RECLAMATION
Managing Water in the West

Final Environmental Assessment

Contra Costa Water District Cypress Preserve Property Inclusion

EA-15-049

U.S. Department of the Interior
Bureau of Reclamation
South-Central California Area Office

September 2018

Mission Statements

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Section 1 Introduction

The Bureau of Reclamation (Reclamation) provided the public with an opportunity to comment on the Draft Finding of No Significant Impact (FONSI) and Draft Environmental Assessment (EA) between October 5, 2017 and November 5, 2017. No comments were received. Changes between this Final EA and the Draft EA, which are not minor editorial changes, are indicated by vertical lines in the left margin of this document.

1.1 Background

Contra Costa Water District (Contra Costa WD) has a long-term water service contract (Contract No. I75r-3401A-LTR1) with Reclamation for up to 195,000 acre-feet per year of Central Valley Project (CVP) water for municipal and industrial (M&I) use. Contra Costa WD delivers raw water to Diablo Water District, who treats the water and then delivers it to customers in the City of Oakley (Oakley), among others.

Cypress Preserve Property

The 1,243.6-acre Cypress Preserve Property is a proposed mixed-use residential development that would be located in Oakley, California (Figure 1). The proposed development would have residential uses, commercial uses, public schools, parks, common area, open space/utility easements/lakes, gas well sites, wetlands/dunes, flood control levees, and roads (including a bridge). The Cypress Preserve Property is comprised of six contiguous properties, which includes: (i) the approximately 345-acre property commonly known as the "Biggs" property; (ii) the approximately 331-acre property commonly known as the "KT KB Oakley" property; (iii) the approximately 184-acre property commonly known as the "Dal Porto South" property; (iv) the approximately 365-acre property commonly known as the "Lesher" property; (v) the approximately 17-acre property commonly known as the "Pacific West" property; and (vi) the approximately 2-acre property commonly knowns as the "Farr" property. The Cypress Preserve Property is located entirely within a 2,702-acre area described as the "Cypress Corridor Expansion Area" in Oakley's 2020 General Plan (City of Oakley 2002).

Oakley's 2020 General Plan, adopted by Oakley in December 2002, describes Oakley's plan for future development, including within the Cypress Corridor Expansion Area. In 2006, the Contra Costa County Local Agency Formation Commission (LAFCO) approved the annexation of the Cypress Corridor Expansion Area into Oakley, as well as into Diablo Water District, Contra Costa WD, and Ironhouse Sanitary District's service areas. Oakley adopted the East Cypress Corridor Specific Plan (Specific Plan), establishing the standards and criteria by which development of the Cypress Corridor Expansion Area will proceed in Oakley.

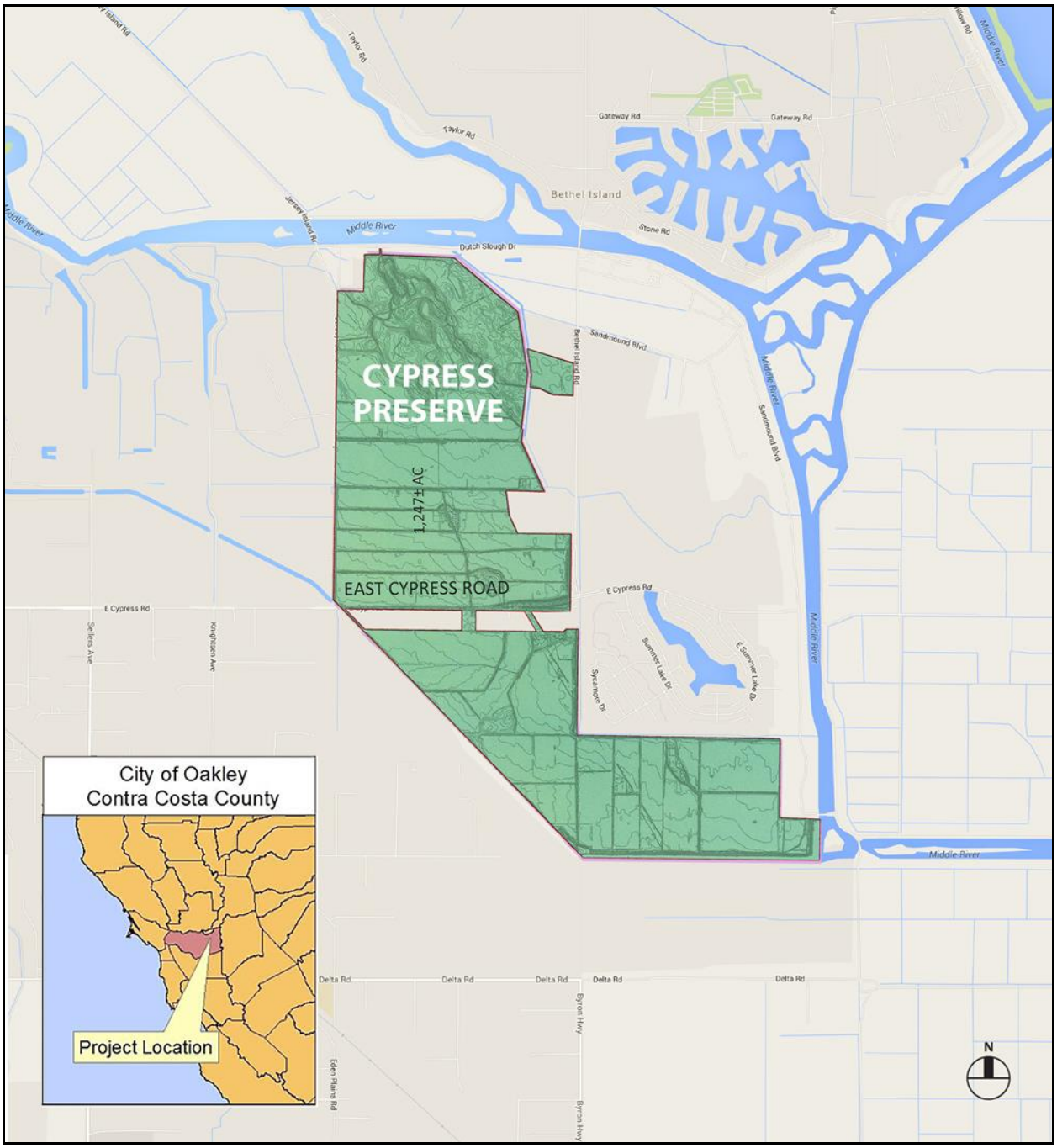

Figure 1 Project Location.

A draft of the *East Cypress Corridor Specific Plan Environmental Impact Report*, State Clearinghouse No. 2004092011 (Specific Plan EIR) was circulated for public comment from August 30, 2005 to October 13, 2005. In addition, portions of the draft Specific Plan EIR were revised and recirculated for public comment from December 23, 2005 to February 6, 2006. Pursuant to the California Environmental Quality Act (CEQA), the Specific Plan EIR evaluated and disclosed potential environmental impacts that could result from build-out of the Specific Plan, including the Cypress Preserve Property, and includes mitigation measures for those impacts that were determined to be significant. The environmental topics that were addressed in

the Specific Plan EIR included Aesthetics, Agricultural Resources, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Public Services and Utilities and Transportation/Traffic. Oakley determined that with the implementation of mitigation measures that the majority of resources would result in less than significant impacts as defined by CEQA. Oakley found that significant and unavoidable impacts would occur to agriculture resources and to air quality. On March 13, 2006, Oakley certified the Specific Plan EIR and adopted a Mitigation Monitoring and Reporting Program (MMRP) and a Statement of Overriding Considerations.

On April 11, 2006, the Greenbelt Alliance filed a legal action challenging the City's certification of the Specific Plan EIR[1]. On August 1, 2007, the Alameda County Superior Court (Court Decision) determined that the Specific Plan EIR was deficient in two respects: (i) failure to comply with the tiering provisions of CEQA with respect to the final EIR's discussion of impacts to agricultural resources, and (ii) failure to adequately analyze the Specific Plan's potential significant air quality impacts. In response to the Court Decision, on October 22, 2007, Oakley rescinded the Specific Plan and Specific Plan EIR and directed Oakley staff to supplement the environmental analysis included in the Specific Plan EIR in order to address the CEQA deficiencies identified by the Court Decision.

The draft *East Cypress Corridor Specific Plan Supplemental Environmental Impact Report* (Specific Plan SEIR) was circulated for public review and comment from September 5, 2008 through October 28, 2008. The Specific Plan SEIR prepared by Oakley included a new analysis to address agricultural resources and air quality impacts of the Specific Plan EIR found deficient by the Court Decision, and incorporated by reference those portions of the Specific Plan EIR that were upheld by the Court Decision. On March 10, 2009, Oakley certified the Specific Plan SEIR and adopted a MMRP and a Statement of Overriding Considerations. On that same date, Oakley re-adopted the Specific Plan, and amended Oakley's General Plan in relation to the Specific Plan. For ease of reference, the Specific Plan SEIR is referred throughout the rest of the document as the "Specific Plan EIR", and is also incorporated by reference into this analysis.

Various water supply sources were analyzed for the Specific Plan EIR, and included groundwater, recycled water, and CVP water. CVP water from Contra Costa WD (via Diablo Water District) was identified as the only reliable source of water. Therefore, the developer for the proposed Cypress Preserve Property has requested to be included into Contra Costa WD's CVP service area in order to receive CVP water. As provided for in their CVP water service contract, Contra Costa WD has requested approval from Reclamation for the inclusion of the Cypress Preserve Property into their CVP service area for receipt of CVP water supplies.

In addition to the Cypress Preserve Property inclusion, the development of the Project will require various land use authorizations by either Reclamation or Contra Costa WD for access to the right-of-way along the Contra Costa Canal to facilitate construction, operation and maintenance of certain infrastructure improvements planned to support the Cypress Preserve Property, including the widening of Cypress Road, a new bridge over Rock Slough (Rock Slough

[1] Greenbelt Alliance vs. City of Oakley, Contra Costa Superior Court Case No. N-06-0582.

Bridge), and new levees along the Contra Costa Canal (referenced interchangeably in the document as the Cypress Preserve Property or Project).

1.2 Need for the Proposed Action

The proposed mixed-use development needs a reliable source of water that would be able to serve the 1,243.6-acre Cypress Preserve Property. The purpose of the Proposed Action is to include the five contiguous properties described above into Contra Costa WD's CVP service area so that the proposed development can receive treated CVP water from Diablo Water District.

Section 2 Alternatives Including the Proposed Action

This EA considers two possible actions: the No Action Alternative and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not approve the inclusion of Cypress Preserve Property into Contra Costa WD's CVP service area and CVP water would not be provided to the proposed development. Currently, there are no other alternative sources of water that could provide adequate water supplies to the Project. Therefore, under the No Action Alternative, the proposed development would not be constructed.

2.2 Proposed Action

Under the Proposed Action, Reclamation would approve the inclusion of the following Contra Costa County Assessor's Parcel Numbers into Contra Costa WD's CVP service area:

- 020-140-048 Biggs
- 020-150-003 Biggs
- 032-050-003 Dal Porto South
- 032-082-001 KT-KB Oakley, LLC
- 032-082-013 Lesher
- 032-082-005 Lesher
- 032-082-011 Pacific West Communities
- 032-082-010 Pacific West Communities
- 032-070-006 Farr

This inclusion of 1,243.6 acres will allow Contra Costa WD (via the Diablo Water District) to deliver CVP water to the proposed development for M&I purposes.

Reclamation does not have land use authority over the development of the Cypress Preserve Property. Oakley is the authorizing entity for the development and it has already approved development of the Cypress Preserve Property. The proposed development includes 310.80 acres of residential uses (2,400 residential "solar ready" units), 24.7 acres of commercial use (approximately 268,983 square feet), 19.8 acres of public schools, 24.8 acres of parks, and 3.6 acres of common area, 452.9 acres of open space/utilities easements/lakes/preserves, 133.8 acres

of wetlands, 76.3 acres of flood control levees (23,182 linear feet), and 174.3 acres of roads (including the Rock Slough Bridge) (See Table 1 and Figure 2).

Table 1 Land Uses for the Proposed Cypress Preserve Property

Land Use	**Acres**
Residential	310.8
Commercial	24.7
Residential and Commercial Subtotal	***335.5***
Public Schools	19.8
Parks	24.8
Common Area	3.6
Public Uses Subtotal	***48.2***
Open Space/Utility Easements/Lakes/Cultural Resources	452.9
Gas well sites + water tank site[2]	22.6
Wetlands	133.8
Flood control levees (approximately 23,182 linear feet)	76.3
Roads	174.3
Open Space/Utility Easements/Lakes/Utility Sites/Levees/Roads/Cultural Resources Subtotal	***859.9***
TOTAL	**1,243.6[3]**
Source: Bellecci & Associates. August 13, 2018.	

The development includes the construction of infrastructure including streets, a bridge, water lines, sewer lines, regional sewer lift station, regional water tanks and associated pumping facilities, landscaped areas, storm water detention basins and storm water pumps. Construction of the Project is scheduled to begin in 2019, and estimated to be completed by 2029 depending on market conditions.

2.2.1 Cypress Preserve Property Development

Residential

The residential portion of the Project would consist of a range of residential densities as described below. Figure 2 shows the proposed residential development.

- Single-family detached – 5.4 dwelling units/acre
- Senior housing – 8.0 dwelling units/acre
- Larger lots – 4.2 dwelling units/acre
- Medium lots – 3.3 dwelling units/acre
- Smaller lots – 6.5 dwelling units/acre

[2] The proposed Cypress Preserve Property site plan includes pre-existing gas well sites and a future water tank site. The existing gas wells are depicted in the Specific Plan EIR, but are no longer in operation and pre-date the City's adoption of the Specific plan. The existing gas well sites will not be owned by the developer, nor developed or operated as part of the Project. The water tank site is identified in the Specific Plan EIR for potential future development of a ground-level water storage tank to be operated by the Diablo Water District.

[3] The 1,243.6 acres does not include 0.67 acres of off-site road construction for the New East Cypress Road at Contra Costa Canal, 0.45 acres of off-site construction at Rock Slough for the construction of Rock Slough Bridge, and 1.38 acres of off-site construction to construct the project levee to connect with the Shea Homes (Summer Lake) levee on Reclamation District 799 property. These off-site construction areas and the project together total 1,249.1 acres.

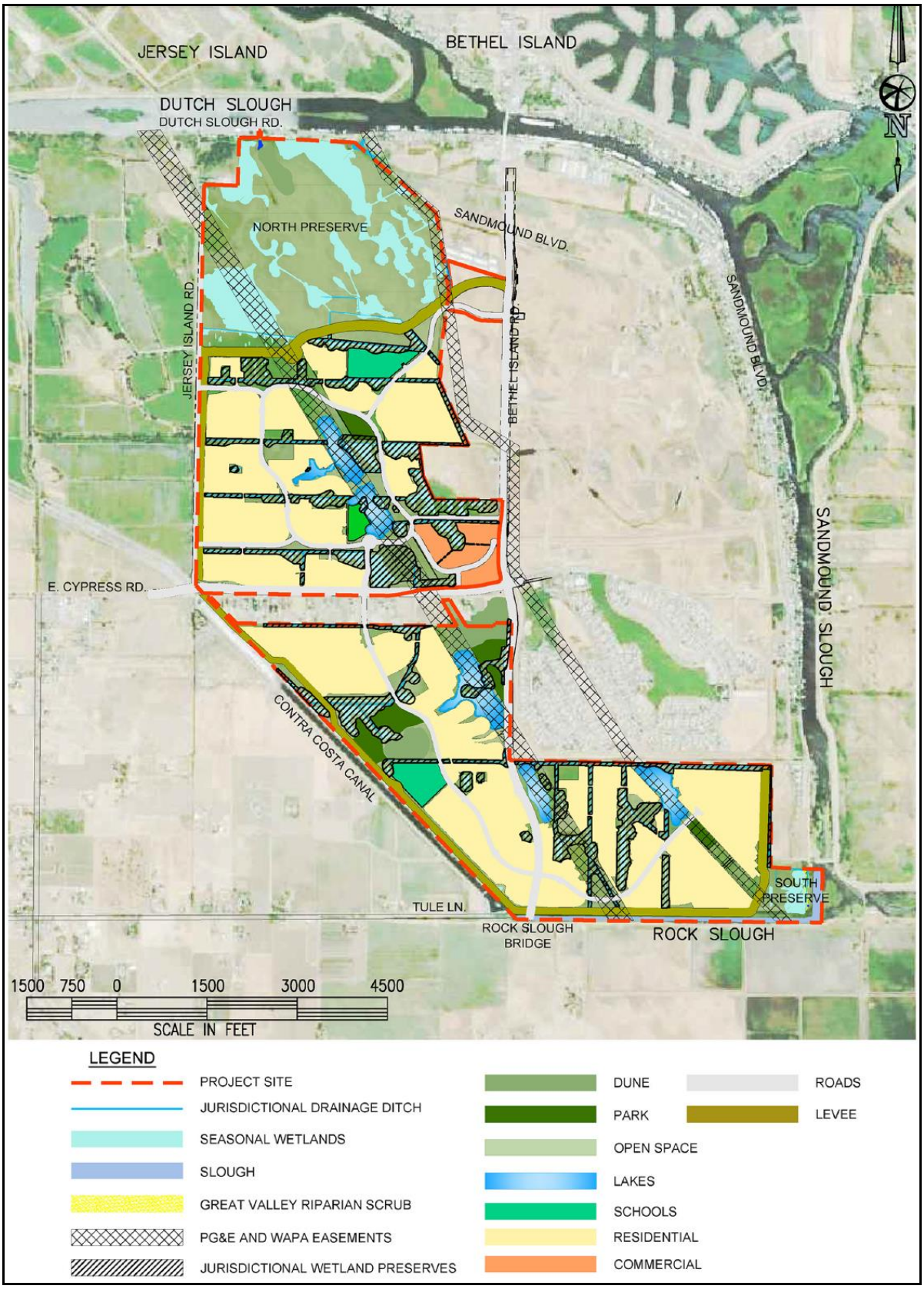

Figure 2 Cypress Preserve Property Site Plan
Source: Bellechi & Assoc., Inc.

Commercial

The commercial component of the Project would involve a 24.7-acre commercial/retail center located at the northwest corner of Bethel Island Road and East Cypress Road (Figure 2). Approximately 230,000 square feet of commercial space would be available, including space for retail tenants and various commercial and service uses. Landscaping would be provided throughout, and signalized access would be provided to Bethel Island Road and Cypress Road.

Parks and Trails

The Project includes a total of approximately 24.8 acres of public parks that will be located throughout the Project and include recreational amenities (Figure 2). In addition, an extensive network of multi-use trails is proposed within the Project open space (except within the North and South Preserves (defined below) and the protected wetlands within the urban levee system) and within roadway rights-of way. The trail system will also be located on the top of the levee system that will be constructed around the Project. The trail system will connect with the Oakley trail system to be constructed along East Cypress Road and Bethel Island Road within the Project

Open Space/Utility Easements/Lakes/Cultural Resources

The Project includes approximately 452.9 acres of open space, utility easements, lakes and preserves throughout the site (Figure 2). The open space includes Pacific Gas and Electric Company (PG&E) and Western Area Power Administration (WAPA) power line and gas line easements that extend northwest-southeast through the entire site, open space, in the form of wetland preserves, dunes and cultural resources that will be protected in place. Man-made lakes will provide storm water management and will also be used for recreation, such as small sail boats, paddle boats and a 3-acre beach club at one of the man-made lakes.

Wetlands (waters of the U.S.)

The Project will set aside the Cypress Preserves northern most 255.9-acres (North Preserve) as a conservation area to permanently protect waters of the United States (WOUS) under Section 404 of the Clean Water Act and associated habitat. As shown in Figure 2, the majority of seasonal wetlands and non-wetland drainage ditches are located in the North Preserve and total approximately 76.7-acres or approximately 59 percent of the Project's WOUS. The North Preserve represents naturally-occurring wetland and dune habitats typical of the region. The Project will also set aside 13.2 acres located adjacent to Rock Slough and Sandmound Slough at the southeast corner of the site (referred to as South Preserve) to permanently protect 9.6 acres of seasonal wetlands, riparian scrub, and slough (Figure 2). Both the North and South Preserves are adjacent to the Sacramento-San Joaquin River Delta (Delta) waterways and will maintain corridors and connectivity to similar existing habitat.

An additional 43.3-acres of WOUS are avoided within the Project development area. The 43.3-acres of wetland habitat that will be avoided will continue to receive precipitation and local runoff; however, irrigation water that was conveyed through these ditches and seasonal wetlands will cease. These protected wetland features will be protected in perpetuity under a deed restriction and managed in accordance with a long-term resource management plan funded through an endowment.

The Project will cease water withdrawals from the Delta, and any discharged water would comply with state effluent and water quality standards, as per the 401 Clean Water Certification.

Project preservation efforts are concentrated in the North Preserve and South Preserve, with additional in-tract wetland preservation and management, so as to maintain a complex of WOUS with high functions and values adjacent to Dutch Slough, Sandmound Slough, Rock Slough, and the Dutch Slough Tidal Marsh Restoration Project west of the Project (Figure 2).

2.2.2 Infrastructure Improvements

In addition to residential, commercial and open space construction, infrastructure improvements would be necessary to serve the development. These include noise barriers, as well as upgrades to existing roadways and utilities (water, sewer, storm drain, electricity, natural gas) and the extension of the infrastructure to the areas of the site where existing facilities presently do not exist.

Roadway and Access Improvements

Primary access to the proposed residential neighborhoods would be provided by a signalized intersection on East Cypress Road between Jersey Island Road and Bethel Island Road, Bethel Island Road between East Cypress Road and Sandmound Boulevard (Figure 2). A signalized entrance is proposed on Bethel Island Road just north of East Cypress Road for access to the proposed commercial site at the northwest corner of East Cypress Road and Bethel Island Road with an additional right-in/right-out access point on East Cypress Road.

Improvements will be conducted on existing area roadways and intersections to mitigate increased traffic resulting from the Project. As a major arterial, both East Cypress Road and Bethel Island Roads will be improved to four travel lanes, a landscaped median, bike lanes and a multi-use trial along the north side of the road. In addition to the two arterial, there will be collector roads and local streets within the residential neighborhoods.

Secondary access to the Project would also be provided through the construction of a 2- or 4-lane Rock Slough Bridge, allowing for a future connection from Bethel Island Road to Byron Highway. The total length of the bridge spanning Rock Slough will be approximately 220 feet and the width will be approximately 56 feet.

Utility Improvements

Some utility facilities would need to be relocated to accommodate construction, and others would require upgrades and new construction to accommodate the Project utility load. Proposed sewer, water and storm drain improvements would include the following:

- A new 14-inch sanitary sewer pump station would be constructed to collect on-site sewer flows and discharge to a 14-inch force main in East Cypress Road.
- New water mains would be installed for the development, in accordance with Diablo Water District's master plan and specifications.
- Overhead and underground utilities would be relocated as needed, which may require adjustments to facilities serving adjacent properties.
- Storm water management facilities would be installed to direct surface drainage to the central man-made lakes for storm water detention in compliance with a National Pollutant Discharge Elimination System (NPDES) general construction permit (General Permit). When necessary, storm water from the man-made lakes will be pumped over the

levee to Reclamation District 799 (RD 799) ditches and canals and ultimately to RD 799 pump stations and discharged into Sandmound and Dutch Sloughs.

Noise Walls

The Project includes the development of homes along East Cypress Road, Bethel Island Road and Jersey Island Road. The homes would be close to roadways with unmitigated traffic noise levels that are expected to exceed Oakley's exterior standard of 65 decibel (dB) and interior standard of 45 dB within the residences (City of Oakley 2005a, pages 3.11-12 and 3.11-13). The following mitigation measures will be implemented by the developer as a condition of Oakley's approval:

- Construct a 6-foot noise barrier along the rear yards of those residences located adjacent to Bethel Island Road.
- Construct an 8-foot noise barrier along the rear yards of residences that are located adjacent to the north side of East Cypress Road between Jersey Island Road and Bethel Island Road.
- Construct a 6-foot noise barrier along the south side of the pedestrian trail and the north side of the existing East Cypress Road, between Jersey Island Road and Bethel Island Road.

2.2.3 Required Reclamation Land Use Authorizations

The proposed Cypress Preserve Property development will require the following Reclamation land use authorizations associated with the proposed construction of a perimeter flood control levee system (see Figure 2):

- *Reclamation Right-of-Way – New East Cypress Road at Contra Costa Canal:* The Project will require the widening of East Cypress Road including various utilities (water, sewer, storm drain, telephone, cable, petroleum line, sanitary sewer and gas) at the crossing of the Contra Costa Canal (see Figure 3). Reclamation will issue to Oakley or other appropriate entity a permit in advance of easement, encroachment permit, and long-term easement to authorize the construction, operation and maintenance of the improved East Cypress Road within Reclamation right-of-way at this location.
- *Reclamation Right-of-Way - Contra Costa Canal - Levee Operation and Maintenance:* The Project requires the construction of a levee around the perimeter of the development for flood protection; a portion of which is adjacent to the Contra Costa Canal (approximately 7,000 feet). This includes the construction of a levee within the eastern side of Reclamation's Contra Costa Canal right-of-way for approximately 1,000 feet, just south of East Cypress Road (see Figure 3). The Cypress Preserve Levee will continue adjacent to the Canal outside of the Reclamation right-of-way and extend south down to Rock Slough. Before reaching Rock Slough (see Figure 4), the Project includes the construction of the eastern levee of the existing Rock Slough Fish Screen levees. Reclamation would issue a permit to Oakley or other appropriate entity a permit in advance of easement, encroachment permit, and long term easement, as needed to authorize the construction, operation, and maintenance of these sections of levees and any other utilities within Reclamation right-of-way at these locations.

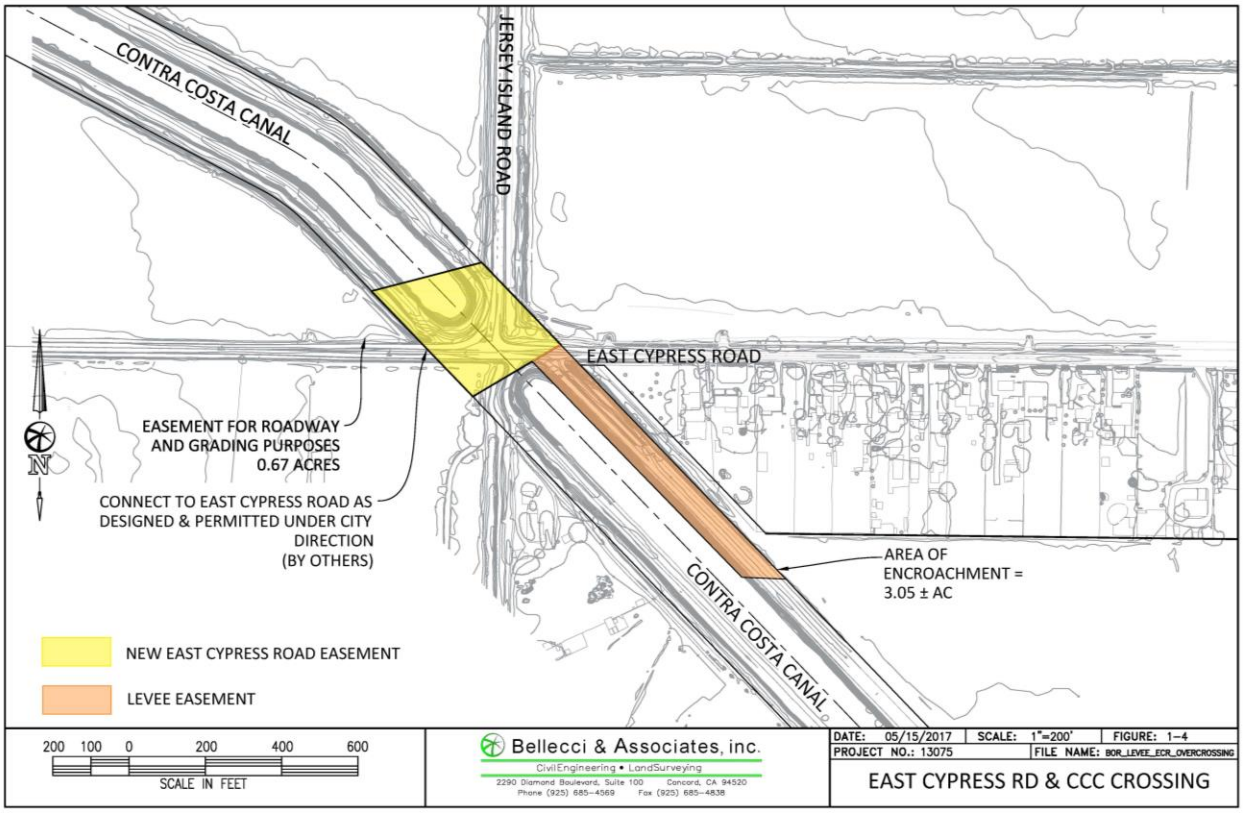

Figure 3 New East Cypress Road at Contra Costa Canal

- *Reclamation Right-of-Way - Contra Costa Canal Rock Slough Fish Screen– Relocation of Log Boom.* The developer would provide Reclamation and or Contra Costa WD with a long-term easement to allow the Rock Slough Fish Screen log boom to be relocated and operated 100 feet upstream of the proposed Rock Slough Bridge (Figure 4) along with the ingress and egress rights to maintain the log boom and footings. Log boom anchors would be installed in existing rip rap placed on the south side of the Rock Slough. The anchors would require excavation to approximately 2 feet below ground surface to install a 6 foot by 6 foot, 1 foot thick anchor pad; and a 2 foot diameter boring 7 feet below ground surface.
- *Temporary Staging/Construction Areas.* Reclamation or Contra Costa WD would issue to Oakley or other appropriate entity the necessary encroachment permits in support of developer construction activities within the Reclamation right-of-way for East Cypress Road, levees and the Rock Slough Bridge.

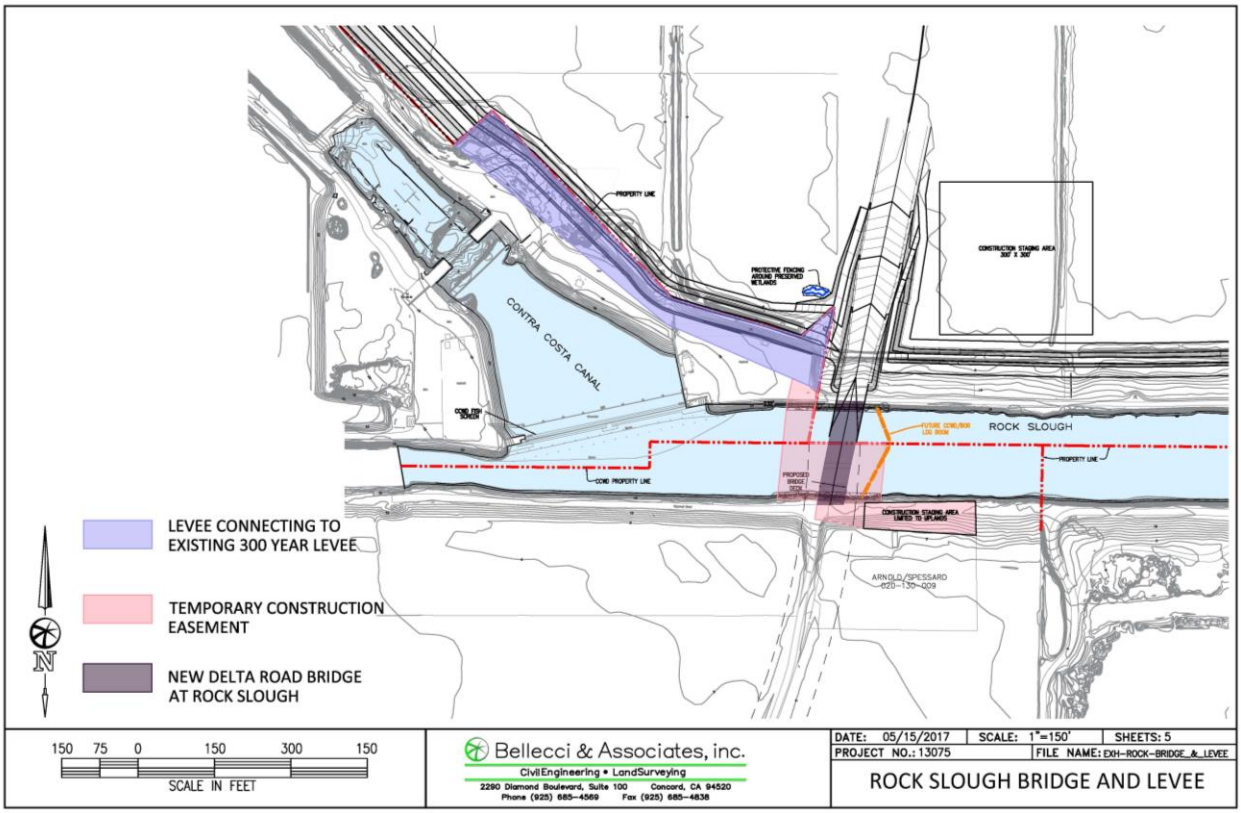

Figure 4 New Bridge and Levee Extension Next to Rock Slough

2.2.4 Staging Areas

Temporary staging areas for construction may occur anywhere within the proposed development, but would refrain from occurring at any of the protected areas, like the North Preserve and South Preserve. There would be no offsite construction associated with the Project.

2.2.5 Permitting for the Proposed Action

The developer has received the following permits for the proposed development:

- Clean Water Act, Section 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board (Appendix A)
- Streambed Alteration Agreement from the California Department of Fish and Wildlife for the Rock Slough Bridge (Appendix B)

The developer is also in the process of obtaining a Clean Water Act, Section 404 and Rivers and Harbors Act, Section 10 permits from the U.S. Army Corps of Engineers (Corps), and a NPDES General Permit from the Regional Water Quality Control Board. The developer will not move forward with the Project until the permits are received.

The developer shall comply with all terms and conditions of the above permits.

2.2.6 Environmental Commitments

The developer shall implement the following environmental protection measures to reduce environmental consequences associated with the Proposed Action (Table 2).

Table 2 Environmental Protection Measures and Commitments.

Resource	Protection Measure
Air Quality/Global Climate Change	The developer shall comply with all applicable mitigation measures recommended by the Bay Area Air Quality Management District to reduce emissions during Project construction and operation (City of Oakley 2009).
Biological Resources	The developer shall comply with all the requirements and commitments of the East Contra Costa County Habitat Conservation Pan/National Community Conservation Plan (HCP/NCCP).
Biological Resources	The developer shall comply with all terms and conditions of the biological opinion issued by the National Marine Fisheries Service (NMFS) to Reclamation for the Proposed Action (NMFS 2016) (Appendix C).
Biological Resources	The developer shall comply with the following Essential Fish Habitat recommendations from NMFS (2016) (Appendix C): #2 under the Pile Driving and Associated Activities category, and #1 under the Water Quality Impacts category. The other recommendations are not included as commitments (see Appendix D for more information).
Cultural Resources	If cultural resources are discovered during construction, the post-review discoveries procedures at 36 CFR § 800.13(b) shall be followed.
Various Resources	The developer shall implement the measures included in the Mitigation Monitoring and Reporting Program to reduce environmental impacts to air quality/global climate change, noise, traffic, and water resources (Appendix E).

Environmental consequences for resource areas assume the measures specified would be fully implemented. Copies of all Table 2 required reports, permits for the Project, and monitoring shall be submitted to Reclamation.

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Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

3.1 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment and determined that the Proposed Action did not have the potential to cause direct, indirect, or cumulative adverse effects to the resources listed in Table 3.

Table 3 Resources Eliminated from Further Analysis

Resource	Reason Eliminated
Environmental Justice	The Proposed Action would not cause dislocation, change in employment, or increase flood, drought, or disease, nor would it disproportionately impact economically disadvantaged or minority populations.
Indian Sacred Sites	The Proposed Action would not limit access to ceremonial use of Indian Sacred Sites on federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites. Therefore, there would be no impacts to Indian Sacred Sites as a result of the Proposed Action.
Indian Trust Assets	The Proposed Action would not impact Indian Trust Assets as there are none in the Proposed Action area.

3.2 Air Quality

Section 176 (C) of the Clean Air Act (42 U.S.C. 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan required under Section 110 (a) of the Federal Clean Air Act (42 U.S.C. 7401 [a]) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with State Implementation Plan's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements would, in fact conform to the applicable State Implementation Plan before the action is taken.

On November 30, 1993, the Environmental Protection Agency (EPA) promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the

relevant criteria pollutants and precursor pollutant caused by the Proposed Action equal or exceed certain *de minimis* amounts thus requiring the federal agency to make a determination of general conformity. The manner in which this regulatory information applies to the Proposed Action is discussed below.

3.2.1 Affected Environment

The Proposed Action area lies within the San Francisco Bay Area (Bay Area) Air Basin under the jurisdiction of the Bay Area Air Quality Management District (Air District). The air pollutants of greatest concern in the Bay Area Air Basin are carbon monoxide (CO), ozone, ozone precursors (such as reactive organic gases [ROG], volatile organic compounds [VOC], or nitrogen oxide [NO_x]), respirable particulate matter between 2.5 and 10 microns in diameter (PM_{10}) and fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) (Bay Area Air Quality Management District 2010).

The Bay Area Air Basin has reached Federal and State attainment status for CO, nitrogen dioxide, and sulfur dioxide, and neither are in attainment for ozone, as shown in Table 4. Also, the Bay Area Air Basin has reached Federal attainment status for PM_{10} and or $PM_{2.5}$ but not for the State standards. There are no established standards for NO_x; however, they do contribute to nitrogen dioxide standards and ozone precursors (Bay Area Air Quality Management District 2017a). For a list of current established criteria air pollution thresholds for the Bay Area Air Quality Management District and EPA, please see Table 5. There are no *de minimis* levels for pollutants for which the Bay Area Air Basin is designated as an attainment area.

Table 4 Air Quality Attainment Status for the Bay Area Air Basin

Pollutant	**California Attainment Status**	**National Attainment Status**
Ozone	**Nonattainment**	**Nonattainment**
carbon monoxide	Attainment	Attainment
nitrogen dioxide	Attainment	Attainment
sulfur dioxide	Attainment	Attainment
Respirable Particulate Matter (PM_{10})	**Nonattainment**	Attainment
Fine Particulate Matter ($PM_{2.5}$)	**Nonattainment**	Attainment

Source: San Francisco Bay Area Air Basin 2016 and EPA 2017.

Table 5 Local and Federal Emissions *De Minimis* Thresholds for Relevant Criteria Air Pollutants

Pollutant	**Air District Thresholds (tons per year)[1]**	**Threshold for Federal Conformity (tons per year)[2]**
NO_x (as an ozone precursor)	15	100
VOC/ROG (as an ozone precursor)	15	100
Respirable Particulate Matter (PM_{10})	15	NA
Fine Particulate Matter ($PM_{2.5}$)	15[3]	NA

Notes: NO_x=nitrogen oxide, ROG=reactive organic gases, VOC=volatile organic compounds
1 Source: Bay Area Air Quality Management District's adopted thresholds of significant effect for construction emissions of criteria air pollutants (*de minimis*) 2017b.
2 Source: 40 CFR 93.153
3 Per Bay Area Air Quality Management District (2017b), 1999 Thresholds are to be used but no thresholds established for PM2.5. Instead relying on current guidance, Bay Area Air Quality Management District 2012.

3.2.2 Environmental Consequences

No Action

Under the No Action Alternative, there would be no impact to regional air quality, as existing conditions would continue.

Proposed Action

Air quality impacts due to construction and operation of the entire Cypress Corridor Expansion Area, including the proposed development of the Cypress Preserve Property, assuming maximum development intensity, were analyzed in the Specific Plan EIR (City of Oakley 2009). Air quality impacts from the entire project were determined to be significant and could not be mitigated to less than significant; however the City issued a Statement of Overriding Considerations. Since the preparation of the Specific Plan EIR, a site-specific Air Quality Impact Analysis has been prepared for just the Cypress Preserve Property development, which proposes development well below the maximum levels of development that were authorized by Oakley in the Specific Plan EIR (Appendix F). For example, the Specific Plan EIR analyzed development of up to 5,759 residential units and 92.6 acres of commercial use; however, the developer of the Cypress Preserve Property now proposes the maximum development of up to 2,400 residential units and 24.7 acres of commercial use.

Construction and operational emissions were calculated for the proposed development of the Cypress Preserve Property using a combination of model (e.g., the California Emissions Estimator Model [CalEEMod] version 2013.2.2) and off-model methods (e.g., the California Emissions Factors Database 2014 [EMFAC2014]) based on assumptions outlined in Appendix F. A summary of the modeling results are included in Table 6.

Table 6 Construction and Operational Annual Emissions for the Proposed Action (Criteria Air Pollutants)

Year	Activity	VOC/ROG[a]	NO_X	PM_{10}	$PM_{2.5}$
2017	Construction of Phase 1	0.19	0.74	0.02	0.02
2018	Construction of Phase 1	1.28	5.17	0.09	0.09
2019	Construction of Phase 1	1.49	6.98	0.12	0.12
2020	Construction of Phase 1	1.22	5.54	0.10	0.09
2021	Construction of Phase 1	1.02	4.16	0.07	0.07
2022	Construction of Phase 1	3.21	4.44	0.09	0.09
2023	Construction of Phase 1	6.95	1.99	0.05	0.05
2024	Construction of Phase 2 + Operation of Phase 1[b]	16.07	8.05	2.59	1.16
2025	Construction of Phase 2 + Operation of Phase 1[b]	16.31	9.49	2.62	1.19
2026	Construction of Phase 2 + Operation of Phase 1[b]	16.51	10.33	2.64	1.21
2027	Construction of Phase 2 + Operation of Phase 1[b]	16.48	10.25	2.63	1.20
2028	Construction of Phase 2 + Operation of Phase 1[b]	16.47	10.17	2.63	1.20
2029	Construction of Phase 2 + Operation of Phase 1[b]	16.57	9.80	2.62	1.19
2030	Construction of Phase 2 + Operation of Phase 1[b]	24.15	8.06	2.58	1.15
2031	Operation of Full Build-Out	29.09	8.71	4.87	2.12
	Federal *de minimis* Threshold	100	100	NA	NA

Year	Activity	VOC/ROG[a]	NO_X	PM_{10}	$PM_{2.5}$
	Federal Threshold Exceeded?	No	No	NA	NA
	Air District's de minimis Threshold	15	15	15	15
	Air District Threshold Exceeded?	Yes	Yes	Yes	Yes

Source: Data compiled by Ascent Environmental in 2016 using CalEEMOD version 2013.2.2 (Appendix F).
Notes: Construction emissions based on calculations in CalEEMod using equipment assumptions within the CalEEMod model, the Road Construction Emissions Model, and information provided by the developer.
PM_{10}=particulate matter, $PM_{2.5}$=fine particulate matter, ROG=reactive organic gases, VOC=volatile organic compounds
[a] Emissions reported as ROG from CalEEMod and EMFAC2014 models, based on the California Air Resources Board's (ARBs) list of ROG emissions. However, EPA has a *de minimis* threshold for VOCs. Most pollutants between ARB's definition of ROG and EPA's definition of VOC overlap. Generally, most ROG emissions are included as a subset of VOCs. Thus, ROG is assumed to be a suitable substitute for VOC for the purposes of this analysis.
[b] Represents the overlap of activity between the operation of Phase 1 and the construction of Phase 2.

As shown in Table 6, annual criteria pollutant emissions for Phase 1 construction do not exceed the Air District's *de minimis* thresholds; however, emissions from the operation of Phase 1 and construction of Phase 2 exceed the Air District's thresholds for VOC/ROG, NOx, PM_{10} and $PM_{2.5}$ (Table 6). Therefore, as required by the City, the developer shall implement mitigation measures included in the MMRP for the approved Specific Plan EIR in order to reduce and minimize criteria pollutant emissions (Appendix F).

Cumulative Impacts

Oakley recognizes the potential for development to cumulatively affect compliance with air quality goals. Oakley's 2020 General Plan accounts for this cumulative effect and identifies control measures to avoid unacceptable impacts. The plan is anticipated to adequately address potential cumulative air quality impacts.

As described above, construction and operation emissions of the proposed development are expected to be less than the Federal *de minimis* thresholds but not by the local standards established by the Air District. In an effort to minimize potential cumulative impacts in associated with the Proposed Action to the Bay Area Air Basin, the developer would incorporate measures pursuant to the Bay Area Air Quality Management District guidance (See Appendix F), and are consistent with Oakley's 2020 General Plan. These include, but are not limited to, such measures as using energy-efficient appliances, restricting the types of fireplaces which may be installed, and incorporating design features which encourage travel on foot, by bicycle, or transit. As such, the proposed development would minimize the potential for cumulative adverse impacts on air quality, and would not interfere with the achievement of the region's air quality goals.

3.3 Biological Resources

3.3.1 Affected Environment

The Project site is currently used as pasture for cattle grazing. Existing drainage ditches throughout the site are used to irrigate the pasture. These ditches seasonally flood and drain with

Delta water that is either pumped or siphoned from Dutch Slough along the western boundary of the Project site. The predominant vegetation community within the site is low-lying irrigated pasture. Other vegetation communities present include non-native annual grassland/ruderal habitat, interior dune community, Great Valley riparian forest/willow scrub, and valley freshwater marsh/seasonal wetland.

A species list was obtained from the Planning Survey Report (ACD-TI, LLC 2015) prepared for the developer for compliance with the East Contra Costa County Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP). Reclamation further queried the California Department of Fish and Wildlife California Natural Diversity Database (CNDDB) for records of protected species within 10 miles of the construction area associated with the Proposed Action (CNDDB 2016). A summary table (Table 7) was created from the U.S. Fish and Wildlife Service (Service) species list, CNDDB records, and additional information within Reclamation's files. The remainder of the information from this section was taken from the Planning Survey Report (ACD-TI, LLC 2015).

Table 7 Federally Listed Species That May Occur In Or Near The Area.

Species	Status[1]	Effects[2]	Occurrence in the Study Area[3]
AMPHIBIANS			
California red-legged frog (*Rana draytonii*)	T, X	NE	**Absent.** No individuals or habitat in Proposed Action area.
California tiger salamander (*Ambystoma californiense*)	T, X	NE	**Absent.** No individuals or habitat in Proposed Action area.
FISH			
Central Valley steelhead (*Oncorhynchus mykiss*) (NMFS)	T, X	MAA	**Present.** The bridge site at Rock Slough is used by this species, and overlaps its critical habitat.
delta smelt (*Hypomesus transpacificus*)	T, X	MAA	**Present.** The bridge site at Rock Slough is used by this species, and overlaps its critical habitat.
Central Valley spring-run chinook salmon (*Oncorhynchus tshawytscha*)	T, X	MAA	**Present.** The bridge site at Rock Slough is used by this species.
North American green sturgeon (*Acipenser medirostris*)	T, X	MAA	**Possible.** This species may occur in low numbers at the Rock Slough bridge site.
Sacramento River winter-run chinook salmon (*Oncorhynchus tshawytscha*)	E, X	MAA	**Possible.** This species may occur in low numbers at the Rock Slough bridge site.
INVERTEBRATES			
Conservancy fairy shrimp (*Branchinecta conservatio*)	E, X	NE	**Absent.** No species were found during Protocol-level surveys.
longhorn fairy shrimp (*Branchinecta longiantenna*)	E, X	NE	**Absent.** No species were found during Protocol-level surveys.
valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	T, X	NE	**Absent.** No elderberry shrubs in Proposed Action area.
vernal pool fairy shrimp (*Branchinecta lynchi*)	T, X	MAA	**Absent.** No species were found during Protocol-level surveys.
vernal pool tadpole shrimp (*Lepidurus packardi*)	E, X	NE	**Absent.** No species were found during Protocol-level surveys.
PLANTS			

Species	Status[1]	Effects[2]	Occurrence in the Study Area[3]
Antioch Dunes evening-primrose (*Oenothera deltoides* ssp. *howellii*)	E, X	NE	**Absent.** No individuals or habitat in Proposed Action area.
REPTILES			
Alameda whipsnake (*Masticophis lateralis euryxanthus*)	T, X	NE	**Absent.** Chaparral habitat is lacking in the Proposed Action area.
giant garter snake (*Thamnophis gigas*)	T	MAA	**Possible.** Marginal habitat is present.

1 Status= Listing of Federal special status species
E: Federally-listed as endangered
NMFS: Under the jurisdiction of the National Marine Fisheries Service
T: Federally-listed as threatened
X: Critical Habitat designated for this species
2 Effects = Effect determination
NE: No Effect from the Proposed Action to federally listed species
MAA: Species and/or its critical habitat may be adversely affected by the Proposed Action
3 Definition of Occurrence Indicators
Absent: Species not recorded in study area and habitat requirements not met
Present: Species has been documented in the Proposed Action Area
Possible: Species not recorded in study area but potentially suitable habitat present

Federally-listed Species within the Proposed Action Area

The Project site provides habitat for the giant garter snake (*Thamnophis gigas*), the Western Burrowing Owl, Swainson's Hawk, and Golden Eagle. The bridge site lies in habitat for the delta smelt (*Hypomesus transpacificus*) and its critical habitat, the Central Valley steelhead (*Oncorhynchus mykiss*) and its critical habitat, the Central Valley spring-run chinook salmon (*O. tshawytscha*), the North American green sturgeon (*Acipenser medirostris*), and the Sacramento River winter-run chinook salmon (*O. tshawytscha*).

Focused surveys were conducted in 2004, 2005, and 2006 (Olberding Environmental 2004a; Condor Country Consulting 2005a, b, c; SBI 2005a, b. c, d; Sycamore Associates, LLC 2005a, b; Sycamore Associates, LLC 2006) according to accepted agency protocols and guidelines for species listed under the state and federal Endangered Species Act (ESA) as well as for migratory birds protected under the Federal Migratory Bird Treaty Act (Olberding Environmental 2004b; Sycamore Associates, LLC 2005c, d, e). Surveys for the following species resulted in negative findings and no additional surveys are proposed or determined necessary by the Service:

- Vernal pool crustaceans including vernal pool fairy shrimp (*Branchinecta lynchi*)
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)
- Giant garter snake (*Thamnophis gigas*); however, habitat is present, and the HCP/NCCP therefore assumes that the species may occur in the Proposed Action Area and be impacted

Federally-listed Branchiopods Follow-up protocol level wet season surveys were conducted every two weeks for listed large branchiopods within the existing aquatic features on the Cypress Preserve from January 28, 2016 to May 2016 (Olberding 2016). Survey target species included federally endangered longhorn fairy shrimp (*B. longiantenna*), vernal pool tadpole shrimp (*Lepidurus packardi*), and vernal pool fairy shrimp.

Although the Cypress Preserve site totals approximately 1,243.6 acres, the surveys focused on the seasonal wetlands. However, ditches and other parts of the site that ponded water to a depth of at least three centimeters were also sampled. Features sampled included seasonal wetlands, drainage ditches, irrigation ditches, and puddles in access roads.

Two female vernal pool fairy shrimp were captured within one feature on February 3, 2016. After exhaustive sampling, no other listed branchiopod species or alternative sexes were captured. The feature that contained the two fairy shrimp was historically a drainage ditch and was cut off by the construction of the East Cypress Road associated with other development in the area sometime in the past. The feature now is best described as a long, linear seasonal wetland feature with very little vegetative development. The source of the shrimp is unknown as the closest occurrence of this species is more than 7 miles away according to the CNDDB (2016). Since the source of the shrimp is unknown, the biologists can only speculate the source of the fairy shrimp cysts (i.e. eggs) for the two individuals found on the site could have been cattle hooves (cattle are moved off and onsite regularly), duck droppings (American widgeon often forage in vernal pools and are bound to consume fairy shrimp and pass on their cysts), or roadside inoculation (tires). In any case, vernal pool fair shrimp are a covered species under the East Contra Costa County HCP/NCCP.

Federally-listed Plants No Federally listed plant species were found in the Proposed Action Area during seasonal focused surveys (Sycamore 2005a, Olberding Environmental 2005a).

Federally-listed Fish The following federally listed fish species have been documented to occur in or near the vicinity of the Rock Slough bridge site:

- Sacramento River winter-run Chinook salmon Evolutionarily Significant Unit (ESU), federally endangered;
- Central Valley spring-run Chinook salmon ESU, federally threatened;
- Central Valley Steelhead Distinct Population Segment (DPS), federally threatened and critical habitat;
- Southern DPS of the North American green sturgeon, federally threatened and critical habitat,
- Delta smelt, federally threatened and critical habitat; and
- Essential Fish Habitat (EFH) for fall-run chinook salmon (NMFS included ground fish, and coastal pelagic species in their recommendations)

Migratory Birds The following birds, protected under the Federal Migratory Bird Treaty Act, have been observed in the Project area or in the sloughs near the Project area:

- Golden Eagle (potential nest sites within a half-mile of the Proposed Action area)
- Swainson's Hawk (potential nest sites within 1,000 feet of the Proposed Action area)
- Western Burrowing Owl (detected in the Proposed Action area in areas with sandy soil and California ground squirrel (*Otospermophilus beecheyi*) activity

3.3.2 Environmental Consequences

No Action

If no action were taken, the property would remain in use for cattle grazing, and development would not occur until an alternative water source was identified. There would be no new impacts to Federally listed species, their critical habitat, EFH, or migratory birds, other than those that continue as part of the current land use.

Proposed Action

Under the Proposed Action, there would be adverse impacts to the giant garter snake, vernal pool fairy shrimp, the delta smelt and its critical habitat, Central Valley steelhead and its critical habitat, spring-run chinook salmon, winter-run chinook salmon, North American green sturgeon, and EFH for fall-run chinook salmon (and according to NMFS, ground fish, and coastal pelagic species). Construction of Rock Slough Bridge would cause the permanent loss of 100.5 square feet (0.002 acre) of benthic habitat and 55.9 cubic yards of water column habitat from the permanent bridge piles and the degradation of 9,565 square feet (0.23 acres) of habitat by shading from the bridge. 44.5 acres of wetlands and 10 acres of slough habitat would be lost. For uplands, 969.58 acres of pasture would be lost, and 10.17 acres would be temporarily impacted. These impacts (both temporary due to construction, and permanent due to habitat loss) would be minimized and compensated for by compliance with the requirements of the HCP/NCCP, the applicable EFH recommendations from NMFS, and the biological opinions issued by NMFS and the Service (See Appendices C, D, and G). Foraging and nesting habitat for the Western Burrowing Owl and foraging habitat for Golden Eagles and Swainson's Hawks would be permanently impacted, however, compliance with requirements of the HCP/NCCP would prevent any take of these migratory birds.

Cumulative Impacts

There are other actions in the area that could cause cumulative effects when combined with the Proposed Action. They are as follows:

- Contra Costa WD plans in 2017 and 2018 to encase the Contra Costa Canal segments north of the Gilbert parcel (Segment 3) as well as a portion (estimated to be 50% or more) of the Burroughs Parcel (Segment 4) in a pipeline. Ultimately the entire unlined Contra Costa Canal will be placed in a pipeline (Reclamation 2007).
- The Dutch Slough Restoration Project would restore wetland and upland habitats and provide public access to a 1,166-acre property owned by the California Department of Water Resources (DWR). Construction on 2/3rd of this site (near Emerson and Gilbert) are expected to commence as early as 2017.

There are numerous proposed and approved residential subdivisions and land development projects in the area. Reclamation has approved multiple boundary changes to include lands into Contra Costa WD's CVP service area. Each proposed inclusion and development project undergoes separate environmental reviews and appropriate consultations in accordance with applicable laws, regulations, and permits. Measures are imposed to avoid or offset the loss and decline of habitats, fish, wildlife, and plants from these land development projects. Contra Costa WD is required to follow similar conditions when it implements the Contra Costa Canal

Replacement Project (Reclamation 2007). In addition, the nearby Dutch Slough Restoration Project would increase the quality of habitat for biological species in the long term. Furthermore, the HCP/NCCP has been expressly developed and designed to minimize the cumulative impacts from development in the eastern portion of the county.

3.4 Cultural Resources

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the National Historic Preservation Act requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 CFR Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects, determine if historic properties are present within that area of potential effects, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

3.4.1 Affected Environment

The Cypress Preserve site is located in an area with a long history of human occupation and use. Archaeological evidence indicates that Native American resource use in the Delta and northern San Joaquin Valley regions extends back 6,000 to 10,000 years, perhaps even longer. Historic-era land use in the general Project area, beginning in the late 19th Century, has revolved primarily around agricultural enterprises. The railroad was also vital to the economic development and growth of this area, transporting agricultural goods, coal, and other resources from Contra Costa County to other parts of California and beyond.

Cultural resource identification for the Project identified 23 cultural resources in the Project and another 35 cultural resources within ¼ mile of the Project. Built environment resources in the Project vicinity reflect the recent history of farming and ranching in the area, and include ranch houses and outbuildings, corrals, irrigation features, power lines, and gas wells. Many archaeological resources, such as the Hotchkiss site within the Project area, have played important roles in the reconstruction of the prehistory of the Central Valley and Delta regions.

The Corps will need to issue an authorization under Section 404 of the Clean Water Act (33 U.S.C. § 1344) for the development. Reclamation and the Corps coordinated on the Project

and, as a result, on December 7, 2015, the Corps designated Reclamation lead Federal agency for the National Historic Preservation Act Section 106 compliance efforts.

3.4.2 Environmental Consequences

No Action

Under the No Action Alternative, Reclamation would not approve the inclusion and there would be no Federal undertaking or action requiring Section 106 or National Environmental Policy Act (NEPA) compliance. The No Action Alternative would result in no impacts to cultural resources.

Proposed Action

Under the Proposed Action, Reclamation would approve the inclusion requested by Contra Costa WD, which would allow the Project to be developed as planned. As part of its development plan, the Project would, when possible, retain in-place the existing cultural resources that have been recommended as eligible for the National Register, as described below. Data collection and archaeological study would be conducted for resources that cannot be avoided.

Reclamation and the Corps, in consultation with the California SHPO, has entered into a memorandum of agreement (MOA) to fulfill their National Historic Preservation Act Section 106 responsibilities, as allowed under 36 CFR § 800.6 (Appendix H). Reclamation has notified the Advisory Council for Historic Preservation and invited their participation. In addition, Reclamation invited Tribes and other consulting parties to participate. The MOA addresses avoidance, minimization, and mitigation measures for historic properties to be implemented prior to implementation of this alternative, including any associated ground disturbing activities. Implementation of the MOA will resolve the adverse effects and result in less than significant impacts to cultural resources. The MOA titled Memorandum of Agreement Among the Bureau of Reclamation, Mid Pacific Region; the United States Army Corps of Engineers, Sacramento District; the City of Oakley; the Contra Costa Water District; ACD-TI Oakley, LLC; BY TI Capital Management, A Delaware LLC; and the California State Preservation Officer Regarding the Resolution of Adverse Effects to the East Cypress Preserve Development Project, Contra Costa County, California, was executed on June 22, 2018. Attachments to the MOA include the Area of Potential Effect Map (MOA, Attachment 1), the Historic Properties Treatment Plan and Research Design for the East Cypress Preserve Development Project, Eastern Contra Costa County, California (MOA, Attachment 2) and the Cultural Resource Management Plan for the East Cypress Preserve Development Project, Eastern Contra Costa County, California (MOA, Attachment 3).

Of the 23 resources identified within the Project, Reclamation has determined five as eligible for the National Register, treating four as eligible for the Project only, and 14 resources as ineligible. Reclamation, in consultation with the Corps and SHPO, have consensus (January 27, 2017) that the remaining 35 resources within a ¼ mile would have no adverse effect from the Project.

Of the nine eligible historic properties, two are built environment resources that would not be adversely affected. Five resources are subsurface archaeological sites that would be protected from adverse effect through avoidance within environmental preserves, or through preservation in their existing condition through a combination of fencing during construction, protective

capping and location in minimally developed, deed-restricted parks and open space areas. Capping is intended to protect against erosion, pot-hunting, and other indirect impacts that would otherwise occur due to increased occupancy, local foot traffic, and park usage. Cultural resources that are not eligible for the National Register are not protected under Section 106, and are not included in the Cultural Resource Management Plan.

Two resources would be directly impacted by road construction. In order to mitigate (resolve) adverse effects to eligible historic properties under Section 106 requirements, the MOA Historic Properties Treatment Plan would be implemented, which identifies the methods that would be implemented to mitigate (resolve) adverse effects, including data recovery and deed restrictions. The MOA includes a Cultural Resources Management Plan, which would be implemented by Oakley for all deeded property under their ownership. The Cultural Resources Management Plan is developed for considering and managing potential effects on historic properties caused by activities associated with constructing, operating, and maintaining a project. It establishes a decision-making process for considering potential effects on historic properties, addressing both the long-term preservation of historic values, and the immediate effects of a development project over its entire term.

Cumulative Impacts

The ongoing commercial and residential development of agricultural lands in eastern Contra Costa County has the potential to result in cumulative impacts to significant cultural resources eligible for the National Register. Changes in drainage properties and groundwater levels can alter the decomposition rate of buried organic materials. Increased foot-traffic due to encroaching residential development can lead to erosion, vandalism, or illegal artifact collection. Changes in ownership and stewardship can lead to the neglect of historic structural resources.

Any future proposed changes to water delivery area, or the means of such delivery, however, that require Reclamation approval would be subject to separate cultural resources Section 106 reviews and consultations as required. In such cases where eligible cultural resources (i.e., historic properties) would be impacted by Reclamation's action, such impacts would be mitigated or otherwise resolved through the Section 106 process.

3.5 Global Climate Change

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes can contribute to climate change [changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.] (EPA 2014a).

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG, such as carbon dioxide (CO_2), occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHGs that enter the atmosphere because of human activities are: CO_2, methane (CH_4), nitrous oxide, and fluorinated gasses (EPA 2014a).

During the past century humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities and appliances. The added gases, primarily CO_2 and CH_4, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes. At present, there are uncertainties associated with the science of climate change (EPA 2014b).

Climate change has only recently been widely recognized as an imminent threat to the global climate, economy, and population. As a result, the national, state, and local climate change regulatory setting is complex and evolving, though California is on the leading edge of such regulatory change.

3.5.1 Affected Environment

In 2006, the State of California issued the California Global Warming Solutions Act of 2006, widely known as Assembly Bill 32, which requires California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB was further directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. Consistent with Assembly Bill 32, the State has adopted numerous statutes and regulations designed to timely achieve Assembly Bill 32's GHG reduction target.

In addition, the EPA has issued regulatory actions under the Clean Air Act as well as other statutory authorities to address climate change issues (EPA 2014c). In 2009, the EPA issued a rule (40 CFR Part 98) for mandatory reporting of GHG by large source emitters and suppliers that emit 25,000 metric tons or more of GHG [as CO_2 equivalents (CO_{2e}) per year] (EPA 2009). The rule is intended to collect accurate and timely emissions data to guide future policy decisions on climate change and has undergone and is still undergoing revisions (EPA 2014c). In 2014, the Council on Environmental Quality issued draft guidance for federal agencies to use when evaluating Climate Change impacts. The guidance recommends quantifying a proposed action's GHG emissions only when they exceed the EPA's reportable annual emission threshold of 25,000 metric tons.

3.5.2 Environmental Consequences

No Action

Under the No Action Alternative, there would be no additional GHG emissions beyond baseline conditions as no construction would occur.

Proposed Action

The Cypress Preserve Property would result in the direct emissions of GHGs from vehicle and area sources. The estimated GHG emissions for the planned development would be approximately 22,411 metric tons of CO_{2e} emissions per year (Appendix F). The estimate accounts for all Project attributes discussed in Appendix F and includes amortized construction emissions assuming a 40-year lifespan. In addition, the Cypress Preserve Property development would comply with all applicable State and Federal statutes and regulations designed to reduce GHG emissions and thus would not conflict with applicable regulatory programs designed to achieve such GHG reductions (Ascent 2016). As the estimated annual emissions would not exceed the EPA's 25,000 metric tons per year threshold and would incorporate all applicable

State and Federal requirements for reducing GHG, there would be no adverse impacts to climate change as a result of the Proposed Action.

Cumulative Impacts

The environmental effects of GHG emissions is inherently cumulative in nature. While the GHG emissions from one project would not adversely affect the global climate, cumulative GHG emissions from multiple projects and sources throughout the world could result in an adverse impact with respect to climate change. GHG control strategies continue to develop over time, through regulation and technological advances to minimize potential impacts to global climate.

3.6 Land Use

3.6.1 Affected Environment

The Project site is located in Oakley, where land use policies are established in Oakley's 2020 General Plan and Zoning Code. Historic and current land uses on the proposed Cypress Preserve Property include agriculture, primarily pasture for cattle grazing. A private well provides water for any domestic use. Pursuant to Oakley's Municipal Code section 9.1.1004, the Project site is zoned "Specific Plan (SP 1)." The SP-1 zoning designation provides that the Specific Plan replaces the usual zoning regulations applicable to the Project site. Per the Specific Plan EIR, the Project site may be developed with a mix of residential, commercial, recreational, school and open space uses (City of Oakley 2009).

Land uses bordering the Project site includes a single-family detached residence and the Dutch Slough Restoration Project to the west; the Contra Costa Canal along the southwest Project boundary; Rock Slough to the south and further south is rural residential and agricultural land, to the east is the Summer Lakes North and South master-planned residential communities, a self-storage facility and agricultural land, and to the north is residential and north of the residences is Dutch Slough.

The Cypress Preserve property is below the 100-year flood stage. Per the Specific Plan EIR, a new 300-year levee system would be constructed by the Cypress Preserve developer to protect the Cypress Preserve Property from a 300-year storm event (City of Oakley 2009). The proposed levee system would also protect Summer Lakes North and South and the existing residences located along the south side of East Cypress Road between Bethel Island Road on the east and the Contra Costa Canal on the west, from a 300-year storm event. Although the Summer Lake South project constructed a 100-year levee to protect the Summer Lake South development, the Cypress Preserve developer would complete the construction of a 300-year levee system to protect the Project from a 300-year storm.

3.6.2 Environmental Consequences

No Action

Under the No Action Alternative, Reclamation would not approve the inclusion and development of the Cypress Preserve development would not occur. Therefore, the No Action Alternative would result in no impacts to land resources.

Proposed Action

Construction of the Cypress Preserve Property would change the land use from mainly pasture land to a residential subdivision with single-family residential lots of varying sizes, a commercial shopping center, parks/open space, trails and man-made lakes that would be used for storm water retention, in accordance with the Specific Plan EIR (City of Oakley 2009). The developer would also include features to integrate the on-site improvements into the area's recreational network. These include a trail along the north side of Cypress Road within the Project and along the west side of Bethel Island Road that would serve the Project and connect with the Oakley trail system. A trail system would also be constructed on the top of the proposed levee system for public use. The parkland and trails proposed by the developer are anticipated to meet Oakley's parkland obligations related to parks and green space.

While the Project would change the land use from agriculture to urban development, the Cypress Preserve Property is consistent with the land uses and densities approved by Oakley under the Specific Plan EIR (City of Oakley 2009). The Proposed Action would not facilitate unplanned growth or land use changes, or conflict with established land uses; therefore, there would be no adverse impacts to land use in this area as a result of the Proposed Action.

Cumulative Impacts

The Cypress Preserve Property, along with all known projects in Oakley, would change the intensity of land uses in Oakley. However, Oakley's 2020 General Plan and Oakley Zoning Map designates the Project site as well as this general area of Oakley for urban development.

There are numerous major residential subdivisions development in the area including Delta Coves on Bethel Island (partially constructed), Summer Lakes South and North (South active under construction, North pending), Emerson (under construction), Gilbert Ranch and Baldocchi as shown in Table 8. The estimated development timeline for the above homes is estimated to be 2016 to 2030.

Table 8 Major Residential Subdivisions in the Immediate Area

Subdivision	Estimated Number of Housing Units
Delta Coves on Bethel Island	560
Summer Lakes South	630
Summer Lakes North	813
Emerson	578
Gilbert Ranch	506
Baldocchi parcels	100

All developments proposed and constructed within Oakley are reviewed for consistency with citywide land use controls and development standards during the course of the project review and approval process. Therefore, Oakley's land use controls and development standards that are presently in use adequately address the cumulative land use impacts associated with the new development.

3.7 Noise

3.7.1 Affected Environment

Oakley's 2020 General Plan establishes standards for noise to protect the population from exposure to physically and/or psychologically damaging noise levels. According to the Oakley's 2020 General Plan, the noise level performance standards for new projects affected by or including non-transportation noise sources are 55 dB during the daytime (7:00 AM to 10:00 PM) and 45 dB during the nighttime (10:00 PM to 7:00 AM). In addition, according to Oakley's 2020 General Plan, the maximum allowable noise exposure for external and internal residential areas from transportation noise sources is 65 dB and 45 dB, respectively.

Agricultural lands are located to the west, southwest and south of the Project site. The Summer Lakes South and North single-family residential development and agricultural land is located adjacent to and east of the site. To the north are single-family detached residences. In addition, there is a row of 34 single-family detached homes along the south side of East Cypress Road between Bethel Island Road on the east and the Contra Costa Canal on the west. The major existing noise sources in the area include traffic on East Cypress Road and Bethel Island Road. Other roadways in the area carry minimal traffic and are not significant sources of area noise.

3.7.2 Environmental Consequences

No Action

Under the No Action Alternative, no construction would not occur. Current noise levels would remain unchanged.

Proposed Action

Construction associated with Cypress Preserve development would temporarily increase noise levels in the area. The Specific Plan EIR noise analysis (page 3.11-15 in Oakley 2005a) determined that the temporary noise levels from the operation of construction equipment could range from 85 to 88 dB at 50 feet, depending on the specific piece of equipment in use.

There are existing noise-sensitive receivers to the east associated with the Summer Lake development. The closest residents of the Summer Lake project would be more than 200 feet from the Project where grading would occur. In addition, an existing 20-foot tall earthen levee separates the closest Summer Lake resident from the Project where grading would occur. The existing levee system around the perimeter of Summer Lake would attenuate the construction noise levels on the Project site and reduce construction noise levels by the Project to the residents of Summer Lake. As a result, it was determined that Summer Lake residents would not be impacted by construction noise of the Project.

The existing residents along the south side of East Cypress Road between Jersey Island Road and Bethel Island Road would be exposed to construction noise levels. Grading equipment would operate along the southern boundary of the residents along the south side of East Cypress Road. While most of the existing residential units are more than 100 feet from their southern Project boundary and would result in reduced construction noise levels, one residential unit is approximately 50 feet from its southern boundary, and as a result could experience temporary noise levels that exceed the 55 dB standard when construction equipment is operating at its

southern property line. In addition, because the Project would be constructed over a 10-year period, new homes of the Project that are constructed would be close to continuing construction activities and experience some construction noise levels above Oakley's exterior noise standard. Therefore, as required by Oakley, the developer shall implement mitigation measures included in the MMRP for the approved Specific Plan EIR in order to reduce and minimize these temporary construction noise impacts. These include noise-generating construction activities being limited to daytime hours, all equipment powered by internal combustion engines would be maintained in proper working order, and stationary noise-generating equipment would be located at the greatest distance practicable from sensitive land uses.

The Project includes development of new homes along East Cypress Road, Bethel Island Road and Jersey Island Road. These new residences would be close enough to the road that unmitigated traffic noise is expected to exceed Oakley's exterior standard of 65 dB in the adjacent yards, and the interior standard of 45 dB within the residences (pages 3.11-12 and 3.11-13, City of Oakley 2005a). As required mitigation under the MMRP, the developer is required to construct six and eight-foot noise barriers along East Cypress Road, Jersey Island Road and Bethel Island Road (as discussed above in Section 2.2.2) to reduce exterior noise levels at units adjacent to the road to 65 dB or below to protect residents in the local community.

Cumulative Impacts

The construction of other projects in the area could occur during construction activities and development of the Cypress Preserve Property and contribute to temporary cumulative noise impacts to the existing resident's in the vicinity. As part of the Project, East Cypress Road would be relocated approximately 100 feet north of its current location and as a result, the proposed Project would incrementally reduce long-term traffic noise to these residents. In addition, per the MMRP, the Project is required to construct a 6-foot and 8-foot tall noise walls to reduce traffic noise levels to the existing resident's in the area, thus reducing cumulative traffic noise levels to residents. All construction projects are subject to the same Oakley restrictions regarding proper equipment maintenance and construction work hours, and therefore have previously undergone environmental review to address cumulative noise impacts.

3.8 Traffic

3.8.1 Affected Environment

A variety of transportation facilities serve the Project area. Existing roads in the vicinity include State Route 4/Main Street, Cypress Road, Sellers Avenue, Knightsen Avenue, Laurel Road, Delta Road, and Empire Avenue. There are railroad tracks used by Amtrak and freight trains located to the west of the Project site that are crossed by East Cypress Road. Public transit service is provided by Tri-Delta Transit bus routes, which transport people to nearby cities and connect the Oakley to the Pittsburg/Bay Point Bay Area Rapid Transit station.

3.8.2 Environmental Consequences

No Action

Under the No Action Alternative, the development of the proposed Project would not occur. Transportation conditions would stay the same as existing conditions.

Proposed Action

The proposed Project would cause construction-related traffic increases in the area. During peak construction, up to a maximum of 125 construction workers could be present on-site. The construction workers would commute to the site either as individual drivers or in some cases several workers would carpool to the site. In addition to the daily construction workers, 15 to 20 additional delivery trucks and automobiles would enter and leave the site on a daily basis to deliver material to the site, site inspections and other miscellaneous short- term delivery needs. Construction-related traffic would occur over the estimated 120-month (10-year buildout) period and depending on the level of construction activity, a maximum of approximately 150 vehicle trips per day could occur during the peak construction period. A Traffic Control Plan identifying measures such as construction worker parking, additional street sweeping, and traffic flaggers, is required by Oakley under the MMRP to decrease congestion caused by planned construction-related traffic.

Once constructed, the proposed development would result in increased traffic in the area, which would affect both signalized and unsignalized intersections. The MMRP includes traffic mitigation measures that are required by law to be incorporated into the development to improve traffic and circulation and mitigate identified traffic impacts to acceptable levels. Facilities such as sidewalks and trails would also be incorporated into the development to encourage pedestrian and bicycle travel throughout the site.

Impacts to the area's larger roadway network would be mitigated by the funding of various identified local circulation improvements by the Project developer in accordance with the MMRP. These include improvements by the Project developer to East Cypress Road, Bethel Island Road and the intersection of East Cypress Road. In addition, as required by the MMRP, the developer shall pay the fair-share of circulation improvement costs to the City of Oakley Transportation Impact Fee program and these monies would be used by Oakley to complete additional traffic mitigation measures necessary to reduce Project traffic impacts to the area circulation system to acceptable levels.

Cumulative Impacts

The Cypress Preserve Property, along with other proposed and planned construction projects in the area, would increase short-term traffic and congestion in this area of the city and nearby unincorporated areas. It is possible that construction periods for some of these projects could overlap, creating a potential for cumulative impacts. The Traffic Control Plan for the proposed development would take into account the potential for overlapping construction periods and conflicting construction traffic to minimize those impacts.

In addition to short-term construction traffic, the proposed development would generate traffic long-term. However, this additional traffic has been accounted for in Oakley's 2020 General Plan and improvements to the area's roadway network are planned and funded by the Project developer to accommodate the additional vehicles to minimize potential impacts.

3.9 Water Resources

3.9.1 Affected Environment

Water Supply

Contra Costa WD is a CVP contractor that diverts their allocated CVP water supplies directly from the Delta. They also divert water from the Delta under their own water rights. Diverted water can either be directly conveyed to their M&I users, or diverted to storage in Los Vaqueros Reservoir for later use. Contra Costa WD receives up to 195,000 acre-feet of CVP water from Reclamation primarily through the Contra Costa Canal and receives water from other sources; however, in dry years virtually 100 percent of its water comes from the CVP.

Contra Costa WD's service area encompasses most of central and northeastern Contra Costa County, a total area of more than 140,000 acres. Contra Costa WD serves an estimated population of 450,000 and provides water to major municipal customers including: Diablo Water District (Oakley) and the Cities of Antioch, Brentwood, Pittsburg, Golden State Water Company (Bay Point) and Martinez, each of which distribute water to their customers.

The Project site is not currently connected to the local municipal water system. Historically, this area has been used for agriculture and grazing. These operations have traditionally drawn water from the surrounding sloughs and to a lesser extent from ground water, for irrigation.

Water Quality

The drainage pattern on the proposed Project site has historically been maintained by a conventional agricultural drainage system. Storm water and irrigation return flow is conveyed along a series of shallow ditches. The site generally drains from south to north for the area north of East Cypress Road and west to east for the area south of East Cypress Road. At present, all Project site runoff is either pumped to Dutch slough north of the site or Sand Mound Slough east of the site.

Local groundwater samples were collected in order to assess groundwater quality on the site. The results show relatively poor quality (e.g. sodium and chloride) due to the proximity to and within the Delta. Saltwater intrusion is a common occurrence in this region, especially during periods of drought. In addition, potential sources of water pollution on the site include eroded sediment and organic waste produced by cattle.

3.9.2 Environmental Consequences

No Action

Under the No Action Alternative, the development of the proposed Project would not occur. Water for agricultural purposes would continue to be pumped from surrounding sloughs and existing water wells. Therefore, existing water conditions would be the same.

Proposed Action

Water Supply The Diablo Water District prepared a Water Supply Assessment (WSA) for the Specific Plan EIR to determine whether available M&I water supplies could meet anticipated demand from the new development anticipated for the entire Cypress Corridor Expansion Area,

including the Cypress Preserve Property. The WSA was developed based on an expectation that the Cypress Corridor Expansion Area would include up to 5,759 residential units and 92.6 acres of commercial use. The WSA determined the Specific Plan EIR would create an additional demand of 600 million gallons of water a year at Project build-out. This increase in demand was determined to be within Diablo Water District's long-term demand and supply projections (Diablo Water District 2005).

The Cypress Preserve Property includes the development of up to 2,400 residential units and 24.7 acres of commercial use. Since the Cypress Preserve Property represents less demand than the development evaluated in the original WSA, the Cypress Preserve plan would still be within Diablo Water District's long-term supply projections.

The water needed to serve the proposed Project would be supplied through existing CVP supplies that are allocated to the Contra Costa WD under its contract with Reclamation. No additional water would be allocated or diverted from rivers or reservoirs beyond what is currently done in order to meet the needs of the development.

Water Quality To control for soil erosion during construction, the developer would obtain and implement measures in a NPDES General Permit from the Regional Water Quality Control Board. The General Permit (as well as the MMRP) requires the developer to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), prescribing site-specific Best Management Practices (BMPs), based on the construction timeline and monitoring. Compliance with the NPDES General Permit would help prevent sediment from leaving the site during construction, thus preventing impacts to water quality in surrounding waterways during construction.

The Contra Costa Canal borders the Project site to the southwest. Due to the proximity of the waterway to the planned residential properties on the Project site, storm water runoff generated from roofs, roadways, and other new impervious surfaces could affect water quality as a result of increased runoff as well as increased loading of urban pollutants into receiving waters. All Project surface water runoff would be directed away from the Contra Costa Canal to on-site man-made lakes to insure water quality would meet the requirements for storm water runoff flows and water quality as required by the Regional Water Quality Control Board. In addition, Contra Costa WD is in the process of encasing the Contra Costa Canal, including the portion of the canal that extends along the southwest Project boundary. The encasement of the canal by Contra Costa WD would reduce the likelihood of water quality impacts occurring in the Contra Costa Canal due to the development. In addition, a required levee system around the Project would be constructed between the canal and the closest residences of the Project, thereby preventing any storm water of the Project from directly entering the canal.

All Project surface water runoff would be collected and directed to the proposed on-site man-made lakes proposed for each development area for flow control and sediment settling. The lakes would be designed to accommodate runoff from large storm events up to and including a 100-year flood event. The runoff would be retained in the lakes for either percolation or evaporation. During periods of heavy rainfall, water from the man-made lakes would be pumped to RD 799 drainage facilities and ultimately pumped into either Sand Mound or Dutch Sloughs

via RD 799 pump facilities. The proposed man-made lakes would provide runoff treatment prior to storm water leaving the site. Other treatment controls including bioretention areas, bioswales, and similar BMPs would also be implemented to manage runoff as part of the development of the Project. As a result, storm water runoff as a result of the operation of the Cypress Preserve Property would be managed to meet the requirements of the Regional Water Quality Control Board and therefore not adversely impact water quality in surrounding waterways.

Cumulative Impacts

In addition to the Project, other actions in the area which could affect water resources include similar commercial/residential developments, the Contra Costa Canal Replacement Project (Reclamation 2007), and the Dutch Slough Restoration Project.

Other Proposed and Approved Land Development Projects There are numerous residential subdivisions projects in the area that are either proposed or approved and not constructed, including Delta Coves on Bethel Island (partially constructed), Summer Lakes South and North (South active under construction, North pending), Emerson, Gilbert Ranch and Baldocchi, the Contra Costa WD Rock Slough Fish Screen Improvement Project and the Contra Costa WD Canal Replacement Project. All of these, with the exception of Summer Lakes, require CVP inclusion review (City of Oakley 2010).

Rock Slough Fish Screen Improvements Project The Rock Slough Fish Screen Improvement Project is located at the junction of Reclamation's unlined Contra Costa Canal and Rock Slough, approximately four miles southeast of Oakley. The purpose of the project is to provide protection to Federally and State-listed species from being entrained by Contra Costa WD's water diversions. Reclamation has been working with Contra Costa WD to permit various improvements to the Rock Slough Fish Screen Facility since its installation in 2011. The various improvements include new boat ramps on the upstream and downstream side of the Rock Slough Fish Screen, a maintenance deck across the entire length of the screen, modified rakes as well as repairs and adjustments to other facilities at the site.

Canal Replacement Project The purpose of the Canal Replacement Project is to increase public safety and security, improve water quality, and increase flood protection by replacing approximately four miles of the historically unlined Contra Costa Canal with a reinforced concrete pipeline. The first segment of the Canal Replacement Project, completed in 2009, installed approximately 1,900 feet of pipeline from Contra Costa WD's Pumping Plant 1 to Marsh Creek. The second segment of the Canal Replacement Project, completed in 2015, installed approximately 6,000 feet of pipeline from Marsh Creek past Sellers Avenue. The next phase of the Canal Replacement Project (Segments 3 and 4) will replace approximately 5,500 feet of unlined Canal with a 10-foot diameter pipeline between Sellers Avenue and East Cypress Road. The remaining 6,000 to 7,000 feet of unlined canal to be replaced (Segment 5) will be constructed in the future as funding becomes available. It is possible the Project will begin construction of its levee along the unlined Canal and correspond with Contra Costa WD's construction of Segment 5. Once the pipeline for Segment 5 is installed, the berms adjacent to the unlined Canal would be removed and incorporated into the levee system that will be constructed as part of the Project.

Dutch Slough Restoration Project DWR and Oakley have proposed the Dutch Slough Restoration Project, which would restore wetland and upland habitats for native fish and wildlife and include development of a City Community Park Project on a 1,166-acre property located west of Cypress Preserve Property, west of Jersey Island Road. Construction activities, including levee grading and construction, utilities relocation, and marsh plain grading would occur during the dry season from mid-April to mid- October and take at least two years to complete (DWR 2008).

The Proposed Action, along with other planned residential and commercial developments in the Project area would represent new demand on Diablo Water District's water supply. However, Diablo Water District and Oakley have already accounted for this additional water supply demand, and infrastructure improvements are planned to accommodate it. No cumulative impacts to the water supply are anticipated beyond the individual developments' needs. The other major construction projects in the area, the Dutch Slough Restoration Project and Contra Costa Canal Replacement Project, are not expected to increase demand on the water supply (Reclamation 2007).

Development of the Cypress Preserve Property and other nearby construction projects would have the potential to increase the sediment load to area waterways during construction. In addition, storm water runoff generated in urbanized areas would contribute a higher amount of pollutants to adjoining channels. As such, water quality in the region could be affected on a short-term and long-term basis. However, each of these projects would be required to comply with the measures described above for land disturbance, including a SWPPP, in compliance with State law. The Cypress Preserve Property proposes to construct on-site man-made lakes that will manage all project runoff to insure water quality standards of the Regional Water Quality Control Board are met prior to its discharge to area sloughs. Because of the proposed surface runoff collection and treatment measures that will be designed into the Project, the Project would not contribute high concentrations of urban pollutants to the area waterways and would not add substantially to a cumulative effect on local water quality.

Following the initial construction period, the Dutch Slough Restoration Project and Contra Costa Canal Replacement Project (Reclamation 2007) are expected to be a net positive for water quality, through habitat restoration and protection of raw municipal water from external pollution sources. New commercial and residential developments can contribute to water quality degradation, however, as they can be sources of sediment, oils and litter. They also increase impervious area, which causes faster runoff and bypasses natural filtering processes. Contra Costa County regulates storm water discharges from these areas and requires developers to incorporate storm water control and improvement measures into their designs. The Project is within the scope of activities anticipated by the County's regulatory program, and is not expected to result in cumulative impacts beyond those already considered and evaluated for the County and Oakley.

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Section 4 Consultation and Coordination

4.1 Public Review Period

Reclamation provided the public with an opportunity to comment on the Draft FONSI and Draft EA between October 5, 2017 and November 5, 2017. No comments were received.

4.2 List of Agencies and Persons Consulted

Reclamation has consulted with the following regarding the Proposed Action:

- State Historic Preservation Officer
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service

Reclamation is coordinating the Proposed Action with Contra Costa WD and the City of Oakley.

4.3 Clean Water Act (33 U.S.C. § 1251 et seq.)

Section 301 of the Clean Water Act (33 U.S.C. § 1311) prohibits the discharge of any pollutants into waters of the United States, except as allowed by permit issued pursuant to various sections of the Clean Water Act.

Section 401

Section 401 of the Clean Water Act (33 U.S.C. § 1341) requires any applicant for an individual Army Corps of Engineers dredge and fill discharge permit (see Section 404, below) to first obtain certification from the state that the activity associated with dredging or filling will comply with applicable state effluent and water quality standards. This certification must be approved or waived prior to the issuance of a permit for dredging and filling.

On September 27, 2016 the Regional Water Quality Control Board issued the developer a Section 401 Technically Conditioned Water Quality Certification (WDID#5B07CR00176).

Section 402

Section 402 of the Clean Water Act (33 U.S.C. § 1341) establishes the NPDES to regulate point source discharges of pollutants into waters of the United States. A NPDES permit sets specific discharge limits for point sources discharging pollutants into waters of the United States and establishes monitoring and reporting requirements, as well as special conditions.

The developer is in the process of obtaining a Section 402 NPDES General Permit from the Regional Water Quality Control Board.

Section 404

Section 404 of the Clean Water Act (33 U.S.C. § 1344) authorizes the Corps to issue permits to regulate the discharge of "dredged or fill materials into waters of the United States".

The developer is in the process of obtaining a Section 404 permit from the Corps. In addition, to minimize impacts to WOUS, the Project has set aside conservation area to protect wetland features.

4.4 Endangered Species Act (16 U.S.C. § 1531 et seq.)

Section 7 of the ESA requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

Reclamation is the lead Federal action agency for the section 7 ESA consultations; the Corps designated Reclamation as their lead on December 7, 2015. NMFS concluded, in its July 7, 2016 Biological Opinion (WCR-2016-4082) for the Project, that the Project is not likely to adversely affect or jeopardize the continued existence of Sacramento River winter-run Chinook salmon and Central Valley spring-run Chinook salmon (Appendix C). NMFS also determined that the Project is not likely to jeopardize the continued existence of California Central Valley steelhead and southern DPS of North American green sturgeon, or destroy or adversely affect their designated critical habitat.

Reclamation submitted a biological assessment to the Service on January 21, 2016, and requested formal consultation on the delta smelt and its critical habitat for the bridge construction. Reclamation received a biological opinion (giant garter snake, covered through the HCP/NCCP)/concurrence (for the delta smelt and its critical habitat) on June 28, 2018 (Appendix H).

4.5 Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq.)

The Magnuson-Stevens Fishery Conservation and Management is the primary law governing marine fisheries management in United States federal waters. The Act was first enacted in 1976 and amended in 1996.

Portions of the Action Area in the surrounding sloughs contain EFH under the Magnuson-Stevens Fishery Conservation and Management Act. A portion of the Action Area (from Big Break into Dutch Slough up to the confluence of Taylor Slough) is located in an estuarine habitat area of particular concern (HAPC) for Pacific salmon, ground fish, and coastal pelagic species regulated under the Magnuson-Stevens Fishery Conservation and Management Act. NMFS

provided its Project-specific EFH Assessment on July 7, 2016 (WCR-2016-4082) (Appendix D). NMFS determined that adverse effects to EFH would result from the Proposed Action. NMFS determined that the Project would adversely affect EFH for Pacific salmon for 21 days from August through October 15 during construction of the Rock Slough Bridge. Adverse effects will occur through 1) construction of the Rock Slough Bridge that will result in increased turbidity, increased sound from pile driving, resuspension of sediments, degradation of aquatic habitat, and loss of habitat, 2) through release of treated storm water that could result in increased contaminants and increased turbidity. Therefore, NMFS included EFH Conservation Recommendations in its July 7, 2016 EFH Assessment. Reclamation accepted some of these recommendations as explained in Appendix D, and two of those (as specified in Section 2.2.6) would be implemented by the developer.

4.6 National Historic Preservation Act (54 U.S.C. § 306108)

The National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), requires that federal agencies give the Advisory Council on Historic Preservation an opportunity to comment on the effects of an undertaking on historic properties, properties that are eligible for inclusion in the National Register. The 36 CFR Part 800 regulations implement Section 106 of the National Historic Preservation Act.

Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of federal undertakings on historic properties and properties determined eligible for inclusion in the National Register. Compliance with Section 106 follows a series of steps that are designed to identify interested parties, determine the area of potential effects, conduct cultural resource inventories, determine if historic properties are present within the area of potential effects, and assess effects on any identified historic properties.

In an effort to identify historic properties within the area of potential effects for the current undertaking, on December 28, 2016, Reclamation initiated consultation with SHPO with respect to the Project. Reclamation and the Corps, in consultation with SHPO, has entered into a MOA to fulfill their National Historic Preservation Act Section 106 responsibilities, as allowed under 36 CFR § 800.6 (Appendix G). The MOA addresses avoidance, minimization, and mitigation measures for historic properties to be implemented prior to implementation of this alternative, including any associated ground disturbing activities. Implementation of the MOA will resolve the adverse effects and result in less than significant impacts to cultural resources. The MOA titled Memorandum of Agreement Among the Bureau of Reclamation, Mid Pacific Region; the United States Army Corps of Engineers, Sacramento District; the City of Oakley; the Contra Costa Water District; ACD-TI Oakley, LLC; BY TI Capital Management, A Delaware LLC; and the California State Preservation Officer Regarding the Resolution of Adverse Effects to the East Cypress Preserve Development Project, Contra Costa County, California, was executed on June 22, 2018. Reclamation will continue to coordinate with the consulting parties to implement the MOA.

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