

3.15 Utilities

This section of the Draft Environmental Impact Statement/Report (EIS/R) describes the existing utilities within the Eden Landing Phase 2 project area and analyzes whether implementation of the project would cause a substantial adverse effect on utilities. The information presented is based on review of existing utility resources within the area, presented in Section 3.15.1, Physical Setting, and other pertinent state and local regulations, presented in Section 3.15.2, Regulatory Setting. Using this information as context, an analysis of the utility-resources-related environmental impacts of the project is presented for each alternative in Section 3.15.3, Environmental Impacts and Mitigation Measures. The program-level mitigation measures described in Chapter 2, Alternatives, would be implemented as part of this project. Therefore, this section only includes additional mitigation measures as needed.

3.15.1 Physical Setting

Methodology

The development of the baseline conditions, significance criteria, and impact analysis in this section is commensurate to and reliant on the analysis conducted in the 2007 South Bay Salt Pond (SBSP) Restoration Project Final EIS/R (2007 Final EIS/R). The baseline condition specific to the Eden Landing Phase 2 pond complex is based on the current condition of these areas. Background information was drawn from applicable regional and local general plans and policies as well as from utility representatives.

Regional Setting

Gas and electricity are provided by Pacific Gas and Electric Company (PG&E) to all cities in the South Bay except the cities of Palo Alto and Santa Clara, neither of which are near Eden Landing. PG&E owns and maintains a network of overhead transmission lines, power distribution lines, and substations.

PG&E overhead power transmission lines traverse the SBSP Restoration Project area. In some places, power distribution lines that service pumps, storm water lift stations, and more localized areas are present but are separate from the power transmission lines. For example, power distribution lines are present along the northern levees of Ponds E1, E7, and E6 and on the southern levee of Pond E6A. The purpose of these lines is to operate pumps formerly used in salt production; they are now used by the California Department of Fish and Wildlife (CDFW) for water management in the ponds; they do not serve any general utility user. Ground towers which provide access to overhead transmission and distribution lines are located at intervals along the lines and require water or land based vehicular access via levees for routine inspections, repairs and emergency maintenance.

Water and wastewater utilities are provided on both citywide and regional levels. The facilities and infrastructure supporting the services are maintained by the service providers. Water and wastewater infrastructure includes water and wastewater pipelines, wastewater treatment plants and discharge facilities, and storm drainage facilities. Water and wastewater pipelines are generally underneath city streets. There is no wastewater force main under the Phase 2 project area at Southern Eden Landing, though one (discussed in detail below) is nearby to the east. With regard to stormwater conveyance, in the lower reaches of the watersheds, runoff from developed areas is carried through pipes and discharged to tidal sloughs or stream channels by gravity-driven flow or lift stations. In the Phase 2 project at Eden Landing, these streams and sloughs include Old Alameda Creek (OAC) and the Alameda Creek Flood Control Channel (ACFCC), as detailed below. Stormwater discharged by lift stations is relatively

unaffected by slight variations in tide. An extensive inventory of stormwater facilities is provided in previous project reports (Moffatt & Nichol 2005). At present, not all storm outfalls to the restoration area have been located in the field. Data such as pipe invert information and system capacity have not been determined.

The entities responsible for and the specific locations of the utility infrastructure within the SBSP Restoration Project's Phase 2 work at Eden Landing are discussed below.

Project Setting

This section outlines the existing utilities that are in each of the Eden Landing Phase 2 area pond complex.

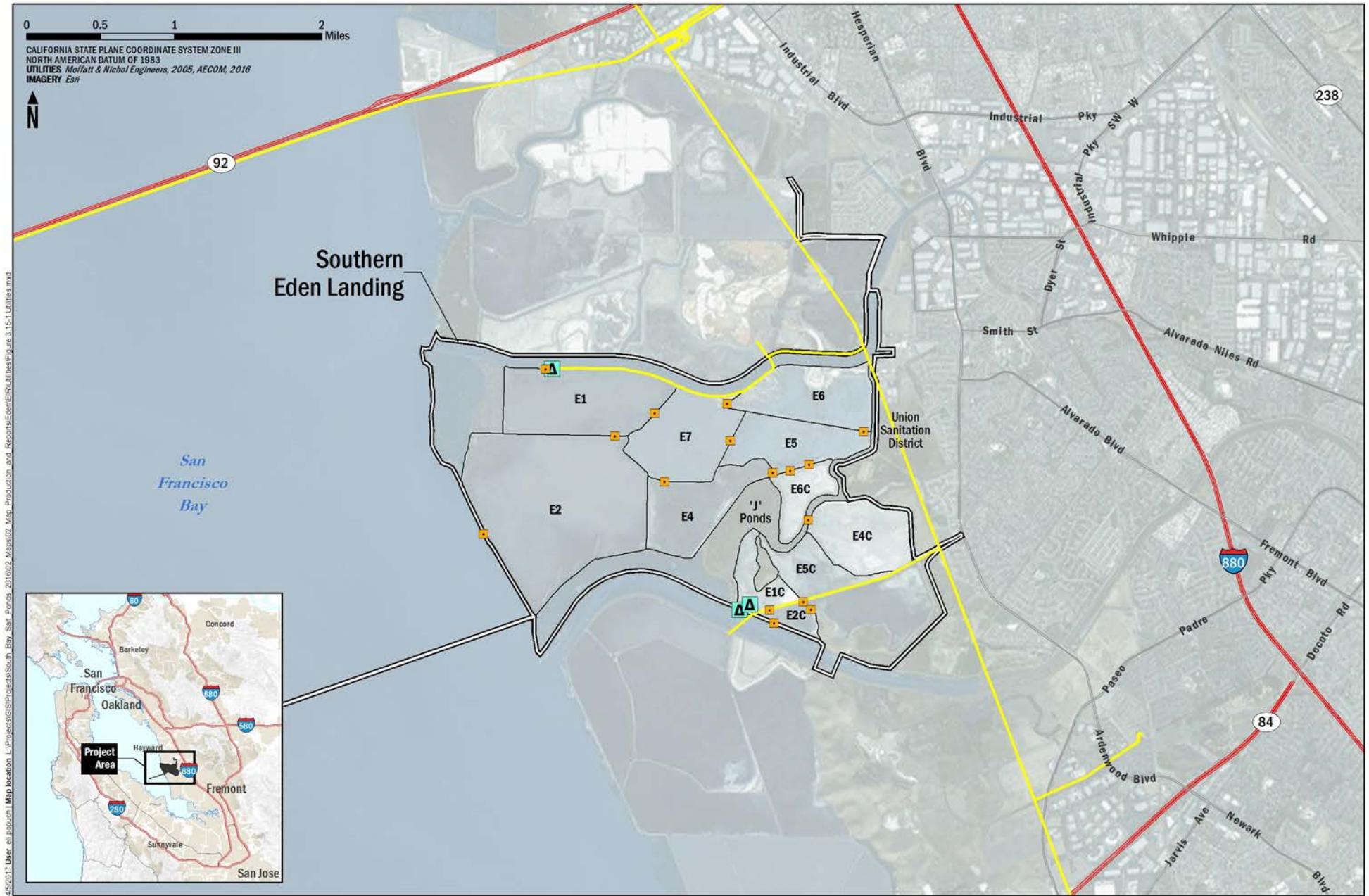
The Eden Landing pond complex is within Hayward's city limits and bordered by Hayward on the north, Union City on the east, and the ACFCC to the south. The City of Fremont is across the ACFCC. All of these cities are in Alameda County. Existing infrastructure within the Eden Landing pond complex is shown in Figure 3.15-1.

Gas and Electricity. A PG&E overhead power transmission line enters the northeast corner of the overall Eden Landing pond complex, north of the Phase 2 project area that would be limited to southern Eden Landing. After crossing the Bay parallel to the San Mateo Bridge, another PG&E overhead transmission line also crosses northern Eden Landing's Pond E10 and E11 before continuing east. These lines are shown on Figure 3.15-1.

The Phase 2 project area contains two PG&E power distribution lines. The first distribution line runs along the northern levee of Ponds E1, E7, and E6, and on the southern levee of Pond E6A. This line operates pumps formerly used in salt production, but is now used by CDFW for water management in the ponds. It does not serve any other customers. The second line runs along the southern levee of Ponds E5C and E4C and bisects Ponds E1C and E2C before crossing the ACFCC and serving other customers. These two transmission lines are supported by wooden poles located at intervals along the pond levees described above. PG&E maintenance crews require water or land based vehicular access via levees for routine inspections, repairs and emergency maintenance.

Water and Wastewater. Water services are provided to Hayward by the City's Utilities Division (City of Hayward 2014) and to Union City, Fremont, and Newark by the Alameda County Water District (ACWD). Wastewater services are provided to Hayward by the City's Utilities Division and to Union City, Fremont and Newark by the Union Sanitary District (USD). The East Bay Dischargers Authority (EBDA), a joint powers agency, manages wastewater disposal for the City of San Leandro, Oro Loma Sanitary District, Castro Valley Sanitary District, City of Hayward and USD.

A pipeline serving as part of the EBDA effluent disposal system passes just to the north of the northeast corner of Pond E6, and is within the temporary impact area associated with construction of the Phase 2 project at Eden Landing. It transports treated effluent from the USD northward towards the EBDA Bay outfall. Additionally, there are three storm water lift stations located at the ends of spurs of the power distribution line along OAC. Storm water outfalls discharging via gravity flow in the Eden Landing pond complex drain to OAC and the ACFCC.



Geodetic Control Monuments. The majority of National Geodetic Survey (NGS) geodetic control monuments within the Eden Landing pond complex were last located and surveyed in 1977. It is unknown whether any of these monuments still exist, particularly the one along OAC. One NGS monument in the vicinity of the Eden Landing pond complex was located and resurveyed in 2002 (PID HT2353) near the intersection of Hesperian Boulevard and OAC. This monument is outside of the project area and would not be affected by the Project. Additional geodetic control is maintained by Alameda County and the East Bay Regional Parks District.

3.15.2 Regulatory Setting

This section provides the regulatory background necessary to analyze the effects on utilities associated with the Eden Landing Phase 2 of the SBSP Restoration Project. Applicable local and regional plans and policies are reviewed for information on existing land uses and policies.

Overhead Electrical Transmission Lines

General Order 95 from the California Public Utilities Commission (California Public Utilities Commission 2012) includes rules governing line clearance for overhead electrical transmission lines. It states the following:

- Rule 11. Water areas not suitable for sailboating must have a line clearance of at least 25 feet (8 meters) above high water.
- Rule 12. Water areas suitable for sailboating, with a surface area over 2,000 acres, must have a line clearance of at least 47 feet (14 meters) above high water.

General Order 95 states that Rule 11 can be applied to areas where sailboating is prohibited and where other boating activities are allowed. Once ponds are breached and made tidal, they become part of the Bay, so these rules are relevant to several different ponds that would be so modified in Eden Landing Phase 2.

Alameda County

Alameda County has several different General Plans, depending on the different geographic areas within the county. The Eden Area General Plan (County of Alameda 2010) applies here. There are also several county-wide elements of the General Plan. The Eden Area General plan has a Public Facilities and Services Element that includes water service, wastewater, and stormwater. That element has the following relevant goals:

- Goal PF-10: Encourage the collection, treatment and disposal of wastewater in a safe, sanitary and environmentally acceptable manner.
- Goal PF-11: Collect, store and dispose of stormwater in ways that are safe, sanitary and environmentally acceptable.

City of Hayward

The Hayward General Plan 2040 (City of Hayward 2014) includes the following relevant public service goals, policies, and implementation measures:

- Goal PFS-1: Ensure the provision of adequate and efficient facilities and services that maintain service levels, are adequately funded, accessible, reliable, and strategically allocated.
- Goal PFS-3: Maintain a level of service in the City's water system that meets the needs of existing and future development while improving water system efficiency.
- Goal PFS-4: Maintain a level of service in the City's wastewater collection and disposal system to meet the needs of existing and future development.
- Goal PFS-5: Maintain an adequate level of service in the City's storm drainage system to accommodate runoff from existing and future development, prevent property damage due to flooding, and improve environmental quality.
- Goal PFS-6: Maintain flood control infrastructure to adequately protect life and property from flooding.
- Goal PFS-8: Ensure the provision of adequate gas and electric services to Hayward residents and businesses, and ensure energy facilities are constructed in a fashion that minimizes their impacts on surrounding development and maximizes efficiency.

City of Union City

Union City's 2002 General Plan Policy Document (City of Union City 2002) includes the following relevant policy:

- PF-B.1.4: Where some services are provided by other public entities, such as the ACWD and the USD, the City shall coordinate construction efforts with these agencies to provide appropriate levels of service and minimize redundant construction costs.

City of Fremont

The City of Fremont General Plan (City of Fremont 2011) includes the following relevant policy:

- Policy 9-3.1: Water, Flood, and Sanitary Sewer Services

Work with the ACWD, USD, and Alameda County Flood Control and Water Conservation District (ACFCWCD) to encourage their long range plans are consistent with the Fremont General Plan.

3.15.3 Environmental Impacts and Mitigation Measures

Overview

The SBSP Restoration Project would restore a substantial portion of the approximately 15,100-acre SBSP Restoration Project area to tidal marsh and would therefore contribute to changes in water levels, tidal flows and sedimentation patterns in the South Bay, the tidal sloughs, and the ponds over the 50-year planning horizon. These changes would potentially affect the operation and management of existing

utilities (e.g., electrical transmission lines and substations, gas pipelines, storm drains, pump stations, and wastewater treatment plant outfalls) within the SBSP Restoration Project area. Impact evaluations for the Action Alternatives are based on the existing conditions described in Section 3.15.1, Physical Setting, and not the proposed conditions that would occur under the No Action Alternative.¹ This approach mimics what was done for the 2007 Final EIS/R and for the Phase 2 EIS/R that was specific to the Don Edwards San Francisco Bay National Wildlife Refuge (Refuge). In this case, the No Action Alternative represents no change from current management direction or level of management intensity provided in the Adaptive Management Plan (AMP) and other management documents and practices for the Reserve, though those programs would continue as they do now.

Significance Criteria

For the purposes of this Draft EIS/R, the project would have a significant impact if it would:

- Substantially reduce the ability to access PG&E towers, stations, or electrical transmission lines;
- Reduce clearance between waterways and electrical transmission lines such that navigation of watercraft or regulatory compliance was affected;
- Reduce the integrity of PG&E's utility infrastructure;
- Change water level, tidal flow, or sedimentation such that drainage of storm drains, operation of pumping facilities, or discharge of sewer force mains were substantially affected;
- Disrupt rail service due to project activities such as construction or operations and maintenance;
- Reduce access to sewer force mains due to levee construction, or
- Place a substantial demand on regional energy supply or require or cause a substantial increase in peak and base period electricity demand.

As explained in Section 3.1.2, Environmental Setting and Impact Analysis, although both Council on Environmental Quality (CEQ) Regulations for Implementing NEPA (CEQ 2015) and the CEQA Guidelines (AEP 2016) were considered during the impact analysis, impacts identified in this Draft EIS/R are characterized using CEQA terminology. Please refer to Section 3.1.2 for a description of the terminology used to explain the severity of the impacts. Also note that the impacts and the thresholds of significance in this Draft EIS/R are similar to those evaluated in the 2007 Final EIS/R with the additional discussion of electrical demand.

Program-Level Evaluation

The 2007 Final EIS/R conducted broad, regional analyses of program-level utility impacts from the types of activities that would be necessary to implement Programmatic Alternative A (the No Action Alternative) and Programmatic Alternatives B and C (the two program-level Action Alternatives) and the outcomes of their implementation. The 2007 Final EIS/R evaluated the potential utility impacts of these three long-term alternatives against nine program-level impacts, most of which were each determined to have less-than-significant impacts to utilities. The exceptions were potentially significant impacts on PG&E tower structural integrity resulting from Programmatic Alternative A (the No Action Alternative).

¹ “No Action Alternative” is the National Environmental Policy Act (NEPA) term. It corresponds to the California Environmental Quality Act (CEQA) term “No Project Alternative.” This Draft EIS/R uses No Action throughout.

and on rail service due to construction of coastal flood levees and tidal marsh restoration under both Action Alternatives (Programmatic Alternatives B and C).

Project-Level Evaluation

Phase 2 Impact 3.15-1: Reduced ability to access PG&E towers, stations or electrical transmission lines.

Alternative Eden A (No Action). Southern Eden Landing does not contain PG&E transmission lines that traverse the ponds, nor are there substations on the levees. Neither the existing local power distribution line and towers on the northern levee of Ponds E1, E7, and E6, nor the line that runs through the Southern Ponds would be affected in the No Action Alternative. Therefore, Alternative Eden A would not impede or affect access to PG&E transmission facilities, and there would be no impact.

Alternative Eden A Level of Significance: No Impact

Alternative Eden B. Alternative Eden B actions would primarily occur in areas that do not contain PG&E power transmission lines or substations. The existing power distribution line on the northern levees of Ponds E1, E7, and E6 serves only CDFW. This infrastructure would become obsolete with implementation of Alternative Eden B, and therefore the line poles would be removed. The existing power distribution line and poles that run through the Southern Ponds would be retained, and the levees that provide PG&E access to those towers and the line would be maintained and/or modified, as needed, to continue to allow PG&E access. Therefore, Alternative Eden B would not impede access to PG&E transmission facilities, and there would be no impact.

Alternative Eden B Level of Significance: No Impact

Alternative Eden C. Alternative Eden C actions would primarily occur in areas that do not contain PG&E power transmission lines or substations. The existing power distribution line on the northern levees of Ponds E1, E7, and E6 serves only CDFW. This infrastructure would become obsolete with implementation of Alternative Eden C, and therefore the line poles would be removed. The existing power distribution line and poles that run through the Southern Ponds would be retained, and the levees that provide PG&E access to those towers and the line would be maintained and/or modified, as needed, to continue to allow PG&E access. Therefore, Alternative Eden C would not impede access to PG&E transmission facilities, and there would be no impact.

Alternative Eden C Level of Significance: No Impact

Alternative Eden D. Alternative Eden D actions would primarily occur in areas that do not contain PG&E power transmission lines or substations. The existing power distribution line on the northern levees of Ponds E1, E7, and E6 serves only CDFW. This infrastructure would become obsolete with implementation of Alternative Eden D, and therefore the line poles would be removed. The existing power distribution line and poles that run through the Southern Ponds would be retained, and the levees that provide PG&E access to those towers and the line would be maintained and/or modified, as needed, to continue to allow PG&E access. Therefore, Alternative Eden D would not impede access to PG&E transmission facilities, and there would be no impact.

Alternative Eden D Level of Significance: No Impact

Phase 2 Impact 3.15-2: Reduced clearance between waterways and PG&E electrical transmission lines.

Alternative Eden A (No Action). Southern Eden Landing does not contain PG&E transmission lines that traverse the ponds, nor are there substations on the levees. Neither the existing local power distribution line and poles on the northern levee of Ponds E1, E7, and E6, nor the line that runs through the Southern Ponds would be affected in the No Action Alternative. Therefore, Alternative Eden A would not reduce clearance between waterways and PG&E electrical transmission lines, and there would be no impact.

Alternative Eden A Level of Significance: No Impact

Alternative Eden B. Alternative Eden B actions would primarily occur in areas that do not contain PG&E power transmission lines or substations. The existing power distribution line and wood poles on the northern levees of Ponds E1, E7, and E6 serves only CDFW. This infrastructure would become obsolete with implementation of Alternative Eden B, and therefore the line poles would no longer be necessary. The line and associated wood poles on the northern levees of Ponds E1, E7, and E6 and over OAC would be removed. The existing power distribution line and poles that run through the Southern Ponds would be retained, and the levees that provide PG&E access to those towers and the line would be maintained and/or modified as needed to continue to allow PG&E access. Therefore, the height of the distribution line crossing ACFCC would not change. Alternative Eden B would not reduce clearance between waterways and PG&E electrical lines, and there would be no impact.

Alternative Eden B Level of Significance: No Impact

Alternative Eden C. Alternative Eden C actions would primarily occur in areas that do not contain PG&E power transmission lines or substations. The existing power distribution line on the northern levees of Ponds E1, E7, and E6 serves only CDFW. This infrastructure would become obsolete with implementation of Alternative Eden C, and therefore the line poles would no longer be necessary. The line and associated wood poles on the northern levees of Ponds E1, E7, and E6 and over OAC would be removed. The existing power distribution line and poles that run through the Southern Ponds would be retained, and the levees that provide PG&E access to those towers and the line would be maintained and/or modified as needed to continue to allow PG&E access. Therefore, the height of the distribution line crossing ACFCC would not change. Alternative Eden C would not reduce clearance between waterways and PG&E electrical lines, and there would be no impact.

Alternative Eden C Level of Significance: No Impact

Alternative Eden D. Alternative Eden D actions would primarily occur in areas that do not contain PG&E power transmission lines or substations. The existing power distribution line on the northern levees of Ponds E1, E7, and E6 serves only CDFW. This infrastructure would become obsolete with implementation of Alternative Eden D, and therefore the line poles would no longer be necessary. The line and associated wood poles on the northern levees of Ponds E1, E7, and E6 and over OAC would be removed. The existing power distribution line and poles that run through the Southern Ponds would be retained, and the levees that provide PG&E access to those towers and the line would be maintained and/or modified as needed to continue to allow PG&E access. Therefore, the height of the distribution line crossing ACFCC would not change. Alternative Eden D would not reduce clearance between waterways and PG&E electrical lines, and there would be no impact.

Alternative Eden D Level of Significance: No Impact

Phase 2 Impact 3.15-3: Reduced structural integrity of PG&E towers.

Alternative Eden A (No Action). Under the No Action Alternative (Alternative Eden A), no new activities would occur in the project area. Thus, neither the existing local power distribution line and towers on the northern levee of Ponds E1, E7, and E6, nor the line that runs through the Southern Ponds would be affected in the No Action Alternative. Therefore, Alternative Eden A would not reduce the structural integrity of PG&E towers, and there would be no impact.

Alternative Eden A Level of Significance: No Impact

Alternative Eden B. Under Alternative Eden B, actions would occur on pond levees that contain existing power distribution lines on the northern levees of Ponds E1, E7, and E6 and on levees that run through the Southern Ponds. The former line and wood poles on the northern levees of Ponds E1, E7, and E6 serve only CDFW and would no longer be necessary. They would be removed as part of this alternative. The distribution line within the Southern Ponds would be retained, and the foundations of the wood poles on this line would be modified as needed, to maintain the poles and preserve their structural integrity. Therefore, Alternative Eden B would have less than significant impacts on PG&E poles.

Alternative Eden B Level of Significance: Less than Significant

Alternative Eden C. Under Alternative Eden C, actions would occur on pond levees that contain existing power distribution lines on the northern levees of Ponds E1, E7, and E6 and that run through the Southern Ponds. The former line and poles serve only CDFW and would no longer be necessary. They would be removed as part of this alternative. The distribution line within the Southern Ponds would be retained, and the poles on this line would be modified, as needed, to maintain the poles and preserve their structural integrity. Therefore, Alternative Eden C would have less than significant impacts on PG&E poles.

Alternative Eden C Level of Significance: Less than Significant

Alternative Eden D. Under Alternative Eden D, actions would occur on pond levees that contain existing power distribution lines on the northern levees of Ponds E1, E7, and E6 and that run through the Southern Ponds. The former line and towers serve only CDFW and would no longer be necessary. They would be removed as part of this alternative. The distribution line within the Southern Ponds would be retained, and the poles on this line would be modified, as needed, to maintain the poles and preserve their structural integrity. Therefore, Alternative Eden D would have less than significant impacts on PG&E poles.

Alternative Eden D Level of Significance: Less than Significant

Phase 2 Impact 3.15-4: Changes in water level, tidal flow and sedimentation near storm drain systems.

Stormwater facilities collect rainfall runoff from upland areas and discharge via gravity flow and/or pumping into the SBSP Restoration Project area. These flows typically discharge to channels and sloughs leading to the Bay. Most drainage channels collect stormwater from at least one outfall that discharges via gravity when water levels in the slough are lower than the outfall (at low tide). The following discussion addresses potential impacts to gravity-driven storm drainage. Potential impacts to storm drain systems that rely on pumping are addressed in Phase 2 Impact 3.15-5, below.

The potential for impacts depends on the change to low-tide elevations, amount of channel sedimentation near the outfall, the capacity of the storm drain system, and the ability of the structure to function properly

with higher low-tide elevations of the receiving water. In storm drain systems that do not have the capacity to accommodate higher low-tide elevations or sedimentation near the outfall, reduced conveyance through the structures could potentially result in ponding of stormwater in developed areas. Storm water outfalls discharging via gravity flow in the Eden Landing pond complex drain to OAC and the ACFCC; the closest of these are along the northern levee of Pond E1 and at the northeast corner of Pond E6. There is also an ACFCWCD stormwater detention basin – known as the J-Ponds – on County-owned lands within southern Eden Landing.

Alternative Eden A (No Action). Under Alternative Eden A, no new activities would occur in the project area. Thus, there would be no project-related changes in water level, tidal flow, or sedimentation near storm drain systems. Unplanned levee breaches could temporarily affect water level, tidal flow, and sedimentation along the OAC and ACFCC are possible but unlikely and would not be expected to change water surface elevations during high tide. Over time, sea-level rise could change water levels and tidal flows and thereby affect storm drains. However, these potential impacts are expected to be minimal within the foreseeable future. Therefore, Alternative Eden A would have less than significant impacts.

Alternative Eden A Level of Significance: Less than Significant

Alternative Eden B. Alternative Eden B would raise bottom elevations in the Bay and Inland Ponds and open all of the southern Eden Landing ponds to tidal flows. The potential impacts to stormwater outfalls would be slightly greater in Alternative Eden B than under Alternative Eden A, due to the restoration of ponds connected to the OAC and ACFCC. However, restoration actions at the these ponds would be designed to minimize impacts to the upstream storm drain systems, and the discharge pipes would be improved or relocated, as necessary and in coordination with the operating agencies. Although Alternative Eden B would modify the tidal flux in the ponds, modifications would not cause substantial changes in tidal levels, long-term increases in sedimentation, or substantial changes to stormwater management in upstream areas. Overall, the impacts of Alternative Eden B would be less than significant.

Alternative Eden B Level of Significance: Less than Significant

Alternative Eden C. Alternative Eden C would raise bottom elevations in the Bay Ponds, open the Bay Ponds to tidal flows, and maintain controlled flows through water control structures in the Inland Ponds and Southern Ponds. The potential impacts to stormwater outfalls would be slightly greater in Alternative Eden C than under Alternative Eden A, due to the restoration of ponds connected to the OAC and ACFCC. The potential impacts would be less than Alternative Eden B, however, because the changes in tidal flux would be relatively smaller. However, restoration actions at the these ponds would be designed to minimize impacts to the upstream storm drain systems, and the discharge pipes would be improved or relocated as necessary in coordination with the operating agencies. Although Alternative Eden C would modify the tidal flux in the ponds, modifications would not cause substantial changes in tidal levels, long-term increases in sedimentation, or substantial changes to stormwater management in upstream areas. Overall, the impacts of Alternative Eden C would be less than significant.

Alternative Eden C Level of Significance: Less than Significant

Alternative Eden D. Alternative Eden D would raise bottom elevations in the Bay and Inland Ponds, open the Bay Ponds to tidal flows, and maintain controlled flows through water control structures in the Inland Ponds and Southern Ponds until marsh habitat had formed in the Bay Ponds, after which fully tidal flows would be introduced there. The potential impacts to stormwater outfalls would be slightly greater in Alternative Eden D than under Alternative Eden A, due to the restoration of ponds connected to the OAC

and ACFCC. The potential impacts would initially be less than Alternative Eden B, because the changes in tidal flux would be relatively smaller. However, long-term potential effects would more closely resemble Alternative Eden B. The restoration actions at these ponds would be designed to minimize impacts to the upstream storm drain systems, and the discharge pipes would be improved or relocated as necessary in coordination with the operating agencies. Although Alternative Eden D would modify the tidal flux in the ponds, modifications would not cause substantial changes in tidal levels, long-term increases in sedimentation, or substantial changes to stormwater management in upstream areas. Overall, the impacts of Alternative Eden D would be less than significant.

Alternative Eden D Level of Significance: Less than Significant

Phase 2 Impact 3.15-5: Changes in water level, tidal flow and sedimentation near pumping facilities.

Urban areas adjacent to the Eden Landing Phase 2 project area contain several stormwater lift stations that would discharge to sloughs upstream of the levee breaches (Moffatt & Nichol 2005). Lift stations are connected to discharge pipes that extend from the lift station to the adjacent slough where the discharge occurs. During storm events, stormwater runoff from the surrounding developed areas flows through storm drain systems toward the Bay. In areas where discharge to the tidal sloughs via gravity flow is not possible, the stormwater is pumped, or “lifted,” and discharged into the adjacent sloughs.

Changes to water levels or sedimentation patterns generally do not substantially affect pumping facilities, unless water surface elevations during high tide are substantially raised or sediment accumulation at discharge locations blocks outfall structures.

Alternative Eden A (No Action). Under Alternative Eden A, no new activities would occur in the project area. Thus, there would be no project-related changes in water level, tidal flow, or sedimentation near pumping facilities. Unplanned levee breaches could temporarily affect water level, tidal flow, and sedimentation along the OAC and ACFCC are possible but unlikely and would not be expected to change water surface elevations during high tide. Over time, sea-level rise could change water levels and tidal flows and thereby affect pumping facilities. However, these potential impacts are expected to be minimal within the foreseeable future and therefore, Alternative Eden A would have less than significant impacts.

Alternative Eden A Level of Significance: Less than Significant

Alternative Eden B. Tidal restoration under Alternative Eden B would potentially alter water levels during large storm events in tidally influenced sloughs near Eden Landing, although these changes in water level are not expected to affect the ability to operate existing pumping facilities. Decreased velocities upstream of levee breaches would potentially increase sedimentation; however, changes in sedimentation patterns would not be expected to substantially affect the operation of pumping facilities. Alternative Eden B would result in the restoration of ponds that would drain or otherwise connect to OAC and ACFCC. The lift station at the northwest corner of Pond E6 would be upstream of planned breaches or other connections. It would be largely unaffected by changes in flows. The lift station in the OAC north of Pond E1 is immediately adjacent to a planned levee lowering and the removal of a pump into this pond. This lift station may be removed, as it will no longer be needed. Impacts resulting from changes in water level, tidal flow, and sedimentation near pumping facilities would be less than significant.

Alternative Eden B Level of Significance: Less than Significant

Alternative Eden C. Tidal restoration and managed pond enhancement under Alternative Eden C would potentially alter water levels during large storm events in tidal sloughs near Eden Landing, although these changes in water level are not expected to affect the ability to operate existing pumping facilities.

Decreased velocities upstream of levee breaches would potentially increase sedimentation; however, changes in sedimentation patterns would not be expected to substantially affect the operation of pumping facilities. Alternative Eden C would result in the restoration of ponds that would drain or otherwise connect to OAC and ACFCC. The lift station at the northwest corner of Pond E6 would be upstream of planned breaches or other connections. It would be largely unaffected by changes in flows. The lift station in the OAC north of Pond E1 is immediately adjacent to a planned levee lowering and the removal of a pump into this pond. This lift station may be removed, as it will no longer be needed. Impacts resulting from changes in water level, tidal flow, and sedimentation near pumping facilities would be less than significant.

Alternative Eden C Level of Significance: Less than Significant

Alternative Eden D. Tidal restoration and managed pond enhancement under Alternative Eden D would potentially alter water levels during large storm events in tidal sloughs near Eden Landing, although these changes in water level are not expected to affect the ability to operate existing pumping facilities.

Decreased velocities upstream of levee breaches would potentially increase sedimentation; however, changes in sedimentation patterns would not be expected to substantially affect the operation of pumping facilities. Alternative Eden D would result in the restoration of ponds that would drain or otherwise connect to OAC and ACFCC. The lift station at the northwest corner of Pond E6 would be upstream of planned breaches or other connections. It would be largely unaffected by changes in flows. The lift station in the OAC north of Pond E1 is immediately adjacent to a planned levee lowering and the removal of a pump into this pond. This lift station may be removed, as it will no longer be needed. Impacts resulting from changes in water level, tidal flow, and sedimentation near pumping facilities would be less than significant.

Alternative Eden D Level of Significance: Less than Significant

Phase 2 Impact 3.15-6: Changes in water level, tidal flow and sedimentation near sewer force mains and outfalls.

A pipeline serving as part of the EBDA effluent disposal system traverses the northeastern corner of northern Eden Landing. It transports treated effluent from the USD northward towards the EBDA Bay outfall, a deep water discharge located south of the Oakland airport. All discharges from the USD facility and this pipeline occur outside the Eden Landing Phase 2 project area.

Alternative Eden A (No Action). There are no outfalls for sewer force mains in close proximity to the Phase 2 project area at Eden Landing. Therefore, under Alternative Eden A, there would be no potential for changes in water level, tidal flow, and sedimentation near sewer force mains or outfalls.

Alternative Eden A Level of Significance: No Impact

Alternative Eden B. There are no outfalls for sewer force mains in close proximity to the Phase 2 project area at Eden Landing. Under Alternative Eden B, a treated wastewater force main for the EBDA Bay outfall would be connected to the Phase 2 project ponds to allow use of treated water to irrigate vegetation on the proposed habitat transition zone in the Inland Ponds. The addition of this connection would not

affect the outfall for the force mains. Therefore, under Alternative Eden B, there would be no potential for changes in water level, tidal flow, and sedimentation near sewer force mains or outfalls.

Alternative Eden B Level of Significance: No Impact

Alternative Eden C. There are no outfalls for sewer force mains in close proximity to the Phase 2 project area at Eden Landing. Therefore, under Alternative Eden C, there would be no potential for changes in water level, tidal flow, and sedimentation near sewer force mains or outfalls.

Alternative Eden C Level of Significance: No Impact

Alternative Eden D. There are no outfalls for sewer force mains in close proximity to the Phase 2 project area at Eden Landing. Therefore, under Alternative Eden D, there would be no potential for changes in water level, tidal flow, and sedimentation near sewer force mains or outfalls.

Alternative Eden D Level of Significance: No Impact

Phase 2 Impact 3.15-7: Disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.

The following discussion evaluates potential impacts to service disruption of the Hetch Hetchy Aqueduct due to levee construction and habitat restoration at the Eden Landing Phase 2 locations. Hetch Hetchy Aqueduct-related infrastructure is not located within or in close proximity to the Eden Landing Phase 2 project area.

Alternative Eden A (No Action). Southern Eden Landing is not in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative Eden A, there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption. There would be no impact.

Alternative Eden A Level of Significance: No Impact

Alternative Eden B. Alternative Eden B actions would occur within ponds that are not in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative Eden B, there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption, and there would be no impact.

Alternative Eden B Level of Significance: No Impact

Alternative Eden C. Alternative Eden C actions would occur within ponds that are not in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative Eden C, there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption, and there would be no impact.

Alternative Eden C Level of Significance: No Impact

Alternative Eden D. Alternative Eden D actions would occur within ponds that are not in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative Eden D, there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption, and there would be no impact.

Alternative Eden D Level of Significance: No Impact

Phase 2 Impact 3.15-8: Disruption of rail service due to construction of coastal flood levees and tidal habitat restoration.

Alternative Eden A (No Action). Southern Eden Landing is not in close proximity to any active rail lines. Therefore, under Alternative Eden A, there would be no potential to disrupt rail service, and there would be no impact.

Alternative Eden A Level of Significance: No Impact

Alternative Eden B. Alternative Eden B actions would occur within ponds that are not in close proximity to any active rail lines. Therefore, under Alternative Eden B, there would be no potential to disrupt rail service, and there would be no impact.

Alternative Eden B Level of Significance: No Impact

Alternative Eden C. Alternative Eden C actions would occur within ponds that are not in close proximity to any active rail lines. Therefore, under Alternative Eden C, there would be no potential to disrupt rail service, and there would be no impact.

Alternative Eden C Level of Significance: No Impact

Alternative Eden D. Alternative Eden D actions would occur within ponds that are not in close proximity to any active rail lines. Therefore, under Alternative Eden D, there would be no potential to disrupt rail service, and there would be no impact.

Alternative Eden D Level of Significance: No Impact

Phase 2 Impact 3.15-9: Reduced access to sewer force mains due to levee construction.

The 2007 Final EIS/R showed no buried sewer force mains within the Phase 2 project area (Figure 3.16-1 of that document).

Alternative Eden A (No Action). There are no buried sewer force mains within the Eden Landing Phase 2 project area. Also, under Alternative Eden A, there would be no levee construction. Therefore, there is no potential for reduced access to sewer force mains and no impact.

Alternative Eden A Level of Significance: No Impact

Alternative Eden B. There are no buried sewer force mains within the Eden Landing Phase 2 project area. The EDBA pipeline and USD facility are immediately adjacent to the northeastern corner of the Phase 2 project area, but all levee improvement work and other project activities would be coordinated with these facilities to retain necessary access to that infrastructure. There would be a less than significant impact.

Alternative Eden B Level of Significance: Less than Significant

Alternative Eden C. There are no buried sewer force mains within the Eden Landing Phase 2 project area. The EDBA pipeline and USD facility are immediately adjacent to the northeastern corner of the Phase 2 project area, but all levee improvement work and other project activities would be coordinated with these facilities to retain necessary access to that infrastructure. There would be a less than significant impact.

Alternative Eden C Level of Significance: Less than Significant

Alternative Eden D. There are no buried sewer force mains within the Eden Landing Phase 2 project area. The EDBA pipeline and USD facility are immediately adjacent to the northeastern corner of the Phase 2 project area, but all levee improvement work and other project activities would be coordinated with these facilities to retain necessary access to that infrastructure. There would be a less than significant impact.

Alternative Eden D Level of Significance: Less than Significant

Phase 2 Impact 3.15-10: Increased demands on regional energy supply or substantial increase in peak and base period electricity demand.

Alternative Eden A (No Action). Under Alternative Eden A, no construction activities would occur in the southern Eden Landing ponds; there would be no project-related changes in energy demands, including regional peak and base period electricity demand, and no impacts.

Alternative Eden A Level of Significance: No Impact

Alternative Eden B. During construction, energy would be needed to produce and transport construction materials and for operating and maintaining construction equipment. Although measurable, the energy used during construction activities would not require substantial additional capacity nor substantially increase peak- or base-period demands for electricity. A potential exception would be an electric-powered dredge material hydraulic offloader and booster pumps.

There are two ways to measure electricity demand: consumption and peak demand. Electricity consumption is the amount of electricity used by consumers. According to the California Energy Commission (CEC), total statewide electricity consumption was 281,000 gigawatt hours (GWh) in 2015 (CEC 2017), and minor increases are expected in future years. An electric-powered offloader and booster pumps would use approximately 30 GWh of electricity over the 3 to 7 years needed for dredge material placement; this is a very small increase (0.002 to 0.004 percent) compared to the overall demand.

The highest electric power requirement during a specified period is known as the peak demand and is measured as the amount of electricity consumed at any given moment, usually integrated over a 1-hour period. Peak demand is often used to evaluate system reliability and identify congestion points on the electrical grid. California's peak demand typically occurs in August, between 3 p.m. and 5 p.m. In summer 2016, the peak demand in California was 60,500 MW (CEC 2017) and the peak demand in the Northern California balancing zone was 20,400 MW (California Independent System Operator [CAISO] 2017). Operating reserve margins are projections of supply margins over projected hourly demands. The target planning reserve margin for CAISO is 15 percent above projected summer peak demands every year, and the best available estimate for summer 2017 electricity reserves (1-in-2 forecasts) in Northern California is 19.8 percent. If electrically powered, the offloader and booster pumps would require 9 MW of additional peak capacity; this increase in peak demand from the project is not anticipated to exceed existing reserve amounts. The project's effect to total electricity consumption and peak electricity demand would be less than significant.

Alternative Eden B Level of Significance: Less than Significant

Alternative Eden C. If electrically powered, the hydraulic offloader and booster pumps would increase electricity consumption and peak demand. However, as discussed in Alternative Eden B, the potential increase in electrical consumption and peak demand would be small and would not exceed existing reserve amounts. There would be a less than significant impact.

Alternative Eden C Level of Significance: Less than Significant

Alternative Eden D. If electrically powered, the hydraulic offloader and booster pumps would increase electricity consumption and peak demand. However, as discussed in Alternative Eden B, the potential increase in electrical consumption and peak demand would be small and would not exceed existing reserve amounts. There would be a less than significant impact.

Alternative Eden D Level of Significance: Less than Significant

Impact Summary

Phase 2 impacts to utilities and the levels of significance are summarized in Table 3.15-1. The levels of significance are those remaining after implementation of program-level mitigation measures, project-level design features, and the AMP and other Reserve management documents and practices. The utilities analysis required no project-level mitigation measures to reduce the impacts to a level that was less than significant.

Table 3.15-1 Phase 2 Summary of Impacts – Utilities

IMPACT	ALT. EDEN A	ALT. EDEN B	ALT. EDEN C	ALT. EDEN D
Phase 2 Impact 3.15-1: Reduced ability to access PG&E towers, stations or electrical transmission lines.	NI	NI	NI	NI
Phase 2 Impact 3.15-2: Reduced clearance between waterways and PG&E electrical transmission lines.	NI	NI	NI	NI
Phase 2 Impact 3.15-3: Reduced structural integrity of PG&E towers.	NI	LTS	LTS	LTS
Phase 2 Impact 3.15-4: Changes in water level, tidal flow and sedimentation near storm drain systems.	LTS	LTS	LTS	LTS
Phase 2 Impact 3.15-5: Changes in water level, tidal flow and sedimentation near pumping facilities.	LTS	LTS	LTS	LTS
Phase 2 Impact 3.15-6: Changes in water level, tidal flow and sedimentation near sewer force mains and outfalls.	NI	NI	NI	NI
Phase 2 Impact 3.15-7: Disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.	NI	NI	NI	NI
Phase 2 Impact 3.15-8: Disruption of rail service due to construction of coastal flood levees and tidal habitat restoration.	NI	NI	NI	NI
Phase 2 Impact 3.15-9: Reduced access to sewer force mains due to levee construction.	NI	LTS	LTS	LTS
Phase 2 Impact 3.15-10: Increased demands on regional energy supply or substantial increase in peak and base period electricity demand.	NI	LTS	LTS	LTS

Notes:

Alternative Eden A is the No Action Alternative (the No Project Alternative under CEQA).

LTS = Less than Significant

NI = No Impact

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