter the
 24 scenic elements that contribute to the viewing experience from scenic vistas. The intakes would
 25 introduce visually dominant and discordant features in the foreground and middleground views in
 26 vistas that would be very noticeable to all viewer groups in areas of low to high landscape sensitivity
 27 levels. The large scale of intakes, the visual presence of large-scale borrow/spoil and RTM area
 28 landscape effects, and transmission lines may result in adverse effects on scenic vistas (see
 29 discussions under 17.3.1.2 and 17.3.1.3). Effects on scenic vistas under Alternative 6C would be
 30 greater than those under Alternatives 6A and 6B (Impact AES-2) because of the extent of the canals
 31 visible on the landscape, landscape effects left behind by spoil/borrow areas, introduction of
 32 bridges, and closer proximity to a greater number of sensitive viewers. Mitigation Measures AES-1a,
 33 AES-1c, and AES-1e are available to address these effects.

34 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 35 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
 36 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
 37 and transmission lines would result in significant impacts on scenic vistas because construction and
 38 operation would result in a reduction in the visual quality in some locations and introduce dominant
 39 visual elements that would result in noticeable changes in the visual character of scenic vista

1 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
 2 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
 3 from public viewing areas. Impacts on scenic vistas under Alternative 6C would be greater than
 4 under Alternatives 6A and 6B due to the extent of the canals visible on the landscape surface,
 5 landscape effects left behind by spoil/borrow areas, introduction of bridges, and closer proximity to
 6 a greater number of sensitive viewers.

7 Mitigation Measures AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 8 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 9 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 10 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 11 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 12 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 13 hatches to less than significant. However, the impacts on scenic vistas associated with other
 14 structures would not be reduced to a less-than-significant level because the changes would remain
 15 noticeable and introduce elements that do not blend with the existing visual character of the vista
 16 viewsheds. Thus, impacts on scenic vistas associated with Alternative 6C would be significant and
 17 unavoidable.

18 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 19 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 20 **Transmission Lines and Underground Transmission Lines Where Feasible**

21 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 22 Alternative 1A.

23 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 24 **Material Area Management Plan**

25 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 26 Alternative 1A.

27 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 28 **Extent Feasible**

29 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 30 Alternative 1A.

31 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 32 **Construction of Conveyance Facilities**

33 **NEPA Effects:** Effects on state scenic highways under this alternative would be similar to those
 34 described for Alternative 1C, Impact AES-3, and would result in an overall noticeable effect on
 35 viewers relative to their current experience and enjoyment of the study area's scenic resources. The
 36 intakes would be visible from SR 160. However, bridges, canals, and spoil/borrow areas may or may
 37 not be visible from SR 160 because the work areas would be across the river at a lower ground
 38 elevation than the raised roadway, and the views could be obscured by intervening vegetation along
 39 SR 160 and CH E9. Where visible, views would be greatly altered by the presence of large-scale,
 40 concrete-lined and water-filled channels traversing the landscape, large sunken or elevated
 41 landforms, and elevated structures between the intakes. In addition, transmission lines following

1 the canals would introduce tall, lattice steel structures that would draw more attention to the
 2 linearity of the canal and its industrial nature and would be visible from SR 160. Effects on scenic
 3 highways under Alternative 6C may not be as great as those under Alternative 6B, due to the
 4 potential for obscured views of the bridges, canals, and spoil/borrow areas from SR 160; however,
 5 these effects may be adverse. Mitigation Measures AES-1a, AES-1c, and AES-1e would be available to
 6 address these effects.

7 **CEQA Conclusion:** Impacts on scenic highways associated with the presence of conveyance facilities
 8 under Alternative 6C would be significant because visual elements associated with the alternative
 9 would conflict with the existing forms, patterns, colors, and textures visible from SR 160; would
 10 dominate riverfront views available from SR 160; and would alter broad views and the general
 11 nature of the visual experience presently available from SR 160 (thereby permanently damaging the
 12 scenic resources along the scenic highway). Impacts on scenic highways under Alternative 6C may
 13 not be as great as those under Alternative 6B due to the potential for obscured views of the bridges,
 14 canals, and spoil/borrow areas from SR 160. However, the intakes would be very visible and result
 15 in a very noticeable change in the viewshed. Mitigation Measures AES-1a, AES-1c, and AES-1e would
 16 help to reduce these impacts through the application of aesthetic design treatments to all structures,
 17 to the extent feasible. However, impacts on visual resources resulting from damage to scenic
 18 resources that may be viewed from a state scenic highway would not be reduced to a less-than-
 19 significant level because even though mitigation measures would reduce some aspects of the impact,
 20 it is not certain the mitigation would reduce the level of the impact to less than significant in all
 21 instances. In addition, the size of the study area and the nature of changes introduced by the
 22 alternative would result in permanent changes to the regional landscape such that there would be
 23 noticeable to very noticeable changes to the visual character of a scenic highway viewshed that do
 24 not blend or are not in keeping with the existing visual environment. Thus, overall, this impact
 25 would be significant and unavoidable.

26 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 27 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 28 **Transmission Lines and Underground Transmission Lines Where Feasible**

29 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 30 Alternative 1A.

31 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 32 **Material Area Management Plan**

33 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 34 Alternative 1A.

35 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 36 **Extent Feasible**

37 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 38 Alternative 1A.

1 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 2 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

3 **NEPA Effects:** Light and glare effects related to operation of Intakes W1–W5, canals, spoils/borrow
 4 areas, RTM areas, shaft sites, Byron Tract Forebay, permanent access roads, and transmission lines
 5 would be the same as those described for Alternative 1C, Impact AES-4. Intakes W1–W5 and the
 6 associated pumping plants, surge towers, and facilities would create very noticeable effects relating
 7 to light and glare (Figures 17-76 through 17-78). Light building colors over a large surface area
 8 would reflect off of those surfaces and increase glare, especially when combined with the removal of
 9 vegetation that absorbs light, provides shade, and screens glare. Sunlight would reflect off the new
 10 water surfaces of the canals, creating new sources of glare where none presently exist. Because of
 11 the extent of the canals and introduction of a substantial glare-producing water body, the effect
 12 associated with daytime and nighttime glare is considered adverse. Nighttime construction could
 13 also result in headlights flashing into nearby residents' homes when construction vehicles are
 14 turning onto or off of construction access routes. Proposed surge towers would require the use of
 15 safety lights that would alert low-flying aircraft to the presence of these structures because of their
 16 height. Overall, because the study area currently experiences low levels of light and because there
 17 are a larger number of viewers in and around the waterways, intake structures, forebay, and canals
 18 that would be affected by these noticeable changes that contrast with the existing rural character,
 19 effects associated with new sources of daytime and nighttime light and glare are considered adverse.
 20 Mitigation Measures AES-4a through 4c are available to address these effects.

21 **CEQA Conclusion:** The impacts associated with light and glare under Alternative 6C are significant
 22 because there are a larger number of viewers in and around the waterways, intake structures,
 23 forebay, and canals; alternative facilities would increase the amount of nighttime lighting in the
 24 Delta above existing ambient light levels; and the study area currently experiences low levels of
 25 light. Mitigation Measures AES-4a through AES-4c would help reduce impacts by limiting
 26 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
 27 sources used for construction, and installing visual barriers along access routes, where necessary, to
 28 prevent light spill from truck headlights toward residences. However, these mitigation measures
 29 would not reduce impacts to a less-than-significant level because even though mitigation measures
 30 would reduce some aspects of the impact, it is not certain the mitigation would reduce the level of
 31 the impact to less than significant in all instances. In addition, the size of the study area and the
 32 nature of changes introduced by the new light and glare sources would result in permanent changes
 33 to the regional landscape such that there would be noticeable changes to the visual character that do
 34 not blend or are not in keeping with the existing visual environment. Thus, the new sources of
 35 daytime and nighttime light and glare associated with Alternative 6C would result in significant and
 36 unavoidable impacts on public views in the project vicinity

37 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 38 **Residents**

39 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 40 Alternative 1A.

1 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 2 **Construction**

3 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 6 **to Prevent Light Spill from Truck Headlights toward Residences**

7 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 8 Alternative 1A.

9 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

10 **NEPA Effects:** Effects on the visual environment through operations and maintenance of the water
 11 conveyance facilities (CM1) under this alternative would be similar to those described for
 12 Alternatives 1A and 1C, Impact AES-5. Once the facility is in operation, visible regular and periodic
 13 maintenance would be required on all major structures. Activities such as painting, cleaning,
 14 vegetation maintenance (removal), repairs, and inspections would be visible from viewpoints on
 15 water and land. Although under Alternative 6C there would not be an intermediate forebay, the canal
 16 and Byron Tract Forebay would require cleaning and periodic dredging. The greatest visual effects
 17 resulting from operations would be maintenance on the intakes and cleaning the canals. However,
 18 these temporary maintenance activities are anticipated to occur within short periods of time, and
 19 effects would not be adverse because the activities would not result in further substantial changes to
 20 the existing natural viewshed or terrain, alter existing visual quality of the region or eliminate visual
 21 resources, or obstruct or permanently reduce visually important features.

22 **CEQA Conclusion:** Maintenance of the conveyance facilities (i.e., intakes, canals, forebay,
 23 transmission lines, and operable barrier) would be required periodically and would involve
 24 painting, cleaning, and repair of structures; dredging at the Byron Tract Forebay; cleaning canals;
 25 vegetation removal and care along embankments; canal inspection; and vegetation removal within
 26 transmission line ROWs. These visible maintenance activities would be temporary, intermittent, and
 27 short-term impacts and would be considered less than significant. Maintenance and operation of
 28 Alternative 6C, once constructed, would not result in further substantial changes to the existing
 29 natural viewshed or terrain, alter existing visual quality of the region or eliminate visual resources,
 30 or obstruct or permanent reduce visually important features. Thus, overall, Alternative 6C would
 31 have a less-than-significant impact on existing visual quality and character during maintenance and
 32 operation of the facilities in the study area. No mitigation is required.

33 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during**
 34 **Implementation of CM2–CM22**

35 **NEPA Effects:** Under Alternative 6C, these conservation measures would be identical to those under
 36 Alternative 1A. Therefore, visual effects related to the existing visual character, scenic vistas, scenic
 37 highways, and light and glare resulting from implementation of CM2–CM22 would be the same as
 38 those described under Alternative 1A, Impact AES-6. There may be site-specific, localized adverse
 39 visual effects. These conservation measures would alter the Delta landscape by incrementally, and
 40 substantially, introducing elements into the study area over time. CM2–CM22, when combined with
 41 CM1, could substantially alter the visual character of the study area, which is strongly identified by
 42 its agricultural and water-based Delta landscapes and communities. These landscapes and

1 communities could be adversely affected by the introduction of discordant visual features, removal
 2 of existing buildings and landscape elements of value, and through the potential for indirect impacts
 3 associated with other development potentially setting a precedent for other development to occur.
 4 All of these effects would alter the visual character of the existing regional landscape.

5 Because of the unknown location of site-specific restoration activities, potential presence of
 6 sensitive viewers, potential for construction periods to last longer than 2 years, and varying
 7 intensity of construction, effects associated with implementation of CM2–CM22 are considered
 8 adverse. However, the visual characteristics of restored/enhanced landscapes would be similar to
 9 other areas of the Delta that are in a natural marsh or wetland state and more limited in extent than
 10 the widespread areas of agricultural development. In this sense, the BDCP would have an overall
 11 beneficial effect related to the enhancement and creation of scenic vistas in the Delta.

12 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a through AES-4c are
 13 available to address effects from habitat restoration and enhancement actions under CM2–CM22. In
 14 addition, Mitigation Measures AES-6a and AES-6b are available to help reduce adverse visual effects.
 15 Upon development of site-specific design information and plans, additional mitigation measures
 16 may be identified to address action-specific adverse effects. However, each individual project under
 17 CM2–CM22 would undergo the environmental compliance process that would be used to determine
 18 what additional mitigation measures, would be deemed appropriate to reduce adverse effects and to
 19 assess compliance with relevant regulations. Finally, Mitigation Measure AES-6c is available to help
 20 inventory, classify, and protect the unique visual landscape of the Delta.

21 **CEQA Conclusion:** Implementation of conservation measures under Alternative 6C has the potential
 22 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
 23 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
 24 and character would be significant where use of large numbers of heavy construction equipment,
 25 changes in topography, and introduction of new structures or facilities where none presently exist
 26 would take place in the vicinity of sensitive receptors. However, because a number of factors that
 27 would determine the level of change are unknown—the location of site-specific restoration
 28 activities, potential presence of sensitive viewers, potential for construction periods to last longer
 29 than 2 years, and varying intensity of construction—impacts associated with implementation of
 30 CM2–CM22 on visual quality and character, scenic vistas, and light and glare sources, are considered
 31 significant. Because of the distance of implemented conservation measures from scenic highways,
 32 changes associated with these activities would not affect the visual quality along these scenic
 33 highway corridors and this impact would be less than significant. Site-specific restoration
 34 information and plans need to be developed before the site-specific effects on the existing visual
 35 character, scenic vistas, and light and glare can be determined.

36 Several mitigation measures are available to minimize the construction and operation impacts on
 37 visual quality and character in the study area that could result from implementation of these
 38 conservation measures. As summarized below, these measures could be applied to individual
 39 restoration projects or actions as appropriate for the site-specific conditions and design
 40 considerations. In addition, each restoration project or action would undergo an environmental
 41 compliance process that would be used to determine what additional mitigation measures would be
 42 deemed appropriate to reduce significant effects. Mitigation Measures AES-1a through AES-1g could
 43 be applied to minimize impacts by locating new transmission lines and access routes to minimize
 44 the removal of trees and shrubs and pruning needed where feasible, installing visual barriers
 45 between construction work areas and sensitive receptors, developing and implementing a

1 spoil/borrow and RTM area management plan, restoring barge unloading facility sites once
 2 decommissioned, applying aesthetic design treatments to all structures to the extent feasible,
 3 locating concrete batch plants and fuel stations away from sensitive visual resources and receptors
 4 and restoring the sites upon removal of facilities, and using best management practices to
 5 implement a project landscaping plan. Mitigation Measures AES-4a through AES-4c could be used to
 6 reduce the effects of new light and glare sources by limiting construction to daylight hours within
 7 0.25 mile of residents, minimizing fugitive light from portable sources used for construction, and
 8 installing visual barriers along access routes, where necessary, to prevent light spill from truck
 9 headlights toward residences. In addition, Mitigation Measures AES-6a and AES-6b would further
 10 minimize impacts on visual resources by undergrounding new or relocated utility lines, where
 11 feasible, and through an evaluation of an afterhours low-intensity and lights off policy. Finally,
 12 implementation of Mitigation Measure AES-6c would provide a strategy for the protection of the
 13 unique visual landscape of the Delta.

14 While some of the conservation measures could result in beneficial impacts through the restoration
 15 of natural habitat and these mitigation measures would reduce the severity of impacts, it is
 16 unknown whether they would be reduced to a less-than-significant level because of uncertainties
 17 associated with future implementation of CM2–CM22. In addition, the size of the study area and the
 18 nature of changes introduced by these conservation measures would result in permanent changes to
 19 the regional landscape such that there would be noticeable changes to the visual character that may
 20 or may not blend or be in keeping with the existing visual environment. Thus, implementation of
 21 CM2–CM22 would result in significant and unavoidable impacts on the existing visual quality and
 22 character in the study area.

23 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 24 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 25 **Transmission Lines and Underground Transmission Lines Where Feasible**

26 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 27 Alternative 1A.

28 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 29 **Sensitive Receptors**

30 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 31 Alternative 1A.

32 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 33 **Material Area Management Plan**

34 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 35 Alternative 1A.

36 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

37 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 38 Alternative 1A.

1 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
2 **Extent Feasible**

3 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
4 Alternative 1A.

5 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
6 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

7 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
8 Alternative 1A.

9 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
10 **Landscaping Plan**

11 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
12 Alternative 1A.

13 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
14 **Residents**

15 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
16 Alternative 1A.

17 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
18 **Construction**

19 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
20 Alternative 1A.

21 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
22 **to Prevent Light Spill from Truck Headlights toward Residences**

23 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
24 Alternative 1A.

25 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

26 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
27 Alternative 1A.

28 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
29 **Lights Off Policy**

30 Please refer to Mitigation Measure AES-6b under Impact AES-6 in the discussion of
31 Alternative 1A.

32 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
33 **Plan for the Delta and Study Area**

34 Please refer to Mitigation Measure AES-6c under Impact AES-6 in the discussion of
35 Alternative 1A.

1 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
 2 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
 3 **Addressing Aesthetics and Visual Resources**

4 **NEPA Effects:** Constructing conveyance facilities (CM1) and implementing CM2–CM22 under
 5 Alternative 6C would generally have the same potential for incompatibilities with one or more plans
 6 and policies related to preserving the visual quality and character of the Delta as described for
 7 Alternative 1C, Impact AES-7. As described under Alternative 1C, there would be potential for the
 8 alternative to be incompatible with plans and policies related to preserving the visual quality and
 9 character of the Delta (i.e., The Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992, Delta
 10 Protection Commission Land Use and Resource Management Plan for the Primary Zone of the Delta,
 11 Delta Plan, Brannan Island and Franks Tract State Recreation Areas General Plan). In addition, with
 12 the exception of San Joaquin County, the alternative may be incompatible with county general plan
 13 policies that protect visual resources in the study area.

14 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
 15 physical consequence to the environment. The physical effects they suggest are discussed in impacts
 16 AES-1 through AES-6, above and no additional CEQA conclusion is required related to the
 17 compatibility of Alternative 6C with relevant plans and policies.

18 **17.3.3.14 Alternative 7—Dual Conveyance with Pipeline/Tunnel, Intakes 2,**
 19 **3, and 5, and Enhanced Aquatic Conservation (9,000 cfs;**
 20 **Operational Scenario E)**

21 Table 17D-1 in Appendix 17D, *Permanent Impacts after Construction is Complete*, describes existing
 22 visual characteristics and the BDCP-related permanent effects of Alternative 1A on visual quality
 23 and character, scenic vistas, scenic roadways, and from light and glare sources after construction is
 24 complete and identifies the overall effect on viewers. Appendix E, *Permanent Features*, identifies the
 25 viewer groups and viewing locations that would be affected by permanent alternative features.
 26 Effects would be similar for this alternative. Under Alternative 7, the conveyance alignment from the
 27 intakes to the Byron Tract Forebay, along with the associated shaft site, access road, transmission
 28 line, pumping plants, barge unloading facility sites, and spoil/borrow and RTM areas would be
 29 identical to those under Alternative 1A. Alternative 7 would use the same three intakes as under
 30 Alternative 4: Intakes 2, 3, and 5. The effects associated with construction of Intakes 2, 3, and 5 are
 31 discussed in detail under Alternative 4, and those effects would be the same under Alternative 7. In
 32 addition, implementation of the other conservation measures under Alternative 7 would enhance 40
 33 linear miles rather than 20 linear miles of channel margin habitat, and restore approximately 20,000
 34 acres rather than 10,000 acres of seasonally inundated floodplain.

35 **Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during**
 36 **Construction of Conveyance Facilities**

37 **NEPA Effects:** Effects related to visual resources under this alternative would be similar to those
 38 described for Alternatives 1A and 4. Effects associated with the intake structures would be the same
 39 as described for Alternative 4 (Intakes 2, 3, and 5) and decreased relative to Alternative 1A (Intakes
 40 1–5). The primary features that would affect the existing visual quality and character under
 41 Alternative 7, once the facility has been constructed, would be the intakes, the intermediate forebay
 42 and Byron Tract Forebay, transmission lines, and resulting landscape effects left behind from
 43 spoil/borrow and RTM areas, and concrete batch plants and fuel stations. These changes would be

1 most evident in the northern portion of the study area, which would undergo extensive changes
 2 from the permanent establishment of large industrial facilities and the supporting infrastructure
 3 along and surrounding the segment of the Sacramento River where the intakes would be situated.

4 Overall, construction would take 9 years, and the intensity of the activities in contrast to the current
 5 rural/agricultural nature of the area would be substantial. Construction of intakes, and the
 6 accompanying pumping plants, surge towers, borrow/spoil areas, and RTM areas would introduce
 7 visually dominant and discordant features in the foreground and middleground views, and these
 8 elements would be very noticeable to all viewer groups.

9 After construction, areas surrounding the intakes, spoil/borrow areas, RTM areas, shaft sites, and
 10 locations where concrete batch plants and fuel stations were located may be denuded of vegetation
 11 for a short period of time until the landscaping plans designed under WREM No. 30a are
 12 implemented. Once installed, the landscape would still appear to be denuded of vegetation or to
 13 have little vegetative cover because immature landscaping would be similar in appearance to tilled
 14 or newly planted agricultural fields. The sites would be in a transitional state, and over a period of a
 15 few years, plant species would mature and vegetation would recolonize the sites. These changes
 16 would happen in an area known for its open space, agricultural landscapes, and rural characteristics
 17 and would segment the visual landscape of the study area, reduce the amount of open space lands
 18 available to viewers, and eliminate valued visual resources. The effects of permanent access roads
 19 on visual resources would not be adverse. The effects of shaft site access hatches on the existing
 20 scenic character may be adverse. Operation of the intakes, the visual presence of large-scale
 21 borrow/spoil and RTM area landscape effects, and transmission lines would result in adverse effects
 22 on the existing visual character. In addition, construction of all of these features has the potential to
 23 negatively affect wildlife viewing and the overall enjoyment of scenic views in the study area.
 24 Therefore, because of the long-term nature of construction combined with the proximity to sensitive
 25 receptors, razing of residences and agricultural buildings, removal of vegetation, and changes to
 26 topography through grading, this overall effect of conveyance facility construction on existing visual
 27 quality and character is considered adverse. Mitigation Measures AES-1a through AES-1g are
 28 available to address visual effects resulting from construction of Alternative 7 water conveyance
 29 facilities.

30 **CEQA Conclusion:** Construction of Alternative 7 would substantially alter the existing visual quality
 31 and character present in the study area. The long-term nature of construction of the intakes,
 32 pipeline/tunnel, work areas, spoil/borrow and RTM areas, shaft sites, barge unloading facilities;
 33 presence and visibility of heavy construction equipment; proximity to sensitive receptors; relocation
 34 of residences and agricultural buildings; removal of riparian vegetation and other mature vegetation
 35 or landscape plantings; earthmoving and grading that result in changes to topography in areas that
 36 are predominantly flat; addition of large-scale industrial structures (intakes and related facilities);
 37 remaining presence of large-scale borrow/spoil and RTM area landscape effects; and introduction of
 38 tall, steel transmission lines would all contribute to this impact.

39 Overall, construction would last up to 9 years and would change the existing visual character in the
 40 vicinity of project elements from those of agricultural, rural residential, or riparian and riverine
 41 settings to areas involving heavy construction equipment, temporary construction structures, work
 42 crews, other support vehicles and other activities that would modify and disrupt short- and long-
 43 range views. These activities would be disruptive to some viewers. Once construction is complete,
 44 the alternative would result in the placement of large, multi-story industrial concrete and steel
 45 structures, pumping plants, fencing, and other similar anthropogenic features where none presently

1 exist. Because of the landscape sensitivity and visual dominance of these features, these changes
 2 would result in reduced scenic quality throughout the study area (see 17.3.1.3, *Analysis of the*
 3 *Alternatives' Impact on Visual Resources*). Thus, Alternative 7 would result in significant impacts on
 4 the existing visual quality and character in the study area.

5 Mitigation Measures AES-1a through AES-1g would partially reduce impacts by locating new
 6 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 7 needed where feasible, installing visual barriers between construction work areas and sensitive
 8 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
 9 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
 10 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
 11 visual resources and receptors and restoring the sites upon removal of facilities, and using best
 12 management practices to implement a project landscaping plan. However, impacts may not be
 13 reduced to a less-than-significant level because even though mitigation measures would reduce
 14 some aspects of the impact on visual quality and character, it is not certain the mitigation would
 15 reduce the level of the impact to less than significant in all instances. In addition, the size of the
 16 study area and the nature of changes introduced by the alternative would result in permanent
 17 changes to the regional landscape such that there would be noticeable to very noticeable changes
 18 that do not blend or are not in keeping with the existing visual environment. Thus, Alternative 7
 19 would result in significant and unavoidable impacts on the existing visual quality and character in
 20 the study area.

21 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 22 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 23 **Transmission Lines and Underground Transmission Lines Where Feasible**

24 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 25 Alternative 1A.

26 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 27 **Sensitive Receptors**

28 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 29 Alternative 1A.

30 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 31 **Material Area Management Plan**

32 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 33 Alternative 1A.

34 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

35 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 36 Alternative 1A.

1 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 2 **Extent Feasible**

3 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 6 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

7 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 8 Alternative 1A.

9 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 10 **Landscaping Plan**

11 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 12 Alternative 1A.

13 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

14 **NEPA Effects:** Scenic vistas are mapped and included in Appendix Figure 17D-1. Effects related to
 15 scenic vistas under this alternative would be the same as those described for Alternative 4, Impact
 16 AES-2. During construction the introduction of construction equipment and removal of vegetation
 17 would alter the scenic elements that contribute to the viewing experience from scenic vistas. The
 18 intakes would introduce visually dominant and discordant features in the foreground and
 19 middleground views in vistas that would be very noticeable to all viewer groups in areas of low to
 20 high landscape sensitivity levels. However, the severity of these effects related to the north Delta
 21 intakes along the Sacramento River would be decreased because there would only be three intake
 22 structures instead of five. As described for Alternative 4, the effects of permanent access roads
 23 effects on scenic vistas would not be adverse. The effects of shaft site access hatches on scenic vistas
 24 could be adverse. The large scale of intakes, the visual presence of large-scale borrow/spoil and
 25 RTM area landscape effects, and transmission lines may result in adverse effects on scenic vistas
 26 (see discussions under 17.3.1.2 and 17.3.1.3). Overall, effects on scenic vistas associated with
 27 Alternative 7 may be adverse. Mitigation Measures AES-1a, AES-1c, and AES-1e are available to
 28 address these effects.

29 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 30 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
 31 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
 32 and transmission lines would result in significant impacts on scenic vistas because construction and
 33 operation would result in a reduction in the visual quality in some locations and introduce dominant
 34 visual elements that would result in noticeable changes in the visual character of scenic vista
 35 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
 36 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
 37 from public viewing areas.

38 Mitigation Measure AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 39 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 40 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 41 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site

1 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 2 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 3 hatches to less than significant. However, the impacts on scenic vistas associated with other
 4 structures would not be reduced to a less-than-significant level because even though mitigation
 5 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 6 level of the impact to less than significant in all instances. In addition, the size of the study area and
 7 the nature of changes introduced by the alternative would result in permanent changes to the
 8 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 9 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 10 with Alternative 7 would be significant and unavoidable.

11 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 12 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 13 **Transmission Lines and Underground Transmission Lines Where Feasible**

14 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 15 Alternative 1A.

16 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 17 **Material Area Management Plan**

18 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 19 Alternative 1A.

20 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 21 **Extent Feasible**

22 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 23 Alternative 1A.

24 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 25 **Construction of Conveyance Facilities**

26 **NEPA Effects:** Effects on state scenic highways under this alternative would be similar to those
 27 described for Alternative 4, Impact AES-3. Intakes 2, 3, and 5, the spoils/borrow and RTM area north
 28 of Intake 2, and the intermediate forebay would be immediately and prominently visible in the
 29 foreground from SR 160 and would result in an overall noticeable effect on viewers relative to their
 30 current experience and enjoyment of the study area's scenic resources along SR 160 and River Road,
 31 where the landscape sensitivity level is high. As described for Alternative 4, the visual elements
 32 introduced by the intakes, spoil/borrow and RTM areas north of Intake 2, and intermediate forebay
 33 associated with Alternative 7 would conflict with the existing forms, patterns, colors, and textures
 34 along River Road and SR 160; would dominate riverfront available from SR 160; and would alter
 35 broad views and the general nature of the visual experience presently available from River Road and
 36 SR 160. These changes would reduce the visual quality near intake structure locations and result in
 37 noticeable changes in the visual character of scenic vista viewsheds in the study area. These changes
 38 would not blend, would not be in keeping or would be incompatible with the existing visual
 39 environment, and could be viewed by sensitive receptors or from public viewing areas. This effect
 40 would be adverse (see discussion under 17.3.1.2 and 17.3.1.3). Mitigation Measures AES-1a, AES-1c,
 41 and AES-1e are available to address these effects.

1 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 2 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
 3 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
 4 and transmission lines would result in significant impacts on scenic vistas because construction and
 5 operation would result in a reduction in the visual quality in some locations and introduce dominant
 6 visual elements that would result in noticeable changes in the visual character of scenic vista
 7 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
 8 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
 9 from public viewing areas.

10 Mitigation Measures AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 11 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 12 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 13 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 14 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 15 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 16 hatches to less than significant. However, the impacts on scenic vistas associated with other
 17 structures would not be reduced to a less-than-significant level because even though mitigation
 18 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 19 level of the impact to less than significant in all instances. In addition, the size of the study area and
 20 the nature of changes introduced by the alternative would result in permanent changes to the
 21 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 22 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 23 with Alternative 7 would be significant and unavoidable.

24 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 25 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 26 **Transmission Lines and Underground Transmission Lines Where Feasible**

27 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 28 Alternative 1A.

29 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 30 **Material Area Management Plan**

31 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 32 Alternative 1A.

33 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 34 **Extent Feasible**

35 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 36 Alternative 1A.

37 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 38 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

39 **NEPA Effects:** Effects resulting from light and glare under this alternative would be similar to those
 40 described for Alternative 4, Impact AES-4. Intakes 2, 3, and 5 and their associated pumping plants,
 41 surge towers, and facilities and the pumping plant at the intermediate forebay would create very

1 noticeable effects relating to light and glare (Figures 17-76 through 17-78). Light building colors
 2 over a large surface area would reflect off of those surfaces and increase glare, especially when
 3 combined with the removal of vegetation that absorbs light, provides shade, and screens glare.
 4 Sunlight would reflect off the new water surfaces of the forebay, creating new sources of glare
 5 where none presently exist. However, the severity of these effects related to the north Delta intakes
 6 on the Sacramento River would be decreased because there would only be three intake structures
 7 instead of five. Nighttime construction could also result in headlights flashing into nearby residents'
 8 homes when construction vehicles are turning onto or off of construction access routes. Proposed
 9 surge towers would require the use of safety lights that would alert low-flying aircraft to the
 10 presence of these structures because of their height. Overall, because the study area currently
 11 experiences low levels of light and because there are a larger number of viewers in and around the
 12 waterways, intake structures, and forebay that would be affected by these noticeable changes that
 13 contrast with the existing rural character, effects associated with new sources of daytime and
 14 nighttime light and glare are considered adverse. Mitigation Measures AES-4a through AES-4c are
 15 available to address these effects.

16 **CEQA Conclusion:** The impacts associated with light and glare under Alternative 7 are significant
 17 because there are a larger number of viewers in and around the waterways, intake structures, and
 18 intermediate forebay; BDCP facilities would increase the amount of nighttime lighting in the Delta
 19 above existing ambient light levels; and the study area currently experiences low levels of light
 20 because there are fewer light/glare producers than are typical in urban areas. Mitigation Measures
 21 AES-4a through AES-4c would help reduce these impacts by limiting construction to daylight hours
 22 within 0.25 mile of residents, minimizing fugitive light from portable sources used for construction,
 23 and installing visual barriers along access routes, where necessary, to prevent light spill from truck
 24 headlights toward residences; however, these mitigation measures would not reduce impacts to a
 25 less-than-significant level because even though mitigation measures would reduce some aspects of
 26 the impact, it is not certain the mitigation would reduce the level of the impact to less than
 27 significant in all instances. In addition, the size of the study area and the nature of changes
 28 introduced by the new light and glare sources would result in permanent changes to the regional
 29 landscape such that there would be noticeable changes to the visual character that do not blend or
 30 are not in keeping with the existing visual environment. Thus, the new sources of daytime and
 31 nighttime light and glare associated with Alternative 7 would result in significant and unavoidable
 32 impacts on public views in the project vicinity.

33 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 34 **Residents**

35 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 36 Alternative 1A.

37 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 38 **Construction**

39 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 40 Alternative 1A.

1 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 2 **to Prevent Light Spill from Truck Headlights toward Residences**

3 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 4 Alternative 1A.

5 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

6 **NEPA Effects:** Effects on the visual environment through operations and maintenance of the water
 7 conveyance facilities (CM1) under this alternative would be similar to those described for
 8 Alternative 4, Impact AES-5. Once the facility is in operation, visible regular and periodic
 9 maintenance would be required on all major structures. Activities such as painting, cleaning,
 10 vegetation maintenance (removal), repairs, and inspections would be visible from viewpoints on
 11 water and land. The greatest visual effects resulting from operations would be maintenance of the
 12 intakes and dredging the forebays. Because temporary maintenance activities are anticipated to
 13 occur within a short period of time, these effects would not be adverse because the activities would
 14 not result in further substantial changes to the existing natural viewshed or terrain, alter existing
 15 visual quality of the region or eliminate visual resources, or obstruct or permanently reduce visually
 16 important features.

17 **CEQA Conclusion:** Maintenance of the conveyance facilities (i.e., intakes, tunnels, forebays and
 18 transmission lines) would be required periodically and would involve painting, cleaning, and repair
 19 of structures; dredging at forebays (at approximately 50-year intervals); vegetation removal and
 20 care along embankments; tunnel inspection; and vegetation removal within transmission line ROWs.
 21 These visible maintenance activities would be temporary, intermittent, and short-term impacts and
 22 would be considered less than significant. Maintenance and operation of Alternative 7 once
 23 constructed, would not result in further substantial changes to the existing natural viewshed or
 24 terrain, alter existing visual quality of the region or eliminate visual resources, or obstruct or
 25 permanently reduce visually important features. Thus, overall, Alternative 7 would have a less-than-
 26 significant impact on existing visual quality and character during maintenance and operation of the
 27 facilities in the study area. No mitigation is required.

28 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during**
 29 **Implementation of CM2–CM22**

30 **NEPA Effects:** Under Alternative 7, these conservation measures would be similar to those under
 31 Alternative 1A, Impact AES-6, but up to an additional 20 miles of channel margin habitat
 32 enhancement and 10,000 acres seasonally inundated floodplain restoration would take place under
 33 this alternative compared to Alternative 1A. Effects on the existing visual character, scenic vistas,
 34 scenic highways, and light and glare would be similar those under Alternative 1A because
 35 restored/enhanced lands would result in incremental and site-specific changes to changes in views.
 36 There may be site-specific, localized adverse visual effects. These conservation measures would
 37 alter the Delta landscape by incrementally, and substantially, introducing elements into the study
 38 area over time. CM2–CM22, when combined with CM1, could substantially alter the visual character
 39 of the study area, which is strongly identified by its agricultural and water-based Delta landscapes
 40 and communities. These landscapes and communities could be adversely affected by the
 41 introduction of discordant visual features, removal of existing buildings and landscape elements of
 42 value, and through the potential for indirect impacts associated with other development potentially

1 setting a precedent for other development to occur. All of these effects would alter the visual
2 character of the existing regional landscape.

3 Because of the unknown location of site-specific restoration activities, potential presence of
4 sensitive viewers, potential for construction periods to last longer than 2 years, and varying
5 intensity of construction, effects associated with implementation of CM2–CM22 could be adverse.
6 However, the visual characteristics of restored/enhanced landscapes would be similar to areas of
7 the Delta that are in a natural marsh or wetland state and more limited in extent than the
8 widespread areas of agricultural development. In this sense, the BDCP would have an overall
9 beneficial effect related to the enhancement and creation of scenic vistas in the Delta.

10 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a through AES-4c are
11 available to address effects from habitat restoration and enhancement actions under CM2–CM22. In
12 addition, Mitigation Measures AES-6a and AES-6b are available to help reduce adverse visual effects.
13 Upon development of site-specific design information and plans, additional mitigation measures
14 may be identified to address action-specific adverse effects. However, each individual project under
15 CM2–CM22 would undergo the environmental compliance process that would be used to determine
16 what additional mitigation measures, would be deemed appropriate to reduce adverse effects and to
17 assess compliance with relevant regulations. Finally, Mitigation Measure AES-6c is available to help
18 inventory, classify, and protect the unique visual landscape of the Delta.

19 **CEQA Conclusion:** Implementation of conservation measures under Alternative 7 has the potential
20 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
21 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
22 and character would be significant where use of large numbers of heavy construction equipment,
23 changes in topography, and introduction of new structures or facilities where none presently exist
24 would take place in the vicinity of sensitive receptors. However, because a number of factors that
25 would determine the level of change are unknown—the location of site-specific restoration
26 activities, potential presence of sensitive viewers, potential for construction periods to last longer
27 than 2 years, and varying intensity of construction—impacts associated with implementation of
28 CM2–CM22 on visual quality and character, scenic vistas, and light and glare sources, are considered
29 significant. Because of the distance of implemented conservation measures from scenic highways,
30 changes associated with these activities would not affect the visual quality along these scenic
31 highway corridors and this impact would be less than significant. Site-specific restoration
32 information and plans need to be developed before the site-specific effects on the existing visual
33 character, scenic vistas, and light and glare can be determined.

34 Several mitigation measures are available to minimize the impacts on visual quality and character in
35 the study area that could result from implementation of these conservation measures. As
36 summarized below, these measures could be applied to individual restoration projects or actions as
37 appropriate for the site-specific conditions and design considerations. In addition, each restoration
38 project or action would undergo an environmental compliance process that would be used to
39 determine what additional mitigation measures would be deemed appropriate to reduce significant
40 effects. Mitigation Measures AES-1a through AES-1g could be applied to minimize impacts by
41 locating new transmission lines and access routes to minimize the removal of trees and shrubs and
42 pruning needed where feasible, installing visual barriers between construction work areas and
43 sensitive receptors, developing and implementing a spoil/borrow and RTM area management plan,
44 restoring barge unloading facility sites once decommissioned, applying aesthetic design treatments
45 to all structures to the extent feasible, locating concrete batch plants and fuel stations away from

1 sensitive visual resources and receptors and restoring the sites upon removal of facilities, and using
 2 best management practices to implement a project landscaping plan. Mitigation Measures AES-4a
 3 through AES-4c could be used to reduce the effects of new light and glare sources by limiting
 4 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
 5 sources used for construction, and installing visual barriers along access routes, where necessary, to
 6 prevent light spill from truck headlights toward residences. In addition, Mitigation Measures AES-6a
 7 and AES-6b would further minimize impacts on visual resources by undergrounding new or
 8 relocated utility lines, where feasible, and through an evaluation of an afterhours low-intensity and
 9 lights off policy. Finally, implementation of Mitigation Measure AES-6c would provide a strategy for
 10 the protection of the unique visual landscape of the Delta.

11 While some of the conservation measures could result in beneficial impacts through the restoration
 12 of natural habitat and these mitigation measures would reduce the severity of impacts, it is
 13 unknown whether they would be reduced to a less-than-significant level because of uncertainties
 14 associated with future implementation of CM2–CM22. In addition, the size of the study area and the
 15 nature of changes introduced by these conservation measures would result in permanent changes to
 16 the regional landscape such that there would be noticeable changes to the visual character that may
 17 or may not blend or be in keeping with the existing visual environment. Thus, implementation of
 18 CM2–CM22 would result in significant and unavoidable impacts on the existing visual quality and
 19 character in the study area.

20 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 21 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 22 **Transmission Lines and Underground Transmission Lines Where Feasible**

23 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 24 Alternative 1A.

25 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 26 **Sensitive Receptors**

27 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 28 Alternative 1A.

29 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 30 **Material Area Management Plan**

31 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 32 Alternative 1A.

33 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

34 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 35 Alternative 1A.

36 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 37 **Extent Feasible**

38 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 39 Alternative 1A.

1 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
2 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

3 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
4 Alternative 1A.

5 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
6 **Landscaping Plan**

7 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
8 Alternative 1A.

9 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
10 **Residents**

11 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
12 Alternative 1A.

13 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
14 **Construction**

15 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
16 Alternative 1A.

17 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
18 **to Prevent Light Spill from Truck Headlights toward Residences**

19 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
20 Alternative 1A.

21 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

22 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
23 Alternative 1A.

24 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
25 **Lights Off Policy**

26 Please refer to Mitigation Measure AES-6b under Impact AES-6 in the discussion of
27 Alternative 1A.

28 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
29 **Plan for the Delta and Study Area**

30 Please refer to Mitigation Measure AES-6c under Impact AES-6 in the discussion of
31 Alternative 1A.

1 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
 2 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
 3 **Addressing Aesthetics and Visual Resources**

4 **NEPA Effects:** Constructing conveyance facilities (CM1) and implementing CM2–CM22 under
 5 Alternative 7 would generally have the same potential for incompatibilities with one or more plans
 6 and policies related to preserving the visual quality and character of the Delta as described for
 7 Alternative 1A, Impact AES-7. The primary differences under Alternative 7 are that only Intakes 2, 3
 8 and 5 would be constructed and there would be larger areas of enhancement of channel margin
 9 habitat (40 linear miles rather than 20 linear miles) and restoration of seasonally inundated
 10 floodplain (approximately 20,000 acres rather than 10,000 acres). As described under Alternative
 11 1A, there would be potential for the alternative to be incompatible with plans and policies related to
 12 preserving the visual quality and character of the Delta (i.e., The Johnston-Baker-Andal-Boatwright
 13 Delta Protection Act of 1992, Delta Protection Commission Land Use and Resource Management
 14 Plan for the Primary Zone of the Delta, Delta Plan, Brannan Island and Franks Tract State Recreation
 15 Areas General Plan). In addition, with the exception of Solano County, the alternative may be
 16 incompatible with county general plan policies that protect visual resources in the study area.

17 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
 18 physical consequence to the environment. The physical effects they suggest are discussed in impacts
 19 AES-1 through AES-6, above and no additional CEQA conclusion is required related to the
 20 compatibility of Alternative 7 with relevant plans and policies.

21 **17.3.3.15 Alternative 8—Dual Conveyance with Pipeline/Tunnel, Intakes 2,**
 22 **3, and 5, and Increased Delta Outflow (9,000 cfs; Operational**
 23 **Scenario F)**

24 Table 17D-1 in Appendix 17D, *Permanent Impacts after Construction is Complete*, describes existing
 25 visual characteristics and the BDCP-related permanent effects of Alternative 1A on visual quality
 26 and character, scenic vistas, scenic roadways, and from light and glare sources after construction is
 27 complete and identifies the overall effect on viewers. Appendix 17E, *Permanent Features*, identifies
 28 the viewer groups and viewing locations that would be affected by permanent alternative features.
 29 Effects would be similar under this alternative. Under Alternative 8, the conveyance alignment from
 30 the intakes to the Byron Tract Forebay, along with the associated shaft site, access road,
 31 transmission line, pumping plants, barge unloading facility sites, and spoil/borrow and RTM areas
 32 would be identical to those under Alternative 1A. Alternative 8 would use the same three intakes as
 33 under Alternative 4: Intakes 2, 3, and 5. The effects associated with construction of Intakes 2, 3, and
 34 5 are discussed in detail under Alternative 4, and those effects would be the same under Alternative
 35 8. Other conservation measures (CM2–CM22) under Alternative 8 would be the same as those under
 36 Alternative 1A.

37 **Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during**
 38 **Construction of Conveyance Facilities**

39 **NEPA Effects:** Effects related to visual resources under this alternative would be similar to those
 40 described for Alternative 4. Effects associated with the intake structures would be the same as
 41 described for Alternative 4 (Intakes 2, 3, and 5) and decreased relative to Alternative 1A (Intakes 1–
 42 5). The primary features that would affect the existing visual quality and character under
 43 Alternative 8, once the facility has been constructed, would be the intakes, the intermediate forebay

1 and Byron Tract Forebay, transmission lines, and resulting landscape effects left behind from
2 spoil/borrow and RTM areas, and concrete batch plants and fuel stations. These changes would be
3 most evident in the northern portion of the study area, which would undergo extensive changes
4 from the permanent establishment of large industrial facilities and the supporting infrastructure
5 along and surrounding the segment of the Sacramento River where the intakes would be situated.

6 Overall, construction would take 9 years, and the intensity of the activities in contrast to the current
7 rural/agricultural nature of the area would be substantial. Construction of intakes, and the
8 accompanying pumping plants, surge towers, borrow/spoil areas, and RTM areas would introduce
9 visually dominant and discordant features in the foreground and middleground views, and these
10 elements would be very noticeable to all viewer groups.

11 After construction, areas surrounding the intakes, spoil/borrow areas, RTM areas, shaft sites, and
12 locations where concrete batch plants and fuel stations were located may be denuded of vegetation
13 for a short period of time until the landscaping plans designed under WREM No. 30a are
14 implemented. Once installed, the landscape would still appear to be denuded of vegetation or to
15 have little vegetative cover because immature landscaping would be similar in appearance to tilled
16 or newly planted agricultural fields. The sites would be in a transitional state, and over a period of a
17 few years, plant species would mature and vegetation would recolonize the sites. These changes
18 would happen in an area known for its open space, agricultural landscapes, and rural characteristics
19 and would segment the visual landscape of the study area, reduce the amount of open space lands
20 available to viewers, and eliminate valued visual resources. The effects of permanent access roads
21 on visual resources would not be adverse. The effects of shaft site access hatches on the existing
22 scenic character may be adverse. Operation of the intakes, the visual presence of large-scale
23 borrow/spoil and RTM area landscape effects, and transmission lines would result in adverse effects
24 on the existing visual character. In addition, construction of all of these features has the potential to
25 negatively affect wildlife viewing and the overall enjoyment of scenic views in the study area.
26 Therefore, because of the long-term nature of construction combined with the proximity to sensitive
27 receptors, razing of residences and agricultural buildings, removal of vegetation, and changes to
28 topography through grading, this overall effect of conveyance facility construction on existing visual
29 quality and character is considered adverse. Mitigation Measures AES-1a through AES-1g are
30 available to address visual effects resulting from construction of Alternative 8 water conveyance
31 facilities.

32 **CEQA Conclusion:** Construction of Alternative 8 would substantially alter the existing visual quality
33 and character present in the study area. The long-term nature of construction of the intakes,
34 pipeline/tunnel, work areas, spoil/borrow and RTM areas, shaft sites, barge unloading facilities;
35 presence and visibility of heavy construction equipment; proximity to sensitive receptors; relocation
36 of residences and agricultural buildings; removal of riparian vegetation and other mature vegetation
37 or landscape plantings; earthmoving and grading that result in changes to topography in areas that
38 are predominantly flat; addition of large-scale industrial structures (intakes and related facilities);
39 remaining presence of large-scale borrow/spoil and RTM area landscape effects; and introduction of
40 tall, steel transmission lines would all contribute to this impact.

41 Overall, construction would last up to 9 years and would change the existing visual character in the
42 vicinity of project elements from those of agricultural, rural residential, or riparian and riverine
43 settings to areas involving heavy construction equipment, temporary construction structures, work
44 crews, other support vehicles and other activities that would modify and disrupt short- and long-
45 range views. These activities would be disruptive to some viewers. Once construction is complete,

1 the alternative would result in the placement of large, multi-story industrial concrete and steel
 2 structures, pumping plants, fencing, and other similar anthropogenic features where none presently
 3 exist. Because of the landscape sensitivity and visual dominance of these features, these changes
 4 would result in reduced scenic quality throughout the study area (see 17.3.1.3, *Analysis of the*
 5 *Alternatives' Impact on Visual Resources*). Thus, Alternative 8 would result in significant impacts on
 6 the existing visual quality and character in the study area.

7 Mitigation Measures AES-1a through AES-1g would partially reduce impacts by locating new
 8 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 9 needed where feasible, installing visual barriers between construction work areas and sensitive
 10 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
 11 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
 12 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
 13 visual resources and receptors and restoring the sites upon removal of facilities, and using best
 14 management practices to implement a project landscaping plan. However, impacts may not be
 15 reduced to a less-than-significant level because even though mitigation measures would reduce
 16 some aspects of the impact on visual quality and character, it is not certain the mitigation would
 17 reduce the level of the impact to less than significant in all instances. In addition, the size of the
 18 study area and the nature of changes introduced by the alternative would result in permanent
 19 changes to the regional landscape such that there would be noticeable to very noticeable changes
 20 that do not blend or are not in keeping with the existing visual environment. Thus, Alternative 8
 21 would result in significant and unavoidable impacts on the existing visual quality and character in
 22 the study area.

23 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 24 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 25 **Transmission Lines and Underground Transmission Lines Where Feasible**

26 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 27 Alternative 1A.

28 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 29 **Sensitive Receptors**

30 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 31 Alternative 1A.

32 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 33 **Material Area Management Plan**

34 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 35 Alternative 1A.

36 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

37 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 38 Alternative 1A.

1 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 2 **Extent Feasible**

3 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 6 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

7 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 8 Alternative 1A.

9 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 10 **Landscaping Plan**

11 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 12 Alternative 1A.

13 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

14 **NEPA Effects:** Scenic vistas are mapped and included in Appendix Figure 17D-1. Effects related to
 15 scenic vistas under this alternative would be similar to those described for Alternative 4, Impact
 16 AES-2. During construction the introduction of construction equipment and removal of vegetation
 17 would alter the scenic elements that contribute to the viewing experience from scenic vistas. The
 18 intakes would introduce visually dominant and discordant features in the foreground and
 19 middleground views in vistas that would be very noticeable to all viewer groups in areas of low to
 20 high landscape sensitivity levels. As described for Alternative 4, the effects of permanent access
 21 roads effects on scenic vistas would not be adverse. The effects of shaft site access hatches on scenic
 22 vistas could be adverse. The large scale of intakes, the visual presence of large-scale borrow/spoil
 23 and RTM area landscape effects, and transmission lines may result in adverse effects on scenic vistas
 24 (see discussions under 17.3.1.2 and 17.3.1.3). Overall, effects on scenic vistas associated with
 25 Alternative 8 may be adverse. Mitigation Measures AES-1a, AES-1c, and AES-1e are available to
 26 address these effects.

27 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 28 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and
 29 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
 30 and transmission lines would result in significant impacts on scenic vistas because construction and
 31 operation would result in a reduction in the visual quality in some locations and introduce dominant
 32 visual elements that would result in noticeable changes in the visual character of scenic vista
 33 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
 34 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
 35 from public viewing areas.

36 Mitigation Measure AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 37 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 38 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 39 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 40 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 41 of aesthetic design treatments to all structures and would reduce the impact of shaft site access

1 hatches to less than significant. However, the impacts on scenic vistas associated with other
 2 structures would not be reduced to a less-than-significant level because even though mitigation
 3 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 4 level of the impact to less than significant in all instances. In addition, the size of the study area and
 5 the nature of changes introduced by the alternative would result in permanent changes to the
 6 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 7 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 8 with Alternative 8 would be significant and unavoidable.

9 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 10 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 11 **Transmission Lines and Underground Transmission Lines Where Feasible**

12 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 13 Alternative 1A.

14 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 15 **Material Area Management Plan**

16 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 17 Alternative 1A.

18 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 19 **Extent Feasible**

20 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 21 Alternative 1A.

22 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 23 **Construction of Conveyance Facilities**

24 **NEPA Effects:** Effects on state scenic highways under this alternative would be similar to those
 25 described for Alternative 4, Impact AES-3. Intakes 2, 3, and 5, the spoils/borrow and RTM area north
 26 of Intake 2, and the intermediate forebay would be immediately and prominently visible in the
 27 foreground from SR 160 and would result in an overall noticeable effect on viewers relative to their
 28 current experience and enjoyment of the study area's scenic resources along SR 160 and River Road,
 29 where the landscape sensitivity level is high. As described for Alternative 4, the visual elements
 30 introduced by the intakes, spoil/borrow and RTM areas north of Intake 2, and intermediate forebay
 31 associated with Alternative 8 would conflict with the existing forms, patterns, colors, and textures
 32 along River Road and SR 160; would dominate riverfront available from SR 160; and would alter
 33 broad views and the general nature of the visual experience presently available from River Road and
 34 SR 160. These changes would reduce the visual quality near intake structure locations and result in
 35 noticeable changes in the visual character of scenic vista viewsheds in the study area. These changes
 36 would not blend, would not be in keeping or would be incompatible with the existing visual
 37 environment, and could be viewed by sensitive receptors or from public viewing areas. This effect
 38 would be adverse (see discussion under 17.3.1.2 and 17.3.1.3 Mitigation Measure AES-1e is available
 39 to address these effects.

40 **CEQA Conclusion:** Because proposed permanent access roads generally follow existing ROWs, they
 41 would have less-than-significant impacts on scenic vistas. The presence of the intake structures and

1 pumping plants, large-scale borrow/spoil and RTM area landscape effects, shaft site access hatches,
 2 and transmission lines would result in significant impacts on scenic vistas because construction and
 3 operation would result in a reduction in the visual quality in some locations and introduce dominant
 4 visual elements that would result in noticeable changes in the visual character of scenic vista
 5 viewsheds in the study area. These changes would not blend, would not be in keeping or would be
 6 incompatible with the existing visual environment, and could be viewed by sensitive receptors or
 7 from public viewing areas.

8 Mitigation Measures AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
 9 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 10 needed where feasible, developing and implementing a spoil/borrow and RTM area management
 11 plan, and applying aesthetic design treatments to all structures to the extent feasible. Shaft site
 12 access hatches would be constructed near ground level; Mitigation Measure AES-1e requires the use
 13 of aesthetic design treatments to all structures and would reduce the impact of shaft site access
 14 hatches to less than significant. However, the impacts on scenic vistas associated with other
 15 structures would not be reduced to a less-than-significant level because even though mitigation
 16 measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the
 17 level of the impact to less than significant in all instances. In addition, the size of the study area and
 18 the nature of changes introduced by the alternative would result in permanent changes to the
 19 regional landscape such that there would be noticeable to very noticeable changes that do not blend
 20 or are not in keeping with the existing visual environment. Thus, impacts on scenic vistas associated
 21 with Alternative 8 would be significant and unavoidable.

22 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 23 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 24 **Transmission Lines and Underground Transmission Lines Where Feasible**

25 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 26 Alternative 1A.

27 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 28 **Material Area Management Plan**

29 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 30 Alternative 1A.

31 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 32 **Extent Feasible**

33 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 34 Alternative 1A.

35 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 36 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

37 **NEPA Effects:** Effects resulting from light and glare under this alternative would be similar to those
 38 described for Alternative 4, Impact AES-4. Intakes 2, 3, and 5 and their associated pumping plants,
 39 surge towers, and facilities and the pumping plant at the intermediate forebay would create very
 40 noticeable effects relating to light and glare (Figures 17-76 through 17-78). Light building colors
 41 over a large surface area would reflect off of those surfaces and increase glare, especially when

1 combined with the removal of vegetation that absorbs light, provides shade, and screens glare.
 2 Sunlight would reflect off the new water surfaces of the forebay, creating new sources of glare
 3 where none presently exist. However, the severity of these effects related to the north Delta intakes
 4 on the Sacramento River would be decreased because there would only be three intake structures
 5 instead of five. Nighttime construction could also result in headlights flashing into nearby residents'
 6 homes when construction vehicles are turning onto or off of construction access routes. Proposed
 7 surge towers would require the use of safety lights that would alert low-flying aircraft to the
 8 presence of these structures because of their height. Overall, because the study area currently
 9 experiences low levels of light and because there are a larger number of viewers in and around the
 10 waterways, intake structures, and forebay that would be affected by these noticeable changes that
 11 contrast with the existing rural character, effects associated with new sources of daytime and
 12 nighttime light and glare are considered adverse. Mitigation Measures AES-4a through AES-4c are
 13 available to address these effects.

14 **CEQA Conclusion:** The impacts associated with light and glare under Alternative 8 are significant
 15 because there are a larger number of viewers in and around the waterways, intake structures, and
 16 intermediate forebay; BDCP facilities would increase the amount of nighttime lighting in the Delta
 17 above existing ambient light levels; and the study area currently experiences low levels of light
 18 because there are fewer light/glare producers than are typical in urban areas. Mitigation Measures
 19 AES-4a through AES-4c would help reduce these impacts by limiting construction to daylight hours
 20 within 0.25 mile of residents, minimizing fugitive light from portable sources used for construction,
 21 and installing visual barriers along access routes, where necessary, to prevent light spill from truck
 22 headlights toward residences; however, these mitigation measures would not reduce impacts to a
 23 less-than-significant level because even though mitigation measures would reduce some aspects of
 24 the impact, it is not certain the mitigation would reduce the level of the impact to less than
 25 significant in all instances. In addition, the size of the study area and the nature of changes
 26 introduced by the new light and glare sources would result in permanent changes to the regional
 27 landscape such that there would be noticeable changes to the visual character that do not blend or
 28 are not in keeping with the existing visual environment. Thus, the new sources of daytime and
 29 nighttime light and glare associated with Alternative 8 would result in significant and unavoidable
 30 impacts on public views in the project vicinity.

31 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 32 **Residents**

33 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 34 Alternative 1A.

35 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 36 **Construction**

37 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 38 Alternative 1A.

39 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 40 **to Prevent Light Spill from Truck Headlights toward Residences**

41 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 42 Alternative 1A.

1 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

2 **NEPA Effects:** Effects on the visual environment through operations and maintenance of the water
 3 conveyance facilities (CM1) under this alternative would be similar to those described for
 4 Alternative 4, Impact AES-5. Once the facility is in operation, visible regular and periodic
 5 maintenance would be required on all major structures. Activities such as painting, cleaning,
 6 vegetation maintenance (removal), repairs, and inspections would be visible from viewpoints on
 7 water and land. The greatest visual effects resulting from operations would be maintenance of the
 8 intakes and dredging the forebays. Because temporary maintenance activities are anticipated to
 9 occur within a short period of time, these effects would not be adverse because the activities would
 10 not result in further substantial changes to the existing natural viewshed or terrain, alter existing
 11 visual quality of the region or eliminate visual resources, or obstruct or permanently reduce visually
 12 important features.

13 **CEQA Conclusion:** Maintenance of the conveyance facilities (i.e., intakes, tunnels, forebays and
 14 transmission lines) would be required periodically and would involve painting, cleaning, and repair
 15 of structures; dredging at forebays (at approximately 50-year intervals); vegetation removal and
 16 care along embankments; tunnel inspection; and vegetation removal within transmission line ROWs.
 17 These visible maintenance activities would be temporary, intermittent, and short-term impacts and
 18 would be considered less than significant. Maintenance and operation of Alternative 8 once
 19 constructed, would not result in further substantial changes to the existing natural viewshed or
 20 terrain, alter existing visual quality of the region or eliminate visual resources, or obstruct or
 21 permanently reduce visually important features. Thus, overall, Alternative 8 would have a less-than-
 22 significant impact on existing visual quality and character during maintenance and operation of the
 23 facilities in the study area. No mitigation is required.

24 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during** 25 **Implementation of CM2–CM22**

26 **NEPA Effects:** Under Alternative 8, these conservation measures would be the same as those under
 27 Alternative 4, Impact AES-6. Effects on the existing visual character, scenic vistas, scenic highways,
 28 and light and glare would be similar those under Alternative 4 because restored/enhanced lands
 29 would result in incremental and site-specific changes to changes in views. There may be site-
 30 specific, localized adverse visual effects. These conservation measures would alter the Delta
 31 landscape by incrementally, and substantially, introducing elements into the study area over time.
 32 CM2–CM22, when combined with CM1, could substantially alter the visual character of the study
 33 area, which is strongly identified by its agricultural and water-based Delta landscapes and
 34 communities. These landscapes and communities could be adversely affected by the introduction of
 35 discordant visual features, removal of existing buildings and landscape elements of value, and
 36 through the potential for indirect impacts associated with other development potentially setting a
 37 precedent for other development to occur. All of these effects would alter the visual character of the
 38 existing regional landscape.

39 Because of the unknown location of site-specific restoration activities, potential presence of
 40 sensitive viewers, potential for construction periods to last longer than 2 years, and varying
 41 intensity of construction, effects associated with implementation of CM2–CM22 could be adverse.
 42 However, the visual characteristics of restored/enhanced landscapes would be similar to areas of
 43 the Delta that are in a natural marsh or wetland state and more limited in extent than the

1 widespread areas of agricultural development. In this sense, the BDCP would have an overall
2 beneficial effect related to the enhancement and creation of scenic vistas in the Delta.

3 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a through AES-4c are
4 available to address effects from habitat restoration and enhancement actions under CM2–CM22. In
5 addition, Mitigation Measures AES-6a and AES-6b are available to help reduce adverse visual effects.
6 Upon development of site-specific design information and plans, additional mitigation measures
7 may be identified to address action-specific adverse effects. However, each individual project under
8 CM2–CM22 would undergo the environmental compliance process that would be used to determine
9 what additional mitigation measures, would be deemed appropriate to reduce adverse effects and to
10 assess compliance with relevant regulations. Finally, Mitigation Measure AES-6c is available to help
11 inventory, classify, and protect the unique visual landscape of the Delta.

12 **CEQA Conclusion:** Implementation of conservation measures under Alternative 8 has the potential
13 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
14 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
15 and character would be significant where use of large numbers of heavy construction equipment,
16 changes in topography, and introduction of new structures or facilities where none presently exist
17 would take place in the vicinity of sensitive receptors. However, because a number of factors that
18 would determine the level of change are unknown—the location of site-specific restoration
19 activities, potential presence of sensitive viewers, potential for construction periods to last longer
20 than 2 years, and varying intensity of construction—impacts associated with implementation of
21 CM2–CM22 on visual quality and character, scenic vistas, and light and glare sources, are considered
22 significant. Because of the distance of implemented conservation measures from scenic highways,
23 changes associated with these activities would not affect the visual quality along these scenic
24 highway corridors and this impact would be less than significant. Site-specific restoration
25 information and plans need to be developed before the site-specific effects on the existing visual
26 character, scenic vistas, and light and glare can be determined.

27 Several mitigation measures are available to minimize the impacts on visual quality and character in
28 the study area that could result from implementation of these conservation measures. As
29 summarized below, these measures could be applied to individual restoration projects or actions as
30 appropriate for the site-specific conditions and design considerations. In addition, each restoration
31 project or action would undergo an environmental compliance process that would be used to
32 determine what additional mitigation measures would be deemed appropriate to reduce significant
33 effects. Mitigation Measures AES-1a through AES-1g could be applied to minimize impacts by
34 locating new transmission lines and access routes to minimize the removal of trees and shrubs and
35 pruning needed where feasible, installing visual barriers between construction work areas and
36 sensitive receptors, developing and implementing a spoil/borrow and RTM area management plan,
37 restoring barge unloading facility sites once decommissioned, applying aesthetic design treatments
38 to all structures to the extent feasible, locating concrete batch plants and fuel stations away from
39 sensitive visual resources and receptors and restoring the sites upon removal of facilities, and using
40 best management practices to implement a project landscaping plan. Mitigation Measures AES-4a
41 through AES-4c could be used to reduce the effects of new light and glare sources by limiting
42 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
43 sources used for construction, and installing visual barriers along access routes, where necessary, to
44 prevent light spill from truck headlights toward residences. In addition, Mitigation Measures AES-6a
45 and AES-6b would further minimize impacts on visual resources by undergrounding new or
46 relocated utility lines, where feasible, and through an evaluation of an afterhours low-intensity and

lights off policy. Finally, implementation of Mitigation Measure AES-6c would provide a strategy for the protection of the unique visual landscape of the Delta.

While some of the conservation measures could result in beneficial impacts through the restoration of natural habitat and these mitigation measures would reduce the severity of impacts, it is unknown whether they would be reduced to a less-than-significant level because of uncertainties associated with future implementation of CM2–CM22. In addition, the size of the study area and the nature of changes introduced by these conservation measures would result in permanent changes to the regional landscape such that there would be noticeable changes to the visual character that may or may not blend or be in keeping with the existing visual environment. Thus, implementation of CM2–CM22 would result in significant and unavoidable impacts on the existing visual quality and character in the study area.

Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New Transmission Lines and Underground Transmission Lines Where Feasible

Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of Alternative 1A.

Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and Sensitive Receptors

Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of Alternative 1A.

Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel Material Area Management Plan

Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of Alternative 1A.

Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned

Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of Alternative 1A.

Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the Extent Feasible

Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of Alternative 1A.

Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities

Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of Alternative 1A.

1 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 2 **Landscaping Plan**

3 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 6 **Residents**

7 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 8 Alternative 1A.

9 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 10 **Construction**

11 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 12 Alternative 1A.

13 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 14 **to Prevent Light Spill from Truck Headlights toward Residences**

15 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 16 Alternative 1A.

17 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

18 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
 19 Alternative 1A.

20 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
 21 **Lights Off Policy**

22 Please refer to Mitigation Measure AES-6b under Impact AES-6 in the discussion of
 23 Alternative 1A.

24 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
 25 **Plan for the Delta and Study Area**

26 Please refer to Mitigation Measure AES-6c under Impact AES-6 in the discussion of
 27 Alternative 1A.

28 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
 29 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
 30 **Addressing Aesthetics and Visual Resources**

31 **NEPA Effects:** Constructing conveyance facilities (CM1) and implementing CM2–CM22 under
 32 Alternative 8 would generally have the same potential for incompatibilities with one or more plans
 33 and policies related to preserving the visual quality and character of the Delta as described for
 34 Alternative 1A, Impact AES-7. The primary differences under Alternative 8 are that only Intakes 2, 3
 35 and 5 would be constructed. As described under Alternative 1A, there would be potential for the
 36 alternative to be incompatible with plans and policies related to preserving the visual quality and
 37 character of the Delta (i.e., The Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992, Delta

1 Protection Commission Land Use and Resource Management Plan for the Primary Zone of the Delta,
 2 Delta Plan, Brannan Island and Franks Tract State Recreation Areas General Plan). In addition, with
 3 the exception of Solano County, the alternative may be incompatible with county general plan
 4 policies that protect visual resources in the study area.

5 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
 6 physical consequence to the environment. The physical effects they suggest are discussed in impacts
 7 AES-1 through AES-6, above and no additional CEQA conclusion is required related to the
 8 compatibility of Alternative 8 with relevant plans and policies.

9 **17.3.3.16 Alternative 9—Through Delta/Separate Corridors (15,000 cfs; 10 Operational Scenario G)**

11 Table 17D-4 in Appendix 17D, *Permanent Impacts after Construction is Complete*, describes existing
 12 visual characteristics and the BDCP-related permanent effects of Alternative 9 on visual quality and
 13 character, scenic vistas, scenic roadways, and from light and glare sources after construction is
 14 complete and identifies the overall effect on viewers. Appendix E, *Permanent Features*, identifies the
 15 viewer groups and viewing locations that would be affected by permanent alternative features.
 16 Construction of all structural components under Alternative 9 could potentially occur over a period
 17 of 9 years. However, construction of each individual facility would be phased within that period and
 18 would occur over a shorter period. The estimated construction times for individual features are
 19 included below. The duration and schedule for construction of the water conveyance facilities (CM1)
 20 is provided in Appendix 3C, *Construction Assumptions for Water Conveyance Facilities*. In addition,
 21 Appendix 22A details the construction schedules and defines the length and sequence of each
 22 construction phase.

23 **Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during 24 Construction of Conveyance Facilities**

25 ***Fish Screens***

26 Construction of on-bank fish screens near Locke and Walnut Grove on the Delta Cross Channel and
 27 Georgiana Slough (KOPs 208, 209, 212, 217, 221, 222, 228, 235, and 236) would introduce
 28 considerable heavy equipment—excavators, graders, dozers, dump trucks, and end loaders, in
 29 addition to support pickups and water trucks—into the viewshed of all viewer groups in the vicinity.
 30 Work areas would be located adjacent to the fish screens and would be used for staging, temporary
 31 field offices, worker parking, equipment and materials laydown and storage, and would support
 32 other construction-related needs. Scattered rural residences are located along River Road and SR
 33 160 along both banks of the river to the north and south of Locke, Walnut Grove, and Grand Island
 34 Estates. Development along River Road is denser in Locke and Walnut Grove, and residents and
 35 businesses along these levee roads would be near or directly adjacent to construction activities.
 36 Residents and businesses along SR 160 through Grand Island Estates would have direct views of
 37 construction activities occurring across the river. Recreationists and roadway users on River Road
 38 and SR 160 and recreationists using waterways and marinas in the area would have direct views of
 39 fish screen construction. The landscape sensitivity level is high, and impacts on viewers are
 40 substantial because the residents, businesses, travelers on SR 160, and recreationists using marinas
 41 would be very near to disruptive construction activities and could diminish recreational enjoyment.
 42 Construction of the fish screens would displace the Boathouse Marina at Locke and several other
 43 smaller boat docks and landings, resulting in the relocation of businesses and structures and razing

1 of buildings on these properties during construction. In addition, vegetation would be removed
2 along the eastern riverbank to construct the fish screen.

3 As seen in Figure 17-88, *Existing and Simulated Views of the Delta Cross Canal Intake at Walnut*
4 *Grove*, a substantial amount of riparian vegetation along the east bank would be removed and the
5 boat dock would no longer be present. The removal of vegetation along the river hardens the line of
6 the river's edge and reduces visual variety that vegetation provides and of the water's reflections.
7 The conversion of the riverbank that is grassy with riparian vegetation to the industrial looking on-
8 bank intake with fish screen is a stark visual and color contrast against the more natural colors and
9 textures of a vegetated riverbank that is absent of structures. The intake becomes a focal point and
10 is visually discordant in scale and mass to the surrounding smaller scale structures of Walnut Grove.
11 It also adds monotone solid color mass into a landscape where the colors of buildings do not detract
12 from the viewshed because vegetation screens the buildings, softening their appearance and
13 contributing to a unified view. The large scale of the intake, combined with vegetation removal,
14 precludes unified views with the surrounding landscape. Overall, existing views from KOP 216 on
15 River Road toward the intake and fishscreen would be substantially impaired by vegetation removal
16 and introduction of the industrial looking intake and the Scenic Quality Rating would be reduced
17 from a C to an E. This effect would be adverse (see discussions under 17.3.1.2 and 17.3.1.3).

18 Construction of fish screens would take up to 3.5 years, and construction activities would take place
19 Monday through Friday for up to 24 hours per day. In addition, because of the relatively high
20 groundwater levels, dewatering would be necessary to provide a dry workspace for the construction
21 of on-bank diversions (and fish screens) on Georgiana Slough and the Delta Cross-Channel. The
22 addition of channel sections would likely require groundwater dewatering. The construction of a
23 pumping plant on the San Joaquin River at the Head of Old River and a pumping plant on Middle
24 River upstream of Victoria Canal would also require potentially substantial dewatering activities.
25 Dewatering would take place 7 days per week and 24 hours per day and would be initiated 1–4
26 weeks prior to excavation. Dewatering would continue until excavation is completed and the
27 construction site is protected from areas with high groundwater levels (Chapter 3, *Description of*
28 *Alternatives*). Each fish screen would be 2,800 feet (more than 0.5 mile) long, 50 feet wide, and 15
29 feet above the water's surface. Once construction is complete, the fish screens would introduce
30 large, industrial concrete and steel structures and other similar anthropogenic features into an area
31 with an existing rural Delta riverfront community and alter the riparian, riverine, and rural
32 riverfront community visual character. The design of the fish screens and associated facilities could
33 play a large part in helping to improve the quality of affected and degraded viewsheds. Because of
34 the long-term nature of construction; proximity to sensitive receptors; razing of the marina, docks,
35 and landings; removal of vegetation; and addition of large-scale industrial structures where none
36 presently exist, resulting in a reduction of the visual quality and noticeable change to the existing
37 visual quality and character, this effect would be adverse.

38 **Operable Barriers**

39 Construction of operable barriers would introduce considerable heavy equipment—excavators,
40 graders, dozers, dump trucks, and end loaders, as well as support pickups and water trucks—into
41 the viewshed of all viewer groups in the vicinity. Work areas adjacent to the operable barrier sites
42 would be used for staging, temporary field offices, worker parking, equipment and materials
43 laydown and storage, and support other construction-related needs. The operable barriers near
44 Walnut Grove have a higher concentration of nearby residential viewers. Isolated or scattered rural
45 or recreational residences are located near the operable barriers at Fisherman's Cut, the head of Old

1 River, Old River connection to Middle River, and Victoria Canal. The Old River connection to Middle
2 River operable barrier would also be visible from Amtrak San Joaquin Oakland to Bakersfield route
3 as it crosses over barrier between Bacon and Woodward Islands. The operable barrier would be
4 seen by passengers sitting in window seats on the north and south sides of the train. While trains
5 would pass by at a high rate of speed, the operable barrier would be a unique and prominent feature
6 that would draw viewers' attentions as they pass by the feature that would be industrial in nature.

7 As seen in Figure 17-89, *Existing and Simulated Views of Operable Barrier Site on Three Mile Slough at*
8 *Brannan Island State Recreation Area*, the conversion of Threemile Slough waters and removal of
9 vegetation on its banks to the industrial looking operable barrier with a facility building and parking
10 area is a stark visual and color contrast against the more natural colors and textures of a vegetated
11 riverbank and waterway that is absent of structures. The operable barrier and support facilities
12 becomes a focal point, limits views of water in the slough, and is visually discordant in scale and
13 mass to the surrounding rural and riverine landscape. It also adds a large monotone solid color mass
14 into a landscape where the colors of buildings and concrete and metal structures detract from the
15 mostly earth-tone viewshed. The large scale of the operable barrier, combined with vegetation
16 removal, precludes unified views with the surrounding landscape. Overall, existing views from KOP
17 252 on Brannan Island State Recreation Area toward the operable barrier would be substantially
18 impaired by introduction of the operable barrier across Threemile Slough and the Scenic Quality
19 Rating would be reduced from a **D** to an **E**. This effect would be adverse (see discussions under
20 17.3.1.2 and 17.3.1.3).

21 Operable barriers would introduce large structures across the existing channels that would limit
22 physical and visual access to views beyond (KOP 255). The addition of large industrial facilities
23 across waterways and limits to physical and visual access would result in a reduction of the visual
24 quality and a noticeable change from public viewing areas. This would result in adverse visual
25 effects.

26 ***Pumping Plants***

27 Pumping plants would be built on the San Joaquin River at the head of Old River and on Middle River
28 upstream of Victoria Canal and would take 2.5 years to construct. Each 16-acre pumping plant
29 facility would be built on a ground plane elevated above the surrounding landscape to avoid
30 flooding. The pumping plants would introduce large concrete multi-level, industrial structures into
31 an agricultural and riverine landscape, resulting in a reduction of the visual quality and a noticeable
32 change from public viewing areas. This would result in adverse visual effects.

33 ***Docks and Barge Traffic***

34 New barge unloading facilities would be built in the viewshed of recreationists, businesses, public
35 roadways, and residential properties, and would result in temporary long-term changes in views in
36 the immediate area. These facilities would be constructed in areas where the landscape sensitivity
37 levels range from low to high. New facilities would convert vegetated areas to large, unvegetated
38 swaths of land and piles of sand and gravel with associated loading infrastructure, introducing these
39 features into a viewshed where none presently exist. These features would contrast sharply with the
40 more natural areas that were present prior to construction of the new facility. New facilities would
41 convert agricultural and other open space lands to a land use that is industrial in nature and from
42 one that is vegetated to one that is largely unvegetated, creating new landscape effects.

1 Alternative 9 includes seven barge unloading facilities; two would be built near the operable
2 barriers at Fisherman's Cut and the head of Old River on the San Joaquin River, two near Old River,
3 one near Woodward Canal, one north of Trapper Slough on the Middle River, and one on Victoria
4 Canal. As described in more detail in Chapter 15, *Recreation*, the facilities at these locations would
5 affect water-based recreation. Water-based recreational viewers would have the most direct views
6 toward barge traffic and loading/offloading activities involving equipment and materials for
7 pipeline construction. Construction of the barge unloading facilities may require partial channel
8 closures and use of equipment within the waterways. All barge unloading facilities would have
9 temporary in-water construction zone speed restrictions where high-speed recreation (e.g.,
10 waterskiing, wakeboarding, tubing) would effectively be eliminated. Once built, docks would be in
11 use throughout construction. During this time, loading facilities and barge traffic would constrict
12 boat passage, increase boat traffic congestion during peak use (primarily summer weekends), and
13 extend viewing times of these facilities.

14 The San Joaquin River is very wide at the barge unloading facility locations, so boats could avoid the
15 facilities entirely. The Middle River facility could constrict boat traffic, which may be high at this
16 location; however, alternative routes are available to avoid this location. The Victoria Canal facility
17 could also constrict traffic because the canal is narrower. Once construction of the operable barriers
18 is complete, docks would be removed and barge traffic would cease.

19 Construction and use of barges and barge unloading facilities during construction at all locations
20 would introduce dominant visual elements that would result in noticeable changes that do not blend
21 and are not in keeping or are incompatible with the existing visual environment. These changes may
22 result in adverse visual effects because of the elongated viewing times during periods of congestion,
23 temporary partial channel closures that could impede eliminate recreational opportunities and
24 create negative visual perceptions of these facilities, and a reduced recreational experience due to
25 the industrial nature of such facilities. This effect would be adverse.

26 ***Dredging Operations***

27 Dredging activities proposed on the Middle River between Empire Cut and Victoria Canal and in
28 Victoria Canal/North Canal would take up to 3.5 years to complete (KOP 254). Dredging in these
29 waterways would require the establishment of safety zones around the dredge while it is in
30 operation. The dredge and any associated barges or pipeline used for sediment disposal would be
31 marked with signage and lights as required by U.S. Coast Guard regulations. All these elements
32 would be visible to recreationists using waterways and to roadway users on local roadways such as
33 Bacon Island Road and SR 4. In addition, dredging would be seen by railway viewers on the Amtrak
34 San Joaquin Oakland to Bakersfield route as it crosses down the middle of the Old River connection
35 to Middle River between Bacon and Woodward Islands. Dredging on narrow reaches of the Middle
36 River channel and on Victoria Canal/North Canal may require temporary closure of the channel in
37 the vicinity of the dredge, which would limit visual access during dredging. A side channel that
38 would not be dredged would be available alongside most portions of the reach of Middle River to be
39 dredged, allowing unimpeded boat passage. Similarly, the parallel channels of Victoria and North
40 Canals, each about 200 feet wide, would allow continued boat passage at most times because the
41 dredger would be used on only one side of the waterway at a time. Dredging, use of barges, dredging
42 pipelines, and other equipment needed to remove and place dredged material would introduce
43 dominant visual elements that would result in noticeable changes that do not blend and are not in
44 keeping or are incompatible with the existing visual environment. These changes may result in
45 adverse visual effects due to the elongated viewing times during periods of congestion, temporary

1 partial channel closures that could affect recreational opportunities and create negative visual
2 perceptions of these facilities, and a reduced recreational experience due to the industrial nature of
3 such facilities. This effect would be adverse.

4 ***Canal***

5 A canal extension from the end of Victoria Canal to the Clifton Court Forebay and the Clifton Court
6 Forebay spillway into the new canal to the CVP Canal would alter the area's existing character by
7 introducing large-scale industrial structures that are visually discordant with the area's existing
8 characteristics (KOP 107). These views would be greatly altered by the presence of a large-scale,
9 concrete-lined and water-filled channels traversing the landscape between the intakes, introducing
10 a visually co-dominant conveyance facility that would be very noticeable in available views. The
11 landscape sensitivity level is low in these areas, however, and effects on the limited numbers of
12 viewers would not be substantial because the area is presently flat agricultural lands. However,
13 because of the visual scale of the canal, the long-term nature of construction, removal of vegetation,
14 and changes to topography through grading that would introduce dominant visual elements and
15 result in noticeable changes that do not blend and are not in keeping or are incompatible with the
16 existing visual environment, this effect would be adverse.

17 ***Bridges***

18 Effects related to construction of bridges would occur within a 2-year period and would be similar
19 to those described for Alternative 1B, because the proposed components would be similar but would
20 be constructed on River Road over the new outlet for The Meadows Slough, near Locke. The bridges
21 would likely be at grade with the existing River Road but would introduce a new structure that could
22 disrupt the continuity of views by preventing free-flowing access from lands on either side of the
23 bridges. There would also be two bridges south of the Clifton Court Forebay: one across the spillway
24 into the new canal and one across the canal at Herdlyn Road. These bridges would alter the area's
25 existing character by introducing large-scale industrial structures that are visually discordant with
26 the area's existing characteristics. These would constitute adverse effects.

27 ***Spoil and Borrow Areas***

28 Large spoil/borrow areas would be needed under Alternative 9 to store excess spoils from dredged
29 material from the Middle River and Victoria Canal and to build operable barriers and the canals near
30 the Clifton Court Forebay. Dredge storage sites (1,169 acres) would be established on lands opposite
31 dredging locations and would consequently affect the same viewer groups described above for those
32 activities. These would primarily be on Bacon Island (338 acres), Woodward Island (333 acres),
33 Upper Jones Tract (224 acres), and Victoria Island (775 acres). Operable barriers would have
34 spoil/borrow areas that are between 5 and 8 acres at each site. The spoil/borrow areas on Bacon
35 and Woodward Islands would be seen by railway viewers on the Amtrak San Joaquin Oakland to
36 Bakersfield route as it crosses down the middle of the Old River connection to Middle River between
37 Bacon and Woodward Islands. The canals near the Clifton Court Forebay would require 295 acres of
38 spoil/borrow. There would be a total of 375 acres of spoil/borrow, in addition to dredge disposal.
39 The landscape sensitivity level is low in these areas, and impacts on these viewers would not be
40 substantial because the area is presently flat agricultural lands. Disposal of dredge spoils would
41 likely result in raising the elevation of affected lands. Earthmoving activities and associated heavy
42 equipment and vehicles would be readily visible throughout operation of these sites that would
43 attract attention from visual receptors. Spoil/borrow sites would be in use for the duration of

1 dredging operations. Because of the long-term nature of construction and changes to topography
 2 through grading, this effect is considered adverse. Under Alternative 9 there would be a total of
 3 2,044 acres of land affected by spoil/borrow areas compared to a total of 1,185 acres under
 4 Alternative 1A, 10,667 acres under Alternative 1B, and 6,770 acres under Alternative 1C.
 5 Approximately 0.6% (12 acres) of the spoils from operable barrier and canal construction may be
 6 disposed of in an unknown offsite landfill, which would be negligible and part of the existing visual
 7 environment at a landfill already in operation. In addition to spoils/borrow in the study area, offsite
 8 borrow sites may be needed to provide suitable materials for canal embankments and levees for the
 9 channel modifications at Hammer Island. It is not known how much import material would be
 10 needed and where it would come from. It is assumed that effects at import borrow sites would be
 11 similar in scale and have similar adverse visual effects to those within the study area. Once
 12 construction of the BDCP facilities is complete, the study area spoils/borrow areas would result in
 13 large-scale landscape elevation changes that would also alter the agrarian visual character and
 14 result in elevated landforms introduced into a landscape that is currently predominantly flat. These
 15 features would be visually discordant with the area's existing forms, patterns, colors, and textures
 16 associated with the existing agrarian character in the study area. Accordingly, alteration of the
 17 landscape through spoils disposal would result in an adverse effect on visual resources.

18 ***On-Channel Levee at Hammer Island***

19 Construction of the on-channel levee at Hammer Island would introduce considerable heavy
 20 equipment—excavators, graders, dozers, sheepsfoot rollers, dump trucks, and end loaders, in
 21 addition to support pickups and water trucks—into the viewshed of all viewer groups in the vicinity.
 22 Work areas would be located adjacent to the fish screens and would be used for staging, temporary
 23 field offices, worker parking, equipment and materials laydown and storage, and would support
 24 other construction-related needs. These activities would affect views from Hammer Island, Rivers
 25 End Marina & Storage, and river-based residences located nearby.

26 As seen in Figure 17-90, *Existing and Simulated Views of the Channel Modification at Hammer Island*,
 27 a substantial amount of riparian vegetation along Old River and Hammer Island would be removed
 28 and residences and buildings on Hammer Island would no longer be present. The removal of
 29 vegetation along the river serves to alter the visual landscape and reduce visual variety that was
 30 provided by the vegetation. Removal of the vegetation serves to increase the visual prominence of
 31 utility lines in the area. In addition, vegetation removal acts to open views to the background and
 32 increases the amount of visible sky, as seen from this vantage. The realigned channel would not be
 33 visible from this location, but the levee would be slightly visible. Overall, existing views from KOP
 34 109 on Lindemann Road toward channel modifications would be substantially altered by vegetation
 35 and the Scenic Quality Rating would be reduced from a **D** to an **E**. This effect would be adverse (see
 36 discussions under 17.3.1.2 and 17.3.1.3).

37 Island dredging and fill to build the levee would remove buildings, boat slips, and vegetation to
 38 create a landform across the CVP Canal and Old River that would obstruct access to West Canal and
 39 the Victoria Canal area. Old River would be realigned to allow boat traffic to pass. Because of the
 40 long-term nature of construction; proximity to sensitive receptors; razing of the residents, docks,
 41 and landings; removal of vegetation; and addition of landform where none presently exist, this effect
 42 would be adverse.

1 **Access Roads**

2 Construction of temporary and permanent access roads would take less than 2 years and would
3 follow linear paths; consequently, construction of these features would not be focused on one
4 specific location for an extended period of time. Construction of access roads would occur Monday
5 through Friday for up to 24 hours per day. Access roads would be located in areas in where the
6 landscape sensitivity levels range from low to high. Most of the temporary and permanent access
7 roads follow alignments that have previously been cleared and that serve as agricultural access
8 routes. Construction would include improving the condition of these existing access routes to
9 accommodate construction access. Vegetation removal may occur along the rights-of-way of access
10 roads and would negatively affect views from SR 160, River Road, and other roadways in the study
11 area. After construction is complete, disturbed areas of exposed soil would be seeded for erosion
12 control and would revegetate after a short time. Because of the temporary nature of construction
13 and the regular relocation of activities, this would not constitute an adverse effect.

14 **Transmission Lines**

15 Proposed transmission line corridors are shown in Figure M3-5. Construction of 12 kV and 480 volt
16 transmission lines to operate the fish screens and operable barriers would take less than 2 years
17 and would require vegetation clearing along the linear ROWs. The transmission lines would be
18 located in areas in where the landscape sensitivity levels range from low to high. Because
19 construction operations would move along these linear ROW corridors, construction of these
20 features would not take place in any specific location for an extended period. Most of the
21 transmission lines would follow access roads constructed for the BDCP conveyance facilities or
22 other existing access roads and roadways that are outside the immediate area. After construction is
23 complete, disturbed areas of exposed soil would be seeded for erosion control and would revegetate
24 after a short time. However, tree and shrub removal would likely occur within the ROWs and would
25 negatively affect views from SR 160, River Road, and West Walnut Grove Road.

26 Smaller segments of transmission lines would tie into nearby existing transmission lines to supply
27 power to the operable barriers. Construction of transmission lines would occur Monday through
28 Friday for up to 24 hours per day. Once the proposed 12 kV and 480 volt electrical power
29 transmission lines are constructed, wood-poled transmission lines would be visible. While these are
30 features commonly seen in the Delta, they would add to the amount of infrastructure that is present
31 in the landscape. While wood-poled transmission lines are part of most existing views, new 12 kV
32 and 480 volt transmission lines and their cleared ROWs would adversely affect the existing visual
33 character by the introduction of more utility lines in the landscape, making changes in views
34 associated with construction of transmission lines adverse.

35 **Summary**

36 **NEPA Effects:** Visual effects of Alternative 9 would be substantial—primarily in the areas
37 surrounding the fish screens, operable barriers, pumping plants, channel modifications,
38 spoil/borrow areas, transmission lines, and the on-channel levee at Hammer Island. Construction of
39 the alternative would result in reductions in the visual quality and introduce dominant visual
40 elements that would result in noticeable changes that do not blend and are not in keeping or are
41 incompatible with the existing visual environment. These changes would be most evident near
42 Locke and Walnut Grove, which would undergo extensive changes from the permanent
43 establishment of large industrial facilities and the supporting infrastructure along and surrounding
44 the 1.2-mile segment of the Sacramento River where the fish screen would be situated, in addition to

1 the operable barriers, bridges, and transmission lines that would be introduced. In San Joaquin
 2 County, the operable barrier across Old River on the Middle River and dredging activities would be
 3 visible from Bacon Island Road. While not officially designated as a state scenic highway, and
 4 therefore not discussed under *Impact AES-3: Permanent damage to scenic resources along a state*
 5 *scenic highway from construction of conveyance facilities*, this road is a San Joaquin County Scenic
 6 Route (see *Section 17.2.3.2, County and City General Plans – San Joaquin County*). These features
 7 would detract from the visual quality of views from this route. Alternative 9 would introduce
 8 visually dominant and discordant features in the foreground and middleground views that would be
 9 very noticeable to all viewer groups. These changes would occur in an area known for its open
 10 space, agricultural landscapes, and rural characteristics. Therefore, because of the long-term nature
 11 of construction; proximity to sensitive receptors; razing of the marina, docks, and landings; removal
 12 of vegetation; changes to topography through grading; transmission lines; and addition of large-
 13 scale industrial structures where none presently exist, this effect would be adverse.

14 Mitigation Measures AES-1a through AES-1e are available to address visual effects resulting from
 15 construction of Alternative 9 water conveyance facilities. No concrete batch plants or fuel stations
 16 have been identified for Alternative 9.

17 **CEQA Conclusion:** Construction of Alternative 9 would substantially alter the existing visual quality
 18 and character present in the study area. The long-term nature of construction of the fish screens,
 19 operable barriers, pumping plants, work areas, spoil/borrow areas, barge unloading facilities, and
 20 dredging operations; presence and visibility of heavy construction equipment; proximity to sensitive
 21 receptors, razing of the marina, docks, and landings; removal of riparian vegetation and other
 22 mature vegetation or landscape plantings; earthmoving and grading that result in changes to
 23 topography in areas that are predominantly flat; addition of industrial structures (fish screens,
 24 operable barriers); remaining presence of large-scale borrow/spoil area effects; and addition of tall,
 25 steel transmission lines would all contribute to impacts on the existing visual quality and character.

26 Overall, construction would last up to 9 years and would change the existing visual character in the
 27 vicinity of project elements from those of agricultural, rural residential, or riparian and riverine
 28 settings to areas involving heavy construction equipment, temporary construction structures, work
 29 crews, other support vehicles and other activities that would modify and disrupt short- and long-
 30 range views. These activities would be disruptive to some viewers. Once construction is complete,
 31 the alternative would result in the placement of large industrial concrete and steel structures,
 32 pumping plants, fencing, and other similar anthropogenic features where none presently exist.
 33 Because of the landscape sensitivity and visual dominance of these features, these changes would
 34 result in reduced scenic quality throughout the study area (see 17.3.1.3, *Analysis of the Alternatives'*
 35 *Impact on Visual Resources*). Thus, Alternative 9 would result in significant impacts on the existing
 36 visual quality and character in the study area.

37 Mitigation Measures AES-1a through AES-1e would partially reduce impacts by locating new
 38 transmission lines and access routes to minimize the removal of trees and shrubs and pruning
 39 needed where feasible, installing visual barriers between construction work areas and sensitive
 40 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
 41 barge unloading facility sites once decommissioned, and applying aesthetic design treatments to all
 42 structures to the extent feasible. However, impacts may not be reduced to a less-than-significant
 43 level because even though mitigation measures would reduce some aspects of the impact on visual
 44 quality and character, it is not certain the mitigation would reduce the level of the impact to less
 45 than significant in all instances. In addition, the size of the study area and the nature of changes

1 introduced by the alternative would result in permanent changes to the regional landscape such that
 2 there would be noticeable to very noticeable changes that do not blend or are not in keeping with
 3 the existing visual environment. Thus, Alternative 9 would result in significant and unavoidable
 4 impacts on the existing visual quality and character in the study area.

5 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 6 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 7 **Transmission Lines and Underground Transmission Lines Where Feasible**

8 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 9 Alternative 1A.

10 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 11 **Sensitive Receptors**

12 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 13 Alternative 1A.

14 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 15 **Material Area Management Plan**

16 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 17 Alternative 1A.

18 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

19 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 20 Alternative 1A.

21 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 22 **Extent Feasible**

23 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 24 Alternative 1A.

25 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

26 **NEPA Effects:** Many of the permanent visual effects of Alternative 9 would affect scenic vistas
 27 because the areas of the greatest change would be near Locke and Walnut Grove, where scenic vistas
 28 have been identified along SR 160 and River Road, and from waterways in the vicinity of the
 29 operable barriers and pumping plants. Implementation of Alternative 9 would result in a very
 30 noticeable effect on viewer experiences from SR 160 and River Road. The operable barriers would
 31 introduce large structures across the existing channels that would limit physical and visual access
 32 from waterways to vista views beyond. However, where views to the hills in the background exist,
 33 such as toward Mount Diablo, the hills would still be visible over the structures.

34 As seen in Figure 17-89, the conversion of Threemile Slough waters and removal of vegetation on its
 35 banks to the industrial looking operable barrier with a facility building and parking area is a stark
 36 visual and color contrast against the more natural colors and textures of a vegetated riverbank and
 37 waterway that is absent of structures. The operable barrier and support facilities becomes a focal
 38 point, limits views of water in the slough, and is visually discordant in scale and mass to the

1 surrounding rural and riverine landscape. Creation of such a focal point detracts from views of the
2 surrounding scenic vista. It also adds a large monotone solid color mass into a landscape where the
3 colors of buildings and concrete and metal structures detract from the mostly earth toned viewshed.
4 The large scale of the operable barrier, combined with vegetation removal, precludes unified views
5 with the surrounding landscape. Overall, existing views from KOP 252 on Brannan Island State
6 Recreation Area toward the operable barrier would be substantially impaired by introduction of the
7 operable barrier across Threemile Slough and the Scenic Quality Rating would be reduced from a **D**
8 to an **E**. This effect would be adverse (see discussions under 17.3.1.2 and 17.3.1.3).

9 As seen in Figure 17-90, *Existing and Simulated Views of the Channel Modification at Hammer Island*,
10 a substantial amount of riparian vegetation along Old River and Hammer Island would be removed
11 and residences and buildings on Hammer Island would no longer present. The removal of vegetation
12 along the river serves to alter the visual landscape and reduce visual variety that was provided by
13 the vegetation. Removal of the vegetation serves to increase the visual prominence of utility lines in
14 the area. However, scenic vistas are limited along Lindemann Road when looking in this direction
15 due to existing vegetation, and removal of this existing vegetation acts to open vista views to the
16 background. It also increases the amount of visible sky, as seen from KOP 109.

17 Alternative 9 would result in a very noticeable effect on viewer experiences from SR 160 and River
18 Road near Walnut Grove. The large scale of operable barriers and support facilities, the visual
19 presence of large-scale borrow/spoil landscape effects, removal of substantial areas of riparian
20 vegetation, and the presence of new transmission lines may result in adverse effects on scenic vistas
21 in the study area. Overall, effects on scenic vistas associated with Alternative 9 would be adverse.
22 Mitigation Measures AES-1a, AES-1c, and AES-1e are available to address these effects.

23 **CEQA Conclusion:** The presence of the operable barriers and support facilities, pumping plants,
24 large-scale borrow/spoil area landscape effects; and transmission lines would result in significant
25 impacts on scenic vistas because construction and operation would result in a reduction in the
26 visual quality in some locations and introduce dominant visual elements that would result in
27 noticeable changes in the visual character of scenic vista viewsheds in the study area. These changes
28 would not blend, would not be in keeping or would be incompatible with the existing visual
29 environment, and could be viewed by sensitive receptors or from public viewing areas.

30 Mitigation Measures AES-1a, AES-1c, and AES-1e would partially reduce these impacts by locating
31 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
32 needed where feasible, developing and implementing a spoil/borrow area management plan, and
33 applying aesthetic design treatments to all structures to the extent feasible, but may not reduce
34 them to a less-than-significant level because even though mitigation measures would reduce some
35 aspects of the impact, it is not certain the mitigation would reduce the level of the impact to less than
36 significant in all instances. In addition, the size of the study area and the nature of changes
37 introduced by the alternative would result in permanent changes to the regional landscape such that
38 there would be noticeable to very noticeable changes that do not blend or are not in keeping with
39 the existing visual environment. Thus, impacts on scenic vistas associated with Alternative 9 would
40 be significant and unavoidable.

1 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 2 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 3 **Transmission Lines and Underground Transmission Lines Where Feasible**

4 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 5 Alternative 1A.

6 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 7 **Material Area Management Plan**

8 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 9 Alternative 1A.

10 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 11 **Extent Feasible**

12 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 13 Alternative 1A.

14 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 15 **Construction of Conveyance Facilities**

16 **NEPA Effects:** Alternative 9 would result in an overall noticeable effect on viewers relative to their
 17 current experience and enjoyment of the study area's scenic resources. Implementation of this
 18 alternative would require removal of visually important features, such as mature trees and shrubs,
 19 which are scenic elements that contribute to the viewing experience available to travelers along SR
 20 160 and River Road in the area of this alternative. These features would be replaced by concrete and
 21 steel structures, earthen embankments, and paved areas associated with operable barriers and fish
 22 screens, fencing and security lights, and new access roads. These visual elements would conflict with
 23 the forms, patterns, colors, textures, and general nature of the visual experience presently available
 24 from River Road and SR 160 and would obstruct views of Locke and Walnut Grove and riparian
 25 habitat alongside rivers and creeks (thereby permanently damaging the scenic resources along a
 26 scenic highway). Overall, implementation of Alternative 9 would result in effects on views in the
 27 foreground or middleground from River Road near Walnut Grove and Locke and from SR 160 near
 28 Walnut Grove, Locke, and Brannan Island State Recreation Area; would lessen the visual quality of
 29 those views; and would replace those views with views of operable barriers and fish screens that
 30 would dominate the riverfront and could impinge on the downtown area of those communities and
 31 may result in adverse effects. Mitigation Measures AES-1a, AES-1c, AES-1e, and AES-3 are available
 32 to address these effects.

33 **CEQA Conclusion:** Because visual elements associated with this alternative would conflict with the
 34 existing forms, patterns, colors, and textures and general nature of the visual experience along River
 35 Road and SR 160 and would result in effects on views in the foreground or middleground from River
 36 Road near Walnut Grove and Locke and from SR 160 near Walnut Grove, Locke, and Brannan Island
 37 State Recreation Area; would lessen the visual quality of those views; and would replace those views
 38 with views of operable barriers and fish screens that would dominate the riverfront and could
 39 impinge on the downtown area of those communities (thereby permanently damaging the scenic
 40 resources along a scenic highway), these impacts are considered significant.

1 Mitigation Measures AES-1a, AES-1c, AES-1e, and AES-3 would help reduce these impacts through
 2 the application of aesthetic design treatments to all structures, to the extent feasible and through the
 3 design and implementation of an overlook with interpretative signage at the operable barrier on
 4 Threemile Slough near Brannan Island State Recreation Area. However, impacts on visual resources
 5 resulting from damage to scenic resources that may be viewed from a state scenic highway would
 6 not be reduced to a less-than-significant level because even though mitigation measures would
 7 reduce some aspects of the impact, it is not certain the mitigation would reduce the level of the
 8 impact to less than significant in all instances. In addition, the size of the study area and the nature
 9 of changes introduced by the alternative would result in permanent changes to the regional
 10 landscape such that there would be noticeable to very noticeable changes to the visual character of a
 11 scenic highway viewshed that do not blend or are not in keeping with the existing visual
 12 environment. Thus, overall this impact would be significant and unavoidable.

13 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 14 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 15 **Transmission Lines and Underground Transmission Lines Where Feasible**

16 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 17 Alternative 1A.

18 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 19 **Material Area Management Plan**

20 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 21 Alternative 1A.

22 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 23 **Extent Feasible**

24 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 25 Alternative 1A.

26 **Mitigation Measure AES-3: Design and Implement an Overlook with Interpretative**
 27 **Signage at the Operable Barrier on Threemile Slough Near Brannan Island State**
 28 **Recreation Area**

29 The BDCP proponents will design and implement an overlook with interpretative signage at the
 30 operable barrier on Threemile Slough to reduce the effects of Alternative 9 on viewing
 31 experiences for visitors of the Brannan Island State Recreation Area. This facility will meet the
 32 following minimum performance standards.

- 33 • The overlook will provide an Americans with Disabilities Act-compliant trail connecting the
 34 south end of the existing campground to an overlook near the operable barrier.
- 35 • A kiosk with interpretive signage will be installed at this location to educate visitors; the
 36 kiosk will address the Delta ecosystem, endangered species, and the purpose of the barrier.
- 37 • The design will make use of existing tree canopy cover for shading the overlook area or
 38 trees will be planted to provide shade as they mature.
- 39 • All plantings will be native and indigenous to the area, and no invasive plant species will be
 40 used under any conditions.

- Plantings installed near the barrier will be designed and installed in a manner that reflects existing vegetative conditions at this location and will not be installed in a manner that would screen or obscure views of Threemile Slough, as this would limit and prevent valued views over the waterway.

Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views in the Area as a Result of Construction and Operation of Conveyance Facilities

NEPA Effects: The following NEPA effects would result from the introduction of new sources of daytime and nighttime glare and nighttime lighting.

Daytime and Nighttime Glare

Sunlight would reflect off the new water surfaces created by the canal and expanded water surfaces on Middle River and Victoria Canal, adding to the amount of glare at these locations. The structures associated with this alternative would result in new sources of glare if they were made of materials that easily reflect light. Reflected glare could constitute an adverse effect. In addition, the use of nighttime lighting, described below, would result in nighttime glare caused by lights reflecting off water surfaces. Because the number of viewers in and around the waterways at night is expected to be low, this impact is not considered adverse.

Nighttime Lighting

In addition to the lighting of the fish screens and pumping plants, Alternative 9 would entail the establishment of safety lighting along the operable barriers and canal as part of normal operations and maintenance and would result in the introduction of new sources of light to parts of the study area that currently experience low levels of light and glare. Because the study area currently experiences low levels of light and because there are a larger number of viewers in and around the facilities, effects associated with nighttime lighting are considered adverse. Mitigation Measures AES-4a through 4c are available to address these effects.

CEQA Conclusion: The impacts associated with light and glare under Alternative 9 are significant because the alternative would introduce new light sources to places in the study area that currently experience low levels of light and glare and have a large number of viewers around the proposed facilities. Fish screens, pumping plants, operable barriers, and the canal would increase the amount of nighttime lighting in the Delta above existing ambient light levels for viewers in and around the waterways in areas that currently experience low levels of light. Mitigation Measures AES-4a through AES-4c would help reduce these impacts by limiting construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable sources used for construction, and installing visual barriers along access routes, where necessary, to prevent light spill from truck headlights toward residences. However, these mitigation measures would not reduce impacts to a less-than-significant level because even though mitigation measures would reduce some aspects of the impact, it is not certain the mitigation would reduce the level of the impact to less than significant in all instances. In addition, the size of the study area and the nature of changes introduced by the new light and glare sources would result in permanent changes to the regional landscape such that there would be noticeable changes to the visual character that do not blend or are not in keeping with the existing visual environment. Thus, the new sources of daytime and nighttime light and glare associated with Alternative 9 would result in significant and unavoidable impacts on public views in the project vicinity.

1 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 2 **Residents**

3 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 6 **Construction**

7 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 8 Alternative 1A.

9 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 10 **to Prevent Light Spill from Truck Headlights toward Residences**

11 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 12 Alternative 1A.

13 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

14 **NEPA Effects:** Operations under Alternative 9 would be similar to those under Alternatives 1A
 15 through 1C. Therefore, effects related to visual impacts resulting from maintenance activities would
 16 be similar to those described under Alternatives 1A through 1C, Impact AES-5. The primary
 17 difference would be that there would not be an intermediate forebay needing dredging, but there
 18 would be one canal. The greatest visual effects resulting from operations would be maintenance on
 19 the fish screen, operable barriers, and cleaning of the canals. These activities would be visible from
 20 the water or land. However, these temporary maintenance activities are anticipated to occur within
 21 short periods of time, and effects would not be adverse because the activities would not result in
 22 further substantial changes to the existing natural viewshed or terrain, alter existing visual quality
 23 of the region or eliminate visual resources, or obstruct or permanently reduce visually important
 24 features. Additionally, as discussed under Alternative 1A, operation of the intakes would not affect
 25 river water levels to an extent that would be visible or result in changes to the existing visual quality
 26 or character.

27 **CEQA Conclusion:** Maintenance of the facilities (i.e., fish screens, operable barriers, pumping plant
 28 and transmission lines) would be required periodically and would involve painting, cleaning, and
 29 repair of structures; dredging; vegetation removal and care along embankments, and vegetation
 30 removal within transmission line ROWs. These visible maintenance activities would be temporary,
 31 intermittent, and short-term impacts and would be considered less than significant. Thus, overall,
 32 Alternative 9 would have a less-than-significant impact on existing visual quality and character
 33 during maintenance and operation of the facilities in the study area. No mitigation is required.

34 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during**
 35 **Implementation of CM2–CM22**

36 **NEPA Effects:** Under Alternative 9, these conservation measures would be similar to those under
 37 Alternative 1A, but could result in changes to the south Delta to accommodate modified corridors
 38 compared to Alternative 1A. There may be site-specific, localized adverse visual effects. These
 39 conservation measures would alter the Delta landscape by incrementally, and substantially,
 40 introducing elements into the study area over time. CM2–CM22, when combined with CM1, could

1 substantially alter the visual character of the study area, which is strongly identified by its
2 agricultural and water-based Delta landscapes and communities. These landscapes and
3 communities could be adversely affected by the introduction of discordant visual features, removal
4 of existing buildings and landscape elements of value, and through the potential for indirect impacts
5 associated with other development potentially setting a precedent for other development to occur.
6 All of these effects would alter the visual character of the existing regional landscape.

7 Because of the unknown location of site-specific restoration activities, potential presence of
8 sensitive viewers, potential for construction periods to last longer than 2 years, and varying
9 intensity of construction, effects associated with implementation of CM2–CM22 are considered
10 adverse. However, the visual characteristics of restored/enhanced landscapes would be similar to
11 other areas of the Delta that are in a natural marsh or wetland state and more limited in extent than
12 the widespread areas of agricultural development. In this sense, the BDCP would have an overall
13 beneficial effect related to the enhancement and creation of scenic vistas in the Delta.

14 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a through AES-4c are
15 available to address effects from habitat restoration and enhancement actions under CM2–CM22. In
16 addition, Mitigation Measures AES-6a and AES-6b are available to help reduce adverse visual effects.
17 Upon development of site-specific design information and plans, additional mitigation measures
18 may be identified to address action-specific adverse effects. However, each individual project under
19 CM2–CM22 would undergo the environmental compliance process that would be used to determine
20 what additional mitigation measures, would be deemed appropriate to reduce adverse effects and to
21 assess compliance with relevant regulations. Finally, Mitigation Measure AES-6c is available to help
22 inventory, classify, and protect the unique visual landscape of the Delta.

23 While some of these conservation measures could result in beneficial impacts through the
24 restoration of natural habitat and these mitigation measures would reduce the severity of impacts, it
25 is unknown whether they would be reduced to a not adverse level because of uncertainties
26 associated with future implementation of CM2–CM22. In addition, the size of the study area and the
27 nature of changes introduced by these conservation measures would result in permanent changes to
28 the regional landscape such that there would be noticeable changes to the visual character that may
29 or may not blend with or be in keeping with the existing visual environment. Thus, implementation
30 of CM2–CM22 would result in adverse impacts on the existing visual quality and character in the
31 study area.

32 **CEQA Conclusion:** Implementation of conservation measures under Alternative 9 has the potential
33 to affect existing visual quality and character, views of scenic vistas, views from scenic highways,
34 and introduce new sources of light and glare in the study area. Impacts on the existing visual quality
35 and character would be significant where use of large numbers of heavy construction equipment,
36 changes in topography, and introduction of new structures or facilities where none presently exist
37 would take place in the vicinity of sensitive receptors. However, because a number of factors that
38 would determine the level of change are unknown—the location of site-specific restoration
39 activities, potential presence of sensitive viewers, potential for construction periods to last longer
40 than 2 years, and varying intensity of construction—impacts associated with implementation of
41 CM2–CM22 on visual quality and character, scenic vistas, and light and glare sources, are considered
42 significant. Because of the distance of implemented conservation measures from scenic highways,
43 changes associated with these activities would not affect the visual quality along these scenic
44 highway corridors and this impact would be less than significant. Site-specific restoration

1 information and plans need to be developed before the site-specific effects on the existing visual
2 character, scenic vistas, and light and glare can be determined.

3 Several mitigation measures are available to minimize the impacts on visual quality and character in
4 the study area that could result from implementation of these conservation measures. As
5 summarized below, these measures could be applied to individual restoration projects or actions as
6 appropriate for the site-specific conditions and design considerations. In addition, each restoration
7 project or action would undergo an environmental compliance process that would be used to
8 determine what additional mitigation measures would be deemed appropriate to reduce significant
9 effects. Mitigation Measures AES-1a through AES-1g could be applied to minimize impacts by
10 locating new transmission lines and access routes to minimize the removal of trees and shrubs and
11 pruning needed where feasible, installing visual barriers between construction work areas and
12 sensitive receptors, developing and implementing a spoil/borrow and RTM area management plan,
13 restoring barge unloading facility sites once decommissioned, applying aesthetic design treatments
14 to all structures to the extent feasible, locating concrete batch plants and fuel stations away from
15 sensitive visual resources and receptors and restoring the sites upon removal of facilities, and using
16 best management practices to implement a project landscaping plan. Mitigation Measures AES-4a
17 through AES-4c could be used to reduce the effects of new light and glare sources by limiting
18 construction to daylight hours within 0.25 mile of residents, minimizing fugitive light from portable
19 sources used for construction, and installing visual barriers along access routes, where necessary, to
20 prevent light spill from truck headlights toward residences. In addition, Mitigation Measures AES-6a
21 and AES-6b would further minimize impacts on visual resources by undergrounding new or
22 relocated utility lines, where feasible, and through an evaluation and implementation of an
23 afterhours low-intensity and lights off policy. Finally, implementation of Mitigation Measure AES-6c
24 would provide a strategy for the protection of the unique visual landscape of the Delta.

25 While some of the conservation measures could result in beneficial impacts through the restoration
26 of natural habitat and these mitigation measures would reduce the severity of impacts, it is
27 unknown whether they would be reduced to a less-than-significant level because of uncertainties
28 associated with future implementation of CM2–CM22. In addition, the size of the study area and the
29 nature of changes introduced by these conservation measures would result in permanent changes to
30 the regional landscape such that there would be noticeable changes to the visual character that may
31 or may not blend or be in keeping with the existing visual environment. Thus, implementation of
32 CM2–CM22 would result in significant and unavoidable impacts on the existing visual quality and
33 character in the study area.

34 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
35 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
36 **Transmission Lines and Underground Transmission Lines Where Feasible**

37 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
38 Alternative 1A.

39 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
40 **Sensitive Receptors**

41 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
42 Alternative 1A.

1 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
2 **Material Area Management Plan**

3 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
4 Alternative 1A.

5 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

6 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
7 Alternative 1A.

8 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
9 **Extent Feasible**

10 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
11 Alternative 1A.

12 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
13 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

14 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
15 Alternative 1A.

16 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
17 **Landscaping Plan**

18 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
19 Alternative 1A.

20 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
21 **Residents**

22 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
23 Alternative 1A.

24 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
25 **Construction**

26 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
27 Alternative 1A.

28 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
29 **to Prevent Light Spill from Truck Headlights toward Residences**

30 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
31 Alternative 1A.

32 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

33 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
34 Alternative 1A.

1 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
 2 **Lights Off Policy**

3 Please refer to Mitigation Measure AES-6b under Impact AES-6 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-6c: Implement a Comprehensive Visual Resources Management**
 6 **Plan for the Delta and Study Area**

7 Please refer to Mitigation Measure AES-6c under Impact AES-6 in the discussion of
 8 Alternative 1A.

9 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
 10 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
 11 **Addressing Aesthetics and Visual Resources**

12 **NEPA Effects:** Constructing conveyance facilities and implementing CM2–CM22 under Alternative 9
 13 could result in the potential for some incompatibilities with plans and policies related to preserving
 14 the visual quality and character of the Delta. A number of plans and policies that coincide with the
 15 study area boundaries provide guidance for visual resource issues as overviewed in *Section 17.2,*
 16 *Regulatory Setting.* This overview of plan and policy compatibility evaluates whether Alternative 9 is
 17 compatible or incompatible with such enactments, rather than whether impacts are adverse or not
 18 adverse or significant or less than significant. If the incompatibility relates to an applicable plan,
 19 policy, or regulation adopted to avoid or mitigate visual effects, then an incompatibility might be
 20 indicative of a related significant or adverse effect under CEQA and NEPA, respectively. These
 21 physical effects of Alternative 9 on visual resources are addressed in Impacts AES-1 through AES-6,
 22 above. The following is a summary of compatibility evaluations related to visual resources for plans
 23 and policies relevant to the BDCP.

24 **Conveyance Facilities**

- 25 ● The Sierra Resource and Cosumnes River Preserve Management Plans protect the Cosumnes
 26 River Preserve. Views within the Cosumnes River Preserve would not be affected by Alternative
 27 9 because it is located east of I-5 and public views of the project site available from trails are
 28 obscured by riparian vegetation and I-5.
- 29 ● The Suisun Marsh is protected by the San Francisco Bay Conservation and Development
 30 Commission Suisun Marsh Protection Plan. The eastern boundary of the Suisun Marsh extends
 31 to Collinsville Road in southern Solano County and falls within the westernmost portion of the
 32 study area. Views from Suisun Marsh would not be affected by this alternative because project
 33 features would be obscured by distance, the Altamont Hills, and intervening trees,
 34 infrastructure, and development.
- 35 ● EBRPD parks within the study area include Browns Island, Antioch/Oakley, and Big Break Parks
 36 (East Bay Regional Park District 2013b). Views from these parks would not be affected by this
 37 alternative because project features would be obscured by distance, the Altamont Hills, and
 38 intervening trees, infrastructure, and development.
- 39 ● The cities of Antioch, Brentwood, Oakley, Sacramento, Lathrop, Stockton, Tracy, Rio Vista,
 40 Suisun City, and West Sacramento would not be affected by this alternative because there are no

1 project features within or visible from these cities. Therefore, this alternative would be
 2 consistent with the protection of visual resources covered under those general plans.

- 3 ● The Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992, Delta Protection
 4 Commission Land Use and Resource Management Plan for the Primary Zone of the Delta, Delta
 5 Plan, Brannan Island and Franks Tract State Recreation Areas General Plan are all focused on
 6 the protection of resources, including visual resources, within the Delta. While constructing and
 7 operating conveyance facilities under this alternative are intended to provide ecosystem
 8 benefits in the Delta, constructing these conveyance elements could be considered incompatible
 9 with measures to protect the unique visual environment of the Delta because agricultural lands
 10 and riverbanks would be converted to other uses and the scale of construction would result in
 11 changes to the landscape that may be considered disruptive to the current Delta environment
 12 and visual quality.
- 13 ● Contra Costa, Sacramento, San Joaquin, and Solano Counties all have policies to preserve and
 14 protect the scenic qualities of the Delta as summarized in *Section 17.2 Regulatory Setting*. In
 15 addition, Alameda, Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties are focused
 16 on the protection of visual resources and preserving agricultural lands. The general plans for
 17 these counties include policies for the protection of visual resources, trees, waterways, and
 18 landscaping and for avoiding impacts such as the alteration of landforms and the introduction of
 19 utilities and new sources of light. These policies seek to minimize visual impacts and enhance
 20 scenic qualities and also encourage placing utility lines underground. The conversion of
 21 agricultural lands and riverbanks to intake facilities, conveyance facility changes and
 22 introduction of new lighting and transmission lines where none presently exist would
 23 substantially alter the landscape and could be considered incompatible with local policies aimed
 24 at protecting visual resources in these counties. Potential incompatibilities with Sacramento
 25 County and San Joaquin County policies would be most likely because most of the project
 26 features occur in these counties. Alameda and Contra Costa Counties have much smaller
 27 portions of project features that surround the Clifton Court Forebay. Yolo County would be
 28 affected by intakes located on the east bank of the Sacramento River that would affect views
 29 from South River Road. Alternative 9 would not be incompatible with Yolo County and Solano
 30 County policies because conveyance facilities would not be located in these areas.

31 **Other Conservation Measures**

- 32 ● The Yolo Bypass would be altered under CM2. Views of and from South River Road would not be
 33 affected. However, new fish screens, ladders, ramps, barriers, realignment of waterways,
 34 additional hydrologic monitoring stations, fish rearing pilot project at Knaggs Ranch, operations
 35 buildings, parking lots, access facilities such as roads and bridges, and modification, removal,
 36 and construction of berms, levees, and water control structures would result in changes to the
 37 landscape that may be incompatible with the Yolo County General Plan Policies LU-3.7, CC-1.2,
 38 CC-1.3, and CC-1.4 that protect scenic areas, the rural landscape character, and the night sky.
- 39 ● CM4–CM11 would result in the conversion of primarily agricultural lands to restored or
 40 enhanced habitat across all 11 CZs, with specific focus on ROAs (refer to Figure 3-1). Therefore,
 41 associated regulations may apply. Restored areas would largely be natural habitat areas.
 42 Alterations such as channel and levee modifications, landform alteration from dredge spoil
 43 placement, and floodplain lowering could change the visual landscape. Restoring areas and
 44 views to natural, native habitat would likely be beneficial and would increase visual diversity.
 45 However, converting agricultural lands may be incompatible with one or more regulation

1 protecting visual resources, although it may facilitate regulations set in place to protect and
 2 restore the Delta. If facilities, such as buildings, parking lots, or roads, are built, they would also
 3 have the potential to be incompatible with relevant regulations that protect scenic areas, the
 4 landscape character, the night sky, and the Delta.

- 5 • CM15 and CM21 would occur across all 11 CZs and could result in physical changes to the visual
 6 environment at a number of locations and where relevant regulations may apply. This may have
 7 beneficial or adverse effects based on the size of proposed projects and pre-and post-project
 8 conditions (e.g., if restoration is implemented and improves pre-project conditions or if natural
 9 vegetation is removed and replaced with rip rap or a new diversion structure that degrades pre-
 10 project conditions). Vegetation removal and replacement with rip rap or a diversion structure
 11 could be incompatible with relevant regulations that protect scenic areas,
 12 the landscape character, the night sky, and the Delta.
- 13 • CM16 could use sound, light, and bubbles at the head of the Delta Cross Channel and Georgiana
 14 Slough in Sacramento County; Old River, Turner Cut, and Columbia Cut in San Joaquin County,
 15 the Delta-Mendota Canal intake in Alameda County; and Clifton Court Forebay in Contra Costa
 16 County to direct fish passage. Small scale changes may be visible on the banks or in the water
 17 used for anchoring that could result in adverse visual effects, but it is anticipated that these
 18 changes would be compatible with County general plan policies that protect visual resources.
- 19 • Building a new hatchery that consists of a facility on the edge of the Sacramento River and a
 20 larger supplementation production facility nearby, through CM18, would result in visual
 21 changes and conversion of existing land uses along and near the river would be required to
 22 build facilities. These facilities could be located in Sacramento, Yolo, or Solano Counties and also
 23 fall within the Delta. Therefore, corresponding regulations may apply. The size and locations of
 24 these facilities are unknown, but it is likely that conversion of existing land uses, and potentially
 25 undeveloped land would alter the visual character along the Sacramento River and would be
 26 incompatible with one or more plans or policies for the protection of visual resources in these
 27 regions.

28 **CEQA Conclusion:** The incompatibilities identified in the analysis indicate the potential for a
 29 physical consequence to the environment. The physical effects they suggest are discussed in impacts
 30 AES-1 through AES-6, above and no additional CEQA conclusion is required related to the
 31 compatibility of Alternative 9 with relevant plans and policies.

32 17.3.3.17 Cumulative Analysis

33 Assessment Methodology

34 This cumulative impact analysis considers projects that could affect the same resources and, where
 35 relevant, in the same time frame as the BDCP alternatives, resulting in a cumulative impact. The
 36 visual environment is expected to change as a result of past, present, and reasonably foreseeable
 37 future projects related to changes in land use (see Chapter 13, *Land Use*). It is expected that changes
 38 to the existing visual environment will take place, even though it is assumed that reasonably
 39 foreseeable future projects would include typical design and construction practices to avoid or
 40 minimize potential impacts.

41 Proposed projects and plans that have the potential to contribute to cumulative visual impacts in the
 42 vicinity of the BDCP alternatives project areas are listed in Table 17-2. This table includes projects,

1 as included in Appendix 3D, which are identified to be considered a cumulative project. Table 17-2
 2 further identifies projects that would result in visible changes to the landscape and those that would
 3 not.

4 Only projects that would result in visible changes to the landscape are included in the cumulative
 5 analysis below. Projects that would not result in visible changes to the landscape include such plans
 6 or programs that monitor or implement existing regulations and programs (e.g., implementing
 7 stormwater regulations, Fish Screen and Passage Program), plans or programs that are currently in
 8 operation and are a part of the existing visual environment (e.g., invasive species control programs),
 9 and programs that would manage water flows for identified species because variable flows are
 10 already a naturally occurring climatic condition. For descriptions of cumulative projects, refer to
 11 Appendix 3D.

12 **Table 17-2. Cumulative Projects considered in the Aesthetics and Visual Resources Analysis**

Project	Primary Agencies	Considered in analysis (Y/N)
Bay Area Water Quality and Supply Reliability Program	Bay Area Integrated Regional Water Management Plan participants representing Bay Area agencies	N
Bay Area Stormwater Management Programs (SMP)	Bay Area Stormwater Management Association member agencies	N
<i>Egeria Densa</i> Control Program	California Department of Boating and Waterways (CDBW)	N
Water Hyacinth Control Program	CDBW	N
Invasive Species Program	CDFW	N
California Aquatic Invasive Species Management Plan	CDFW	N
Aquatic Invasive Species Draft California Rapid Response Plan	CDFW	N
Zebra Mussel Rapid Watch Program and Response Plan for California	CDFW, California Department of Water Resources (DWR), and California State Lands Commission	N
Fish Screen and Passage Program	CDFW	N
Delta-Bay Enhanced Enforcement Program	CDFW	N
Ecosystem Restoration Program Conservation Strategy	CDFW	Y
Fremont Landing Conservation Bank	CDFW	Y
Fish Screen Project at Sherman and Twitchell Islands	CDFW and DWR	Y
Lower Sherman Island Wildlife Area Land Management Plan (LMP)	CDFW	Y
Yolo Bypass Wildlife Area LMP	CDFW	Y
Staten Island Wildlife-Friendly Farming Demonstration	CDFW	N
Restoring Ecosystem Integrity in the Northwest Delta	CDFW	Y
Population Biology, Life History, Distribution, and Environmental Optima of Green Sturgeon	CDFW	N
Operations as for Listing of Longfin Smelt under CESA Hatchery and Stocking Program	California Fish and Game Commission	N
Hatchery and Stocking Program Proposed Changes	CDFW and U.S. Fish and Wildlife Service (USFWS)	N
Watercraft Inspection Programs	CDFW and USFWS	N
Suisun Marsh Habitat Management, Preservation, and Restoration Plan	CDFW, California Department of Food and Agriculture, California State Parks	N
Central Valley Vision	CDFW, USFWS, Bureau of Reclamation (Reclamation), and Suisun Marsh Charter Group	Y
	California State Parks	Y

Project	Primary Agencies	Considered in analysis (Y/N)
California Water Plan Update 2013	DWR	N
Central Valley Flood Protection Plan	DWR	Y
Delta Levees Flood Protection Program	DWR	Y
Delta Risk Management Strategy	DWR	Y
FloodSAFE California	DWR	Y
Levee Repair-Levee Evaluation Program	DWR	Y
Interagency Ecological Program	DWR	N
Mayberry Farms Subsidence Reversal and Carbon Sequestration Project	DWR	Y
North Delta Flood Control and Ecosystem Restoration Project	DWR	Y
Oroville Facilities Relicensing	DWR	N
South Delta Temporary Barriers Project	DWR	N
Stockton Deep Water Ship Channel Demonstration Dissolved Oxygen Project	DWR	N
Zebra Mussel Watch Program	DWR	N
Cache Slough Area Restoration	DWR and CDFW	Y
Delta Fish Agreement (Four Pumps Project)	DWR and CDFW	Y
North Bay Aqueduct Alternative Intake Project	DWR and Solano County Water Agency (SCWA)	Y
Dutch Slough Tidal Marsh Restoration Project	DWR and California State Coastal Conservancy	Y
Franks Tract Project	DWR and Reclamation	Y
In-Delta Storage Project	DWR and Reclamation	Y
Lower Yuba River Accord	DWR and Yuba County Water Agency	N
Upper Yuba River Studies Program	DWR, CALFED, and National Marine Fisheries Service (NMFS)	N
CALFED Levee System Integrity Program	DWR, CDFW, U.S. Army Corps of Engineers (USACE)	Y
Element 2: Release Site Predation Study (Collection Handling, transport, and release [CHTR] New Technologies Proposal: Phase 1 Baseline Conditions)	DWR, CDFW, Reclamation	N
Altamont Corridor Rail Project	California High Speed Rail Authority (CHSRA) and Federal Railroad Administration (FRA)	Y
California High-Speed Rail System Sacramento to Merced Section	CHSRA and FRA	Y
Riparian Habitat Joint Venture Project	California Partners In Flight	Y
Delta Vision	California Resources Agency	Y
Marine Invasive Species Program	California State Lands Commission	N
Central Valley Joint Venture Program	Central Valley Joint Venture	Y
Cache Creek, Bear Creek, Sulfur Creek, Harley Gulch Mercury TMDL	Central Valley Regional Water Quality Control Board (Central Valley Water Board)	Y
Irrigated Lands Regulatory Program	Central Valley Water Board	N
Sacramento-San Joaquin Delta Estuary TMDL for Methylmercury	Central Valley Water Board	Y
East Contra Costa County Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP)	Contra Costa County and East Contra Costa County Habitat Conservancy	Y
Contra Costa Canal Fish Screen Project	Contra Costa Water District (CCWD)	Y
Contra Costa Canal Replacement Project	CCWD	Y
Los Vaqueros Reservoir Expansion Project	CCWD and Reclamation	Y
Alternative Intake Project	CCWD, Reclamation, and DWR	Y
Davis-Woodland Water Supply Project	Davis, Woodland, and University of California, Davis (UC Davis)	Y

Project	Primary Agencies	Considered in analysis (Y/N)
Delta Protection Commission Land Use and Resource Management Plan Update	Delta Protection Commission (DPC)	Y
Delta Plan	Delta Stewardship Council	Y
EBMUD Camanche Permit Extension	East Bay Municipal Utility District (EBMUD)	N
Lower Mokelumne River Spawning Habitat Improvement Project	EBMUD	Y
Water Supply Management Program 2040	EBMUD	N
Bay Area Regional Desalination Project	EBMUD, CCWD, Santa Clara Valley Water District (SCVWD), and San Francisco Public Utility Commission	Y
Folsom Lake Temperature Control Device	El Dorado Irrigation District and Reclamation	Y
Supplemental Water Rights Project	El Dorado Water and Power Authority	N
Freeport Regional Water Project	Freeport Regional Water Authority and Reclamation	Y
Eastern San Joaquin Integrated Conjunctive Use Program	Northeastern San Joaquin County Groundwater Banking Authority	N
Canada-Northwest-California Transmission Project	Pacific Gas and Electric Company (PG&E)	Y
American River Pumping plant and Restoration Project	Placer County Water Agency (PCWA) and Reclamation	N
Sacramento River Water Reliability Study	PCWA and Reclamation	Y
Liberty Island Conservation Bank	Reclamation District 2093	Y
Flood Management Program	Sacramento Area Flood Control Agency (SAFCA), Central Valley Flood Protection Board (CVFPB), and USACE	Y
Sacramento County General Plan Update	Sacramento County	Y
Sacramento International Airport Master Plan	Sacramento County	Y
South Sacramento HCP	Sacramento County and USFWS	Y
Sacramento Stormwater Quality Partnership	Sacramento County, Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova	N
San Francisco Bay Plan Amendment and Special Programs	San Francisco Bay Conservation and Development Commission	Y
San Francisco Bay Mercury TMDL	San Francisco Bay Regional Water Quality Control Board	Y
Alameda Watershed HCP	San Francisco Public Utilities Commission, USFWS, and NMFS.	Y
San Joaquin County Multi-Species Habitat Conservation and Open Space Plan	San Joaquin Council of Governments	Y
San Joaquin County General Plan Update	San Joaquin County	Y
San Joaquin County, Stockton, and Tracy SMP	San Joaquin County Department of Public Works, Stockton Municipal Utilities Department, Tracy Water Resources Department, and State Water Resources Control Board (State Water Board)	N
Delta Wetlands Project	Semitropic Water Storage District	Y
Solano Multispecies HCP	SCWA	Y
Delta Water Supply Project (Phase 1)	Stockton	Y
Battle Creek Salmon and Steelhead Restoration Project	Reclamation and State Water Board	Y
Delta Dredged Sediment Long-Term Management Strategy	USACE	Y
Lower San Joaquin Feasibility Study	USACE	Y
Suisun Bay Channel Operations and Maintenance	USACE	Y
Suisun Channel (Slough) Operation and Maintenance	USACE	Y

Project	Primary Agencies	Considered in analysis (Y/N)
Delta Islands and Levees Feasibility Study	USACE and DWR	Y
San Francisco Bay to Stockton Deep Water Ship Channel Project	USACE, Port of Stockton, and Contra Costa County Water Agency	Y
Sacramento Deep Water Ship Channel Project	USACE and Port of Sacramento	Y
Delta-Mendota Canal/California Aqueduct Intertie	Reclamation	Y
Shasta Lake Water Resources Investigation	Reclamation	Y
Delta-Mendota Canal Recirculation Feasibility Study	Reclamation and DWR	N
North-of-the-Delta Offstream Storage Investigation	Reclamation and DWR	Y
Sacramento Valley Water Management Plan	Reclamation and DWR	N
Upper San Joaquin River Basin Storage Investigation	Reclamation and DWR	Y
Water Year 2010 Interim Flows Project	Reclamation and DWR	N
Grassland Bypass Project, 2010 - 2019	Reclamation and San Luis & Delta Mendota Water Authority (SLDMWA)	N
Agricultural Drainage Selenium Management Program	Reclamation, SLDMWA	N
2-Gates Project	Reclamation, SLDMWA	Y
Red Bluff Diversion Dam Fish Passage Project	Reclamation and Tehama Colusa Canal Authority	Y
Anadromous Fish Screen Program	Reclamation and USFWS	Y
American Basin Fish Screen and Habitat Improvement Project	Reclamation, CDFW, and Natomas Central Mutual Water Company	Y
San Luis Reservoir Low Point Improvement	Reclamation, SCVWD, SLDMWA	N
Folsom Dam Safety and Flood Damage Reduction Project	Reclamation, USACE, SAFCA, and CVFPB	Y
San Joaquin River Restoration Program	Reclamation, USFWS, NMFS, DWR and CDFW	Y
Ballast Water Management Program	U.S. Coast Guard	N
Biological Opinion and Conference Opinion on the Long-term Operations of the Central Valley Project and State Water Project	U.S. Department of Commerce, NMFS, Reclamation, and DWR	Y
Biological Opinion on the Long-Term Operations of the Central Valley Project and State Water Project (Delta smelt)	Reclamation, USFWS, and DWR	Y
North American Waterfowl Management Plan	USFWS	Y
Stone Lakes National Wildlife Refuge Comprehensive Conservation Plan	USFWS	Y
San Joaquin Basin Action Plan	Reclamation, USFWS, and CDFW	Y
Lower American River Temperature Reduction Modeling Project (Formerly the Lake Natoma Temperature Curtains Pilot Project)	USFWS, Anadromous Fish Restoration Program, Reclamation, Sacramento Water Forum	Y
UCD Fish Conservation and Cultural Lab	UC Davis, DWR, and Reclamation	N
Delta Smelt Refuge Population and Delta Smelt Interim Refuge	UC Davis, DWR, CDFW, USFWS, and Reclamation	N
Delta Smelt Permanent Refuge	UC Davis, DWR, CDFW, USFWS, and Reclamation	Y
Lower American River Flow Management Standard Implementation	Sacramento Water Forum and Reclamation	N
West Sacramento Levee Improvements Program	West Sacramento Area Flood Control Agency and USACE	Y
Lower Yolo Bypass Planning Forum	Yolo Basin Foundation and Commission	N
Yolo County General Plan Update	Yolo County	Y
Yolo County HCP/NCCP	Yolo County Joint Powers Authority	Y
Yolo County SMP	Yolo County Public Works Division	N
South Bay Aqueduct Improvement and Enlargement Project	Zone 7 Water Agency and DWR	Y

1 Cumulative Effects of the No Action Alternative

2 The cumulative effect of the No Action Alternative (including climate change that would occur with
 3 or without the BDCP) would result in an array of effects on existing visual quality and character in
 4 the Delta. Changes to land use have the greatest potential to affect visual resources and viewer
 5 groups under continuation of existing policies and programs in the absence of the BDCP alternatives.
 6 The severity of site-specific adverse effects through temporary construction activities and the
 7 alteration of the existing visual character from conversion of agricultural land to rural and suburban
 8 development would depend on the density and appearance of new development. Land subsidence,
 9 sea level rise, catastrophic levee failure, or a combination thereof should they occur, would result in
 10 flooding and inundation that could significantly damage existing facilities and infrastructure, uproot
 11 and damage vegetation to an unknown extent, permanently flood Delta islands, and drastically alter
 12 the visual landscape of the Delta. While similar risks would occur under implementation of the
 13 action alternatives, these risks may be reduced by BDCP-related levee improvements along with
 14 those projects identified for the purposes of flood protection in Table 17-2. Recently completed,
 15 ongoing, or planned restoration and enhancement projects within the Delta may benefit visual
 16 resources within it. Overall, implementing on-going programs and projects under the No Action
 17 Alternative, including changes in farmland are not expected to result in adverse changes to the
 18 visual environment because development in much of the study area is restricted by the primary
 19 zone designation and city and county ordinances.

20 Cumulative Effects of the Action Alternatives

21 Impact AES-1: Substantial Alteration in Existing Visual Quality or Character during 22 Construction of Conveyance Facilities

23 Alternatives 1A through 9

24 **NEPA Effects:** A number of proposed projects and plans have the potential to contribute to
 25 cumulative visual impacts in the vicinity of the BDCP alternatives project areas and on concurrent
 26 time frames. Proposed projects and plans that have the potential to contribute to cumulative visual
 27 impacts in the vicinity of the BDCP alternatives project areas are listed in Table 17-2.

28 The Altamont Corridor Rail Project and California High Speed Train Project from Sacramento to
 29 Merced would introduce long, linear transportation corridors across the landscape that would
 30 require grading, the removal of vegetation, and the introduction of bridges and culverts into the
 31 viewshed of sensitive viewer groups. Similarly, the Canada-Northwest-California Transmission
 32 Project would introduce a large scale, linear transmission line project that would extend over 1,000
 33 miles between British Columbia, Washington, Oregon, and California. This would require extensive
 34 vegetation clearing and would likely adversely affect a large number of sensitive visual resources
 35 due to the length and scale of the proposed project.

36 The Los Vaqueros Reservoir Expansion Project would increase storage capacity from 100,000 to
 37 250,000 acre-feet; this expansion could result in inundation of lands surrounding the reservoir and
 38 conversion of those open space lands to water.

39 Sacramento County, San Joaquin County, and Yolo County general plan updates would result in the
 40 expansion of development into unincorporated agricultural landscapes or the conversion of existing
 41 land uses to support adaptive re-use, altering the existing visual character. In addition, visual

1 resources would be conserved through the protection of sensitive habitats, preservation of open
2 space, and protection of county scenic roadways.

3 Lower Sherman Island Wildlife Area Land Management Plan (LMP), Yolo Bypass Wildlife Area LMP,
4 Delta Vision, East Contra Costa County Habitat Conservation Plan (HCP)/Natural Community
5 Conservation Plan (NCCP), Delta Protection Commission Land Use and Resource Management Plan
6 Update, Delta Plan, South Sacramento HCP, San Francisco Bay Plan Amendment and Special
7 Programs, Alameda Watershed HCP, Solano Multispecies HCP, Biological Opinion and Conference
8 Opinion on the Long-term Operations of the Central Valley Project and State Water Project,
9 Biological Opinion on the Long-Term Operations of the Central Valley Project and State Water
10 Project (Delta smelt), North American Waterfowl Management Plan, and Stone Lakes National
11 Wildlife Refuge Comprehensive Conservation Plan are all planning documents that, while they do
12 not include site-specific projects, do contain land use programming and management measures that
13 would result in changes to the visual environment. These planning documents would give rise to
14 actual projects that would affect the visual landscape. These visual changes would result in a
15 combination of both beneficial and adverse visual effects. Beneficial visual effects could result where
16 restoration and enhancement activities improve existing visual conditions and increase visual
17 diversity. Adverse visual effects could result where restoration, enhancement, and management
18 measures require built elements that detract from the visual landscape.

19 Liberty Island Conservation Bank, San Joaquin County Multi-Species Habitat Conservation and Open
20 Space Plan, Delta Wetlands Project, Fremont Landing Conservation Bank, North Delta Flood Control
21 and Ecosystem Restoration Project, Dutch Slough Tidal Marsh Restoration Project, Mayberry Farms
22 Subsidence Reversal and Carbon Sequestration Project, Ecosystem Restoration Program
23 Conservation Strategy, Staten Island Wildlife-Friendly Farming Demonstration, Restoring Ecosystem
24 Integrity in the Northwest Delta, Suisun Marsh Habitat Management, Preservation, and Restoration
25 Plan, Cache Slough Area Restoration, Riparian Habitat Joint Venture Project, Central Valley Joint
26 Venture Program, Liberty Island Conservation Bank, Battle Creek Salmon and Steelhead Restoration
27 Project, San Joaquin River Restoration Program, and San Joaquin Basin Action Plan all include
28 measures to restore, enhance, and/or preserve habitats for sensitive species and open space uses.
29 These projects would result in the conversion of existing land uses, predominantly agriculture, to
30 restored habitat and the enhancement of marginal habitats to increase habitat value. These projects
31 could result in beneficial effects through the reintroduction of habitats that had been lost through
32 the original conversion of natural lands to agriculture and could increase biodiversity that would
33 result in benefits to wildlife and scenery viewing. The Mayberry Farms project has the dual purpose
34 of not only creating habitat but also providing subsidence reversal and benefitting the climate by
35 sequestering atmospheric carbon dioxide.

36 The North Bay Aqueduct Alternative Intake Project, Alternative Intake Project, Davis-Woodland
37 Water Supply Project, Bay Area Regional Desalination Project, Freeport Regional Water Project,
38 Delta Water Supply Project (Phase 1), Delta-Mendota Canal/California Aqueduct Intertie, and South
39 Bay Aqueduct Improvement and Enlargement Project would construct and operate additional water
40 intakes on the Sacramento River and Victoria Canal, large desalination plant on the San Joaquin
41 River near Antioch, and alteration of water conveyance facilities. This would introduce considerable
42 industrial facilities on the rivers where none presently exist and would create or expand existing
43 water conveyance facilities. This would alter the existing visual character at this location and could
44 result in adverse effects on nearby viewer groups through construction and operation.

1 Fish Screen Project at Sherman and Twitchell Islands, Delta Fish Agreement (Four Pumps Project),
2 Franks Tract Project, In-Delta Storage Project, Contra Costa Canal Fish Screen Project, Contra Costa
3 Canal Replacement Project, Folsom Lake Temperature Control Device, Sacramento River Water
4 Reliability Study, Shasta Lake Water Resources Investigation, North-of-the-Delta Offstream Storage
5 Investigation, Upper San Joaquin River Basin Storage Investigation, 2-Gates Project, Red Bluff
6 Diversion Dam Fish Passage Project, Anadromous Fish Screen Program, American Basin Fish Screen
7 and Habitat Improvement Project, Folsom Dam Safety and Flood Damage Reduction Project, and
8 Lower American River Temperature Reduction Modeling, Project (Formerly the Lake Natoma
9 Temperature Curtains Pilot Project) would construct and operate fish screens, operable barriers,
10 outlets, bypass channels, and dam raises to benefit fish species. These projects would range from
11 incremental additions that would add to the cumulative whole of the amount of infrastructure seen
12 on water bodies and waterways in the study area, such as individual fish screens and operable
13 barriers. Other projects would increase the visual prominence of existing elements, such as dam
14 height increases. Other projects would introduce industrial looking facilities on the water bodies
15 and waterways where none presently exist. This would alter the existing visual character at this
16 location and could result in adverse effects on nearby viewer groups through construction and
17 operation. Some of these projects also contain habitat restoration and enhancement elements that
18 could produce beneficial visual effects where such activities improve existing visual conditions and
19 increase visual diversity.

20 Central Valley Vision is a long-term vision for California State Parks to develop a strategic plan for
21 State Parks' 20-year expansion in the Central Valley that would increase service to valley residents
22 and visitors. Under this plan, new and improved recreation opportunities would be developed
23 through the acquisition of new parklands. This increase in the amount of public visual access
24 available in the Central Valley would be a beneficial effect.

25 The Delta Levees Flood Protection, Levee Repair–Levee Evaluation Programs, Central Valley Flood
26 Protection Plan, Delta Levees Flood Protection Program, Delta Risk Management Strategy,
27 FloodSAFE California, CALFED Levee System Integrity Program, Flood Management Program, Lower
28 San Joaquin Feasibility Study, Delta Islands and Levees Feasibility Study, and West Sacramento
29 Levee Improvements Program would maintain and improve the flood control system in the Delta
30 and Central Valley. These programs would result in site-specific repairs or levee upgrades over
31 areas of varying sizes. Some projects would repair levees in a way that would appear visually similar
32 to adjacent levees. However, there would be larger levee rehabilitation projects that would raise
33 levees to protect public and private lands that would result in adverse visual effects through
34 vegetation removal and increased levee heights. Some of these projects also contain habitat
35 restoration and enhancement elements that could produce beneficial visual effects where such
36 activities improve existing visual conditions and increase visual diversity.

37 Cache Creek, Bear Creek, Sulfur Creek, Harley Gulch Mercury TMDL, Sacramento-San Joaquin Delta
38 Estuary TMDL for Methylmercury, and San Francisco Bay Mercury TMDL would result in measures
39 to improve water quality that could result in visual changes to the landscape. These measures could
40 include erosion and sediment control features or mine reclamations that alter the existing visual
41 character. These measures could result in adverse visual impacts if they introduce discordant visual
42 features into the landscape or they could result in beneficial effects if they act to restore the visual
43 environment by re-contouring the topography and revegetating the landscape, thereby reducing the
44 amount of scarring upon the landscape and restoring natural plant communities to soften the visual
45 appearance of such landscapes and improving aesthetics.

1 Lower Mokelumne River Spawning Habitat Improvement Project, Delta Dredged Sediment Long-
2 Term Management Strategy, Suisun Bay Channel Operations and Maintenance, Suisun Channel
3 (Slough) Operation and Maintenance, San Francisco Bay to Stockton Deep Water Ship Channel
4 Project, and Sacramento Deep Water Ship Channel Project are projects that involve the movement
5 and placement of gravels or dredged material for spawning habitat improvement and boat passage.
6 While these to management measures have vastly different goals, they both result in streambed
7 alteration from the placement or removal of materials. Dredging and gravels placement operations
8 require short term construction activities to perform the actions, but are short-term in nature.
9 Dredging may alter the visual landscape by removing areas of sediment accumulation where
10 vegetation has established, and removal of such features could result in adverse visual effects.
11 Dredge material placement also poses the potential to adversely affect the visual landscape if
12 measures are not taken to blend such elements into the landscape or to use design measures to
13 improve the landscape within which they are disposed. Excavations to expand ship channels would
14 require more intensive and longer-term construction operations that would result in more direct
15 visual changes to existing facilities that would in adverse visual effects.

16 Sacramento International Airport Master Plan would result in a site-specific increase in the amount
17 of infrastructure seen while driving by the airport, while at the airport, and within close range in the
18 air. This would alter the existing visual landscape by converting lands that appear to be rural in
19 nature and could result in adverse visual effects. However, beneficial effects could result from smart
20 expansion and building clusterings to reduce site-specific sprawl and by creating a gateway entry
21 into Sacramento through effective design measures. The Delta Smelt Permanent Refuge could
22 potentially introduce a new building into the landscape at the USFWS Science Center in Rio Vista. If a
23 new building is proposed, this would increase the amount of infrastructure at this location, resulting
24 in adverse visual effects.

25 While beneficial changes are likely to result from the aforementioned projects, the amount of
26 development that would cumulatively result in adverse visual effects in the study area outweighs
27 the amount of beneficial effects. Cumulative changes to the visual environment would result from
28 conversion of existing land uses; introduction of discordant visual elements into the landscape;
29 substantial degradation of existing form, line, color, and texture of the visual landscape that would
30 substantially decrease the visual quality of the landscape including vividness, intactness, and unity;
31 and would ultimately altering our cultural and regional landscapes.

32 Cumulative changes to the visual environment would involve temporary and permanent conversion
33 of agricultural land to nonagricultural uses. Agricultural and open space land conversions could
34 occur through linear rail transportation and transmission projects, urban development expansion,
35 restoration and enhancement projects, aqueduct expansion, new parks, levee improvements, water
36 supply, water quality, and flood control projects. The actual amount of agricultural and open space
37 lands that may be converted by all cumulative projects is not known, but this cumulative conversion
38 of the existing visual landscape is considered an adverse effect. Large-scale utility, intake,
39 development, and water conveyance projects and their associated infrastructure such as roads and
40 bridges would segment the visual landscape of the study area, reduce the amount of open space
41 lands available to viewers, and eliminate valued visual resources. Levee projects have the potential
42 to denude many miles of levees for compliance with non-vegetative levee prism policies, which
43 would substantially alter water based recreational viewing experiences for which the Delta is noted.
44 Operable barriers would also have such an effect by substantially altering access to visual resources
45 by preventing boat passage past such barriers. These projects have the potential to aid in the
46 conversion of the study area to a highly engineered conveyance facility that would continue to

1 expand in scope and scale to address such complex issues of balancing sea level rise with flood
2 protection and preservation of habitat and wildlife. These projects also have the potential to aid in
3 the substantial alteration of the cultural landscape of the study area because the study area is
4 strongly identified by its agricultural and water-based Delta landscapes and communities that would
5 be adversely affected by projects that directly affect their visual resources through the introduction
6 of discordant visual features, removal of existing buildings and landscape elements of value, and
7 through the potential for indirect impacts that come along with such development potentially
8 opening the door for other development to occur. All of these effects would alter the visual character
9 of the existing regional landscape. Overall, substantial cumulative visual effects associated with past,
10 present, and reasonably foreseeable future projects within the study area are anticipated. The
11 BDCP's incremental contributions to substantial cumulative effects are cumulatively considerable
12 and unavoidable because they would result in reduced visual quality and introduce dominant visual
13 elements that would result in noticeable changes that do not blend, are not in keeping or are
14 incompatible with the existing visual environment, and could be viewed by sensitive receptors and
15 from public viewing areas. These changes would contribute to the substantial alteration of the
16 existing visual quality and character of the study area and result in cumulative adverse effects.
17 Mitigation Measures AES-1a through AES-1g and Mitigation Measure AES-6a are available to
18 address these adverse effects.

19 **CEQA Conclusion:** The projects in Table 17-2 and the BDCP would result in cumulative changes to
20 the visual environment that would involve temporary and permanent conversion of agricultural
21 land to nonagricultural uses. Agricultural and open space land conversions could occur through
22 linear rail transportation projects, urban development expansion, restoration and enhancement
23 projects, aqueduct expansion, new parks, levee improvements, and flood control projects. The actual
24 amount of agricultural and open space lands that may be converted by all cumulative projects is not
25 known, but this cumulative conversion of the existing visual landscape is considered a significant
26 impact because of the landscape sensitivity and visual dominance of project features that would
27 result in reduced scenic quality throughout the region. Overall, cumulative visual effects associated
28 with past, present, and reasonably foreseeable future projects within the study area are anticipated.
29 The BDCP's incremental contributions to substantial cumulative effects are cumulatively
30 considerable and unavoidable because they would result in reduced visual quality and introduce
31 dominant visual elements that would result in noticeable changes that do not blend, are not in
32 keeping or are incompatible with the existing visual environment, and could be viewed by sensitive
33 receptors and from public viewing areas. These changes would contribute to the substantial
34 alteration of the existing visual quality and character of the study area and are considered
35 significant impacts.

36 Mitigation Measures AES-1a through AES-1g and AES-6a would partially reduce impacts by locating
37 new transmission lines and access routes to minimize the removal of trees and shrubs and pruning
38 needed where feasible, installing visual barriers between construction work areas and sensitive
39 receptors, developing and implementing a spoil/borrow and RTM area management plan, restoring
40 barge unloading facility sites once decommissioned, applying aesthetic design treatments to all
41 structures to the extent feasible, locating concrete batch plants and fuel stations away from sensitive
42 visual resources and receptors and restoring the sites upon removal of facilities, using best
43 management practices to implement a project landscaping plan, and placing new or relocated utility
44 lines underground where feasible. However, impacts may not be reduced to a less-than-significant
45 level because even though mitigation measures would reduce some aspects of the impact on visual
46 quality and character, it is not certain the mitigation would reduce the level of the impact to less

1 than significant in all instances. In addition, the size of the study area and the nature of changes
 2 introduced by the alternative would result in permanent changes to the regional landscape such that
 3 there would be noticeable to very noticeable changes that do not blend or are not in keeping with
 4 the existing visual environment.

5 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 6 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 7 **Transmission Lines and Underground Transmission Lines Where Feasible**

8 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 9 Alternative 1A.

10 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 11 **Sensitive Receptors**

12 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 13 Alternative 1A.

14 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 15 **Material Area Management Plan**

16 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 17 Alternative 1A.

18 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

19 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 20 Alternative 1A.

21 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 22 **Extent Feasible**

23 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 24 Alternative 1A.

25 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 26 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

27 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 28 Alternative 1A.

29 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 30 **Landscaping Plan**

31 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 32 Alternative 1A.

33 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

34 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
 35 Alternative 1A.

1 **Impact AES-2: Permanent Effects on a Scenic Vista from Presence of Conveyance Facilities**

2 **Alternatives 1A through 9**

3 **NEPA Effects:** Proposed projects and plans that have the potential to contribute to cumulative visual
 4 impacts in the vicinity of the BDCP alternatives project areas are listed in Table 17-2. Appendix 3D
 5 includes descriptions of cumulative projects. Operations and maintenance activities associated with
 6 all of the projects discussed under *Impact AES-1: Substantial alteration in existing visual quality or*
 7 *character during construction of conveyance facilities* could have noticeable visual effects on vistas.
 8 Cumulative changes to the scenic vistas would involve temporary and permanent conversion of
 9 agricultural land to nonagricultural uses. Agricultural and open space land conversions could occur
 10 through linear rail transportation projects, urban development expansion, restoration and
 11 enhancement projects, aqueduct expansion, new parks, levee improvements, and flood control
 12 projects. The actual amount of agricultural and open space lands that may be converted by all
 13 cumulative projects is not known, but this cumulative conversion of the existing visual landscape of
 14 scenic vistas is considered an adverse effect. Overall, cumulative visual effects on scenic vistas
 15 associated with past, present, and reasonably foreseeable future projects within the study area are
 16 anticipated. The BDCP's incremental contributions to substantial cumulative effects are
 17 cumulatively considerable and unavoidable because they contribute to the substantial alteration of
 18 the scenic vistas in the study area and result in cumulative adverse effects. Mitigation Measures AES-
 19 1a through AES-1g and Mitigation Measure AES-6a are available to address these adverse effects.

20 **CEQA Conclusion:** The projects in Table 17-2 and this project would result in cumulative changes to
 21 the scenic vistas would involve temporary and permanent conversion of agricultural land to
 22 nonagricultural uses. Agricultural and open space land conversions could occur through linear rail
 23 transportation projects, urban development expansion, restoration and enhancement projects,
 24 aqueduct expansion, new parks, levee improvements, and flood control projects. Overall, cumulative
 25 visual effects on scenic vistas associated with past, present, and reasonably foreseeable future
 26 projects within the study area are anticipated. The actual amount of agricultural and open space
 27 lands that may be converted by all cumulative projects is not known, but this cumulative conversion
 28 of the existing visual landscape of scenic vistas is considered a significant impact.

29 Mitigation Measures AES-1a, AES-1c, AES-1d, AES-1e, AES-1g, and Mitigation Measure AES-6a would
 30 reduce these impacts by locating new transmission lines and access routes to minimize the removal
 31 of trees and shrubs and pruning needed where feasible, developing and implementing a
 32 spoil/borrow and RTM area management plan, and applying aesthetic design treatments to all
 33 structures to the extent feasible as well as undergrounding new or relocated utility lines where
 34 feasible. Shaft site access hatches would be constructed near ground level; Mitigation Measure AES-
 35 1e requires the use of aesthetic design treatments to all structures and would reduce the impact of
 36 shaft site access hatches to less than significant. However, the impacts on scenic vistas associated
 37 with other structures would not be reduced to a less-than-significant level under the BDCP because
 38 even though mitigation measures would reduce some aspects of the impact, it is not certain the
 39 mitigation would reduce the level of the impact to less than significant in all instances. In addition,
 40 the size of the study area and the nature of changes introduced by the alternative would result in
 41 permanent changes to the regional landscape such that there would be noticeable to very noticeable
 42 changes that do not blend or are not in keeping with the existing visual environment. Thus, the
 43 BDCP's incremental contributions to significant cumulative effects are cumulatively considerable
 44 and unavoidable because they contribute to the substantial alteration of the scenic vistas in the
 45 study area.

1 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 2 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 3 **Transmission Lines and Underground Transmission Lines Where Feasible**

4 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 5 Alternative 1A.

6 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 7 **Material Area Management Plan**

8 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 9 Alternative 1A.

10 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

11 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 12 Alternative 1A.

13 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 14 **Extent Feasible**

15 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 16 Alternative 1A.

17 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 18 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

19 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 20 Alternative 1A.

21 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 22 **Landscaping Plan**

23 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 24 Alternative 1A.

25 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

26 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
 27 Alternative 1A.

28 **Impact AES-3: Permanent Damage to Scenic Resources along a State Scenic Highway from**
 29 **Construction of Conveyance Facilities**

30 **Alternatives 1A through 9**

31 **NEPA Effects:** Proposed projects and plans that have the potential to contribute to cumulative visual
 32 impacts in the vicinity of the BDCP alternatives project areas are listed in Table 17-2. Appendix 3D
 33 includes descriptions of cumulative projects. Operations and maintenance activities associated with
 34 all of the projects discussed under *Impact AES-1: Substantial alteration in existing visual quality or*
 35 *character during construction of conveyance facilities* could have noticeable visual effects to scenic
 36 highways. Cumulative changes to scenic highways would involve temporary and permanent

1 conversion of agricultural land to nonagricultural uses. Agricultural and open space land
 2 conversions could occur through linear rail transportation projects, urban development expansion,
 3 restoration and enhancement projects, aqueduct expansion, new parks, levee improvements, and
 4 flood control projects. The actual amount of agricultural and open space lands that may be
 5 converted by all cumulative projects is not known, but this cumulative conversion of the existing
 6 visual landscape seen from scenic highways is considered an adverse effect. Overall, cumulative
 7 visual effects on scenic vistas associated with past, present, and reasonably foreseeable future
 8 projects within the study area are anticipated. The BDCP's incremental contributions to substantial
 9 cumulative effects are cumulatively considerable and unavoidable because they would contribute to
 10 the substantial alteration of the existing visual quality and character along state scenic highways of
 11 the study area and result in cumulative adverse effects. Mitigation Measures AES-1a through AES-1g
 12 and Mitigation Measures AES-6a are available to address these adverse effects.

13 **CEQA Conclusion:** The projects in Table 17-2 and this project would result in cumulative changes to
 14 the scenic highways would involve temporary and permanent conversion of agricultural land to
 15 nonagricultural uses. Agricultural and open space land conversions could occur through linear rail
 16 transportation projects, urban development expansion, restoration and enhancement projects,
 17 aqueduct expansion, new parks, levee improvements, and flood control projects. Overall, cumulative
 18 visual effects on scenic vistas associated with past, present, and reasonably foreseeable future
 19 projects within the study area are anticipated. The actual amount of agricultural and open space
 20 lands that may be converted by all cumulative projects is not known, but this cumulative conversion
 21 of the existing visual landscape seen from scenic highways is considered a significant impact.

22 Mitigation Measures AES-1a, AES-1c, AES-1d, AES-1e, AES-1g, and Mitigation Measure AES-6a would
 23 reduce these impacts by locating new transmission lines and access routes to minimize the removal
 24 of trees and shrubs and pruning needed where feasible, developing and implementing a
 25 spoil/borrow and RTM area management plan, and applying aesthetic design treatments to all
 26 structures to the extent feasible as well as undergrounding new or relocated utility lines where
 27 feasible. Shaft site access hatches would be constructed near ground level; Mitigation Measure AES-
 28 1e requires the use of aesthetic design treatments to all structures and would reduce the impact of
 29 shaft site access hatches to less than significant. However, the impacts on scenic vistas associated
 30 with other structures would not be reduced to a less-than-significant level under the BDCP because
 31 even though mitigation measures would reduce some aspects of the impact, it is not certain the
 32 mitigation would reduce the level of the impact to less than significant in all instances. In addition,
 33 the size of the study area and the nature of changes introduced by the alternative would result in
 34 permanent changes to the regional landscape such that there would be noticeable to very noticeable
 35 changes that do not blend or are not in keeping with the existing visual environment. Thus, the
 36 BDCP's incremental contributions to significant cumulative effects are cumulatively considerable
 37 and unavoidable because they contribute to the substantial alteration of the existing visual quality
 38 and character along state scenic highways of the study area.

39 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 40 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 41 **Transmission Lines and Underground Transmission Lines Where Feasible**

42 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 43 Alternative 1A.

1 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 2 **Sensitive Receptors**

3 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 6 **Material Area Management Plan**

7 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 8 Alternative 1A.

9 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

10 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 11 Alternative 1A.

12 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 13 **Extent Feasible**

14 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 15 Alternative 1A.

16 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 17 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

18 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 19 Alternative 1A.

20 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 21 **Landscaping Plan**

22 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 23 Alternative 1A.

24 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

25 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
 26 Alternative 1A.

27 **Impact AES-4: Creation of a New Source of Light or Glare That Would Adversely Affect Views**
 28 **in the Area as a Result of Construction and Operation of Conveyance Facilities**

29 **Alternatives 1A through 9**

30 **NEPA Effects:** Proposed projects and plans that have the potential to contribute to cumulative visual
 31 impacts in the vicinity of the BDCP alternatives project areas are listed in Table 17-2. Appendix 3D
 32 includes descriptions of cumulative projects. All of the cumulative projects also have the potential to
 33 contribute to a cumulative increase of light and glare in the study area due to increased rural and
 34 suburban development, lighting of facilities and buildings, removal of vegetation, and increased
 35 water surfaces. However, the restoration and enhancement projects have the potential to reduce
 36 glare by introducing trees and shrubs into a landscape that was in agricultural production, lacking

1 mature vegetative cover that would absorb light and reduce the potential for glare. While this effect
 2 would be beneficial, the amount of new artificial sources of light and glare through development and
 3 introduction of anthropogenic features is considered adverse. The BDCP's incremental contributions
 4 to substantial cumulative effects are cumulatively considerable and unavoidable because they
 5 contribute to increase of light and glare in the study area.

6 **CEQA Conclusion:** The projects in Table 17-2 have the potential to contribute to a cumulative
 7 increase of light and glare in the study area due to increased rural and suburban development,
 8 lighting of facilities and buildings, removal of vegetation, and increased water surfaces. However, the
 9 restoration and enhancement projects have the potential to reduce glare by introducing trees and
 10 shrubs into a landscape that was in agricultural production, lacking mature vegetative cover that
 11 would absorb light and reduce the potential for glare. While this would be beneficial, the amount of
 12 new artificial sources of light and glare through development and introduction of anthropogenic
 13 features is considered significant. Mitigation Measures AES-4a through 4c and Mitigation Measure
 14 6b would help reduce impacts by limiting construction daylight hours within 0.25 mile of residents,
 15 minimizing fugitive light from portable sources used for construction, installing visual barriers to
 16 prevent light spill from truck headlights toward residences, and evaluating implementation of an
 17 afterhours low-intensity and lights off policy. However, the amount of new artificial sources of light
 18 and glare through development and introduction of anthropogenic features would still remain
 19 significant. Thus, the BDCP's incremental contributions to significant cumulative effects are
 20 cumulatively considerable and unavoidable because they contribute to increase of light and glare in
 21 the study area.

22 **Mitigation Measure AES-4a: Limit Construction to Daylight Hours Within 0.25 Mile of**
 23 **Residents**

24 Please refer to Mitigation Measure AES-4a under Impact AES-4 in the discussion of
 25 Alternative 1A.

26 **Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for**
 27 **Construction**

28 Please refer to Mitigation Measure AES-4b under Impact AES-4 in the discussion of
 29 Alternative 1A.

30 **Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary,**
 31 **to Prevent Light Spill from Truck Headlights toward Residences**

32 Please refer to Mitigation Measure AES-4c under Impact AES-4 in the discussion of
 33 Alternative 1A.

34 **Mitigation Measure AES-6b: Develop and Implement an Afterhours Low-Intensity and**
 35 **Lights Off Policy**

36 Please refer to Mitigation Measure AES-6b under Impact AES-6 in the discussion of
 37 Alternative 1A.

1 **Impact AES-5: Substantial Alteration in Existing Visual Quality or Character during Operation**

2 **Alternatives 1A through 9**

3 **NEPA Effects:** Proposed projects and plans that have the potential to contribute to cumulative visual
 4 impacts in the vicinity of the BDCP alternatives project areas are listed in Table 17-2. Appendix 3D
 5 includes descriptions of cumulative projects. All of the cumulative projects also have the potential to
 6 contribute to a cumulative decline in the existing visual character during operation in the study area
 7 due to increased rural and suburban development, infrastructure, and restoration projects that
 8 would require maintenance over time where no maintenance or operations presently exist. The
 9 BDCP's incremental contributions to substantial cumulative effects are cumulatively considerable
 10 and unavoidable because they contribute to the substantial alteration of the existing visual quality
 11 and character of the study area during operation and would result in cumulative adverse effects.
 12 Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-6a are available to
 13 address these adverse effects.

14 **CEQA Conclusion:** The projects in Table 17-2 and this project have the potential to contribute to a
 15 cumulative decline in the existing visual character during operation in the study area due to
 16 increased rural and suburban development, infrastructure, and restoration projects that would
 17 require maintenance over time where no maintenance or operations presently exist. The cumulative
 18 decline in the existing visual character is considered a significant impact.

19 Mitigation Measures AES-1a, AES-1c, AES-1d, AES-1e, AES-1g, and Mitigation Measure AES-6a would
 20 reduce these impacts by locating new transmission lines and access routes to minimize the removal
 21 of trees and shrubs and pruning needed where feasible, developing and implementing a
 22 spoil/borrow and RTM area management plan, and applying aesthetic design treatments to all
 23 structures to the extent feasible as well as undergrounding new or relocated utility lines where
 24 feasible. Shaft site access hatches would be constructed near ground level; Mitigation Measure AES-
 25 1e requires the use of aesthetic design treatments to all structures and would reduce the impact of
 26 shaft site access hatches to less than significant. However, the impacts on scenic vistas associated
 27 with other structures would not be reduced to a less-than-significant level under the BDCP because
 28 even though mitigation measures would reduce some aspects of the impact, it is not certain the
 29 mitigation would reduce the level of the impact to less than significant in all instances. In addition,
 30 the size of the study area and the nature of changes introduced by the alternative would result in
 31 permanent changes to the regional landscape such that there would be noticeable to very noticeable
 32 changes that do not blend or are not in keeping with the existing visual environment. The BDCP's
 33 incremental contributions to significant cumulative effects are cumulatively considerable and
 34 unavoidable because they contribute to the substantial alteration of the existing visual quality and
 35 character of the study area during operation.

36 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to** 37 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New** 38 **Transmission Lines and Underground Transmission Lines Where Feasible**

39 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 40 Alternative 1A.

1 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 2 **Sensitive Receptors**

3 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 4 Alternative 1A.

5 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 6 **Material Area Management Plan**

7 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 8 Alternative 1A.

9 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

10 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 11 Alternative 1A.

12 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 13 **Extent Feasible**

14 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 15 Alternative 1A.

16 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 17 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

18 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 19 Alternative 1A.

20 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 21 **Landscaping Plan**

22 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 23 Alternative 1A.

24 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

25 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
 26 Alternative 1A.

27 **Impact AES-6: Substantial Alteration in Existing Visual Quality or Character during**
 28 **Implementation of CM2–CM22**

29 **Alternatives 1A through 9**

30 **NEPA Effects:** Proposed projects and plans that have the potential to contribute to cumulative visual
 31 impacts in the vicinity of the BDCP alternatives project areas are listed in Table 17-2. Appendix 3D
 32 includes descriptions of cumulative projects. The location of site-specific restoration activities are
 33 unknown but sites have the potential presence of sensitive viewers, potential for construction
 34 periods to last longer than 2 years, and varying intensity of construction. In addition, these
 35 measures contain features such as fish management facilities (e.g., screens, ladders, ramps,
 36 barriers); realignments of waterways; hydrologic monitoring stations; support facilities (operations

1 buildings, parking lots, access facilities such as roads and bridges) necessary to provide safe access
2 for maintenance and monitoring; and modification, removal, and construction of berms, levees, and
3 water control structures. Cumulative changes to the visual environment would involve temporary
4 and permanent conversion of agricultural land to nonagricultural uses. Agricultural and open space
5 land conversions could occur through linear rail transportation projects, urban development
6 expansion, restoration and enhancement projects, aqueduct expansion, new parks, levee
7 improvements, and flood control projects. The actual amount of agricultural and open space lands
8 that may be converted by all cumulative projects is not known, but this cumulative conversion of the
9 existing visual landscape is considered an adverse effect. Overall, cumulative visual effects
10 associated with past, present, and reasonably foreseeable future projects within the study area are
11 anticipated. The BDCP's incremental contributions to substantial cumulative effects are
12 cumulatively considerable and unavoidable because they would contribute to the substantial
13 alteration of the existing visual quality and character of the study area and result in cumulative
14 adverse effects. Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-6a are
15 available to address these adverse effects.

16 **CEQA Conclusion:** The type of cumulative effects for Impact AES-6 would be the same as those
17 described under *Impact AES-1: Substantial alteration in existing visual quality or character during*
18 *construction of conveyance facilities*. Cumulative changes to the visual environment would involve
19 temporary and permanent conversion of agricultural land to nonagricultural uses. Agricultural and
20 open space land conversions could occur through linear rail transportation projects, urban
21 development expansion, restoration and enhancement projects, aqueduct expansion, new parks,
22 levee improvements, and flood control projects. The actual amount of agricultural and open space
23 lands that may be converted by all cumulative projects is not known, but this cumulative conversion
24 of the existing visual landscape is considered a significant impact. Overall, cumulative visual effects
25 associated with past, present, and reasonably foreseeable future projects within the study area are
26 anticipated.

27 Mitigation Measures AES-1a, AES-1c, AES-1d, AES-1e, AES-1g, and Mitigation Measure AES-6a would
28 reduce these impacts by locating new transmission lines and access routes to minimize the removal
29 of trees and shrubs and pruning needed where feasible, developing and implementing a
30 spoil/borrow and RTM area management plan, and applying aesthetic design treatments to all
31 structures to the extent feasible as well as undergrounding new or relocated utility lines where
32 feasible. Shaft site access hatches would be constructed near ground level; Mitigation Measure AES-
33 1e requires the use of aesthetic design treatments to all structures and would reduce the impact of
34 shaft site access hatches to less than significant. However, the impacts on scenic vistas associated
35 with other structures would not be reduced to a less-than-significant level under the BDCP because
36 even though mitigation measures would reduce some aspects of the impact, it is not certain the
37 mitigation would reduce the level of the impact to less than significant in all instances. In addition,
38 the size of the study area and the nature of changes introduced by the alternative would result in
39 permanent changes to the regional landscape such that there would be noticeable to very noticeable
40 changes that do not blend or are not in keeping with the existing visual environment. Thus, the
41 BDCP's incremental contributions to significant cumulative effects are cumulatively considerable
42 and unavoidable because they contribute to the substantial alteration of the existing visual quality
43 and character of the study area.

1 **Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to**
 2 **Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New**
 3 **Transmission Lines and Underground Transmission Lines Where Feasible**

4 Please refer to Mitigation Measure AES-1a under Impact AES-1 in the discussion of
 5 Alternative 1A.

6 **Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and**
 7 **Sensitive Receptors**

8 Please refer to Mitigation Measure AES-1b under Impact AES-1 in the discussion of
 9 Alternative 1A.

10 **Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel**
 11 **Material Area Management Plan**

12 Please refer to Mitigation Measure AES-1c under Impact AES-1 in the discussion of
 13 Alternative 1A.

14 **Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned**

15 Please refer to Mitigation Measure AES-1d under Impact AES-1 in the discussion of
 16 Alternative 1A.

17 **Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the**
 18 **Extent Feasible**

19 Please refer to Mitigation Measure AES-1e under Impact AES-1 in the discussion of
 20 Alternative 1A.

21 **Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from**
 22 **Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities**

23 Please refer to Mitigation Measure AES-1f under Impact AES-1 in the discussion of
 24 Alternative 1A.

25 **Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project**
 26 **Landscaping Plan**

27 Please refer to Mitigation Measure AES-1g under Impact AES-1 in the discussion of
 28 Alternative 1A.

29 **Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible**

30 Please refer to Mitigation Measure AES-6a under Impact AES-6 in the discussion of
 31 Alternative 1A.

1 **Impact AES-7: Compatibility of the Proposed Water Conveyance Facilities and Other**
 2 **Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations**
 3 **Addressing Aesthetics and Visual Resources**

4 **Alternatives 1A through 9**

5 **NEPA Effects:** Proposed projects and plans that have the potential to contribute to cumulative visual
 6 impacts in the vicinity of the BDCP alternatives project areas are listed in Table 17-2. Appendix 3D
 7 includes descriptions of cumulative projects. All of the cumulative projects also have the potential
 8 for incompatibilities with one or more plans and policies related to preserving the visual quality and
 9 character of the Delta.

10 **CEQA Conclusion:** The potential for cumulative incompatibilities with plans and policies indicates
 11 potential for a physical consequence to the environment. Such physical effects are discussed in the
 12 individual action alternative analyses under impacts AES-1 through AES-6, and for cumulative
 13 projects above. No additional CEQA conclusion is required related to the compatibility of cumulative
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1 **17.4.2 Personal Communications**

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