

## Section 4.4

# Utilities, Public Services, and Highways

## Introduction

This section describes recent changes to the existing environmental conditions and regulatory setting of the Project area, summarizes the unchanged affected environment, and describes changed environmental effects related to utilities, public services, and highways for the Project. This section contains a review and update of the 2000 RDEIR/EIS utilities, public services, and highways impact assessment, incorporated by reference in the 2001 FEIR. The utilities, public services, and highways impacts of the Project were analyzed most recently in the 2001 FEIS, which also served as a basis for this analysis.

The 2001 FEIR and 2001 FEIS concluded that the Project alternatives would affect utilities, public services, highways, and ferry service operations. Since 2001, there have been changes in the Project and the affected environmental setting that either do not alter the conclusions in the 2001 FEIR and 2001 FEIS or result in a decrease in the significance of some of the previously identified impacts on utilities, and the elimination of associated mitigation measures.

Identification of the Project's specific places of use as part of the affected Project environment does not affect utilities, public services, highways and ferry service in any way that alters the conclusions of the 2001 FEIR and 2001 FEIS. The Project would not have any direct effects on utilities, public services, highways, and ferry service in the places of use; the effects on utilities, public services, highways, and ferry service, if any, associated with the provision of Project water to the places of use are addressed in Chapter 5, "Cumulative Impacts," and Chapter 6, "Growth-Inducing Impacts."

## Summary of Impacts

Table 4.4-1 provides a summary and comparison of the impacts and mitigation measures from the 2001 FEIR, 2001 FEIS, and this Place of Use EIR for utilities, public services, and highways.

**Table 4.4-1.** Comparison between Delta Wetlands Project 2010 Place of Use EIR and 2001 FEIR and 2001 FEIS Impacts and Mitigation Measures for Utilities and Highways

2001 FEIR and 2001 FEIS Impacts and Mitigation Measures	Differences between 2010 Place of Use EIR and 2001 FEIR and 2001 FEIS Impacts and Mitigation Measures
<b>ALTERNATIVES 1 AND 2</b>	
<p><b>Impact E-1:</b> Increase in the Structural Integrity of County Roads (B)  <b>Mitigation:</b> No mitigation is required.</p>	<p><b>Impact UT-1:</b> Increase in the Structural Integrity of County Roads (B and LTS)  <b>Mitigation:</b> No mitigation is required.                      No change.</p>
<p><b>Impact E-2:</b> Reduction in Ferry Traffic from Jersey Island to Webb Tract (LTS)  <b>Mitigation:</b> No mitigation is required.</p>	<p><b>Impact UT-2:</b> Reduction in Ferry Traffic from Jersey Island to Webb Tract (LTS)  <b>Mitigation:</b> No mitigation is required.                      No change.</p>
<p><b>Impact E-3:</b> Increase in the Risk to Gas Lines Crossing Exterior Levees on Bacon Island Resulting from Levee Improvements (LTS-M)  <b>Mitigation Measure RE-1:</b> Monitor Locations Where Gas Pipelines Cross Bacon Island Levees during and after Levee Construction; and  <b>Mitigation Measure RE-2:</b> Implement Corrective Measures to Reduce Risk of Pipeline Failure during Levee Construction</p>	<p><b>Impact UT-3:</b> Increase in the Risk to Gas Lines Crossing Exterior Levees on Bacon Island Resulting from Levee Improvements (LTS)                      No mitigation required, but the following will monitor Project measures:  <b>Mitigation Measure UT-MM-1:</b> Monitor Locations Where Gas Pipelines Cross Bacon Island Levees during and after Levee Construction                      As part of the 2006 Delta Wetlands Properties and PG&amp;E settlement agreement (Delta Wetlands 2006), it is stipulated that:</p> <ul style="list-style-type: none"> <li>• If future levee embankment construction for the Project creates stress on the Line 57B pipeline that is significantly greater than the stress on the pipeline caused by the current levee, the Project Proponent (DW) will pay for the design and construction of an engineering solution to reinforce, replace, or relocate the Line 57B eastern levee crossing on Bacon Island before water is diverted for storage onto Bacon Island; the Line 57B pipeline at the western levee embankment will be replaced and that the cost of the design, permitting, materials and construction of the new replacement pipeline will be shared by PG&amp;E and the Project; and</li> <li>• The Project will compensate PG&amp;E for any loss or damage to Line 57C caused by the conversion of Bacon Island into a water storage reservoir.</li> </ul> <p>Implementation of these measures would prevent damage to the gas pipeline from increased bending or shear loads at levee crossings during levee construction and settlement.                      Therefore, this impact is considered less than significant. However, Mitigation</p>

2001 FEIR and 2001 FEIS Impacts and Mitigation Measures	Differences between 2010 Place of Use EIR and 2001 FEIR and 2001 FEIS Impacts and Mitigation Measures
<p><b>Impact E-4:</b> Increase in PG&amp;E Response Time to Repair a Gas Line Failure on Bacon Island (No significance conclusion)  <i>This potential impact is economic in nature. Because economic effects are not considered environmental impacts under CEQA and NEPA, no significance conclusion is made and no mitigation is identified.</i></p>	<p>Measure UT-MM-1 would monitor the effectiveness of the corrective measures implemented as part of the settlement agreement.                      Mitigation Measure RE-2 is no longer applicable.</p>
<p><b>Impact RE-1:</b> Increase in the Risk to Line 57A from Island Inundation (LTS-M)  <b>Mitigation Measure RE-3:</b> Securely Anchor Line 57A before Bacon Island Flooding</p>	<p><b>Impact UT-4:</b> Increase in PG&amp;E Response Time to Repair a Gas Line Failure on Bacon Island (LTS)                      Since 2001, PG&amp;E has installed Line 57C, which reduces the impact of the increased response time to a less-than-significant level, and no mitigation is required.</p>
<p><b>Impact RE-2:</b> Potential Interference with Pipeline Inspection Procedures (LTS-M)  <b>Mitigation Measure RE-4:</b> Provide Adequate Facilities on Bacon Island for Annual Pipeline Inspection; and  <b>Mitigation Measure RE-5:</b> Relocate Cathodic Protection Test Stations before Bacon Island Flooding</p>	<p>PG&amp;E has abandoned the portion of Line 57A across Bacon Island. The Project would remove the portion of Line 57A under Bacon Island Road prior to Reservoir Island construction. Therefore, this is no longer an impact and no mitigation is required.</p> <p><b>Impact UT-5:</b> Potential Interference with Pipeline Inspection Procedures (LTS)  <b>Mitigation:</b> No mitigation is required</p> <p>As part of the 2006 Delta Wetlands Properties and PG&amp;E settlement agreement (Delta Wetlands 2006), it is stipulated that:</p> <ul style="list-style-type: none"> <li>• Before water is diverted to storage on Bacon Island, the Project applicant will provide mutually acceptable facilities on the island for PG&amp;E’s annual inspection of Lines 57B and 57C;</li> <li>• The Project will provide a ramp and turnaround facilities to launch a boat for regular inspections; provide a suitable staging area for materials and equipment necessary for gas pipeline repairs; and install an elevated access roadway adjacent to Lines 57B and 57C;</li> <li>• Before water is diverted to storage on Bacon Island, the Project will, at its expense, relocate Line 57B cathodic protection test stations on Bacon Island to a mutually acceptable location; and</li> <li>• PG&amp;E will consult with the Project on the design, siting and construction of the test stations if they are to be located on the Project applicant’s property, and the Project will provide PG&amp;E access to the stations.</li> </ul> <p>These measures, and the addition of Line 57C, will ensure that the Project does not interfere with PG&amp;E’s annual pipeline operation, inspection, and maintenance procedures. Therefore, this impact is considered less than significant and no mitigation is required.</p>

<b>2001 FEIR and 2001 FEIS Impacts and Mitigation Measures</b>	<b>Differences between 2010 Place of Use EIR and 2001 FEIR and 2001 FEIS Impacts and Mitigation Measures</b>
<p><b>Impact E-5:</b> Inundation of Electrical Distribution Utilities on the Reservoir Islands (LTS-M)</p> <p><b>Mitigation Measure E-1:</b> Relocate Electrical Distribution Lines to the Perimeter Levee around Webb Tract</p>	<p><b>Impact UT-6:</b> Inundation of Electrical Distribution Utilities on the Reservoir Islands (LTS-M)</p> <p><b>Mitigation Measure UT-MM-2:</b> Relocate Electrical Distribution Lines to the Perimeter Levee around Webb Tract</p> <p>No change.</p>
<p><b>Impact E-6:</b> Possible Need to Increase Capacity of the Existing Electrical Distribution Lines on the Project Islands (LTS)</p> <p><b>Mitigation:</b> No mitigation is required.</p>	<p><b>Impact UT-7:</b> Possible Need to Increase Capacity of the Existing Electrical Distribution Lines on the Project Islands (LTS)</p> <p><b>Mitigation:</b> No mitigation is required.</p> <p>No change.</p>
<p><b>Impact E-7:</b> Possible Need to Expand the Existing Electrical Distribution Lines on Webb Tract, Bouldin Island, and Holland Tract to Serve a Proposed Siphon Station and Recreation Facilities (LTS-M)</p> <p><b>Mitigation Measure E-2:</b> Extend Electrical Distribution Lines to Serve New Siphon and Pump Stations and Recreation Facilities</p>	<p><b>Impact UT-8:</b> Possible Need to Expand the Existing Electrical Distribution Lines on Webb Tract, Bouldin Island, and Holland Tract to Serve a Proposed Siphon Station and Recreation Facilities (LTS-M)</p> <p><b>Mitigation Measure UT-MM-3:</b> Extend Electrical Distribution Lines to Serve New Siphon and Pump Stations and Recreation Facilities</p> <p>No change.</p>
<p><b>Impact E-8:</b> Increase in Demand for Police Services on the Project Islands (LTS-M)</p> <p><b>Mitigation Measure E-3:</b> Provide Adequate Lighting in and around Buildings, Walkways, Parking Areas, and Boat Berths</p> <p><b>Mitigation Measure E-4:</b> Provide Private Security Services for Recreation Facilities and Boat Docks</p>	<p><b>Impact UT-9:</b> Increase in Demand for Police Services on the Project Islands (LTS-M)</p> <p><b>Mitigation Measure UT-MM-4:</b> Provide Adequate Lighting in and around Buildings, Walkways, Parking Areas, and Boat Berths</p> <p><b>Mitigation Measure UT-MM-5:</b> Provide Private Security Services for Recreation Facilities and Boat Docks</p> <p><b>Mitigation Measure REC-MM-1:</b> Reduce the Size or Number of Recreation Facilities</p>
<p><b>Impact E-9:</b> Increase in Demand for Fire Protection Services on the Project Islands (LTS-M)</p> <p><b>Mitigation Measure E-5:</b> Incorporate Fire Protection Features into Recreation Facility Design</p> <p><b>Mitigation Measure E-6:</b> Provide Fire Protection Services to Webb Tract and Bacon Island.</p>	<p><b>Impact UT-10:</b> Increase in Demand for Fire Protection Services on the Project Islands (LTS-M)</p> <p><b>Mitigation Measure UT-MM-6:</b> Incorporate Fire Protection Features into Recreation Facility Design</p> <p><b>Mitigation Measure UT-MM-7:</b> Provide Fire Protection Services to Webb Tract and Bacon Island</p> <p>No change.</p>

2001 FEIR and 2001 FEIS Impacts and Mitigation Measures	Differences between 2010 Place of Use EIR and 2001 FEIR and 2001 FEIS Impacts and Mitigation Measures
<p><b>Impact E-10:</b> Increase in Demand for Water Supply Services (LTS) Measures that would minimize the effects of this impact have been incorporated into the Project description. However, implementing the following would monitor the effectiveness of those measures: <b>Mitigation Measure E-7:</b> Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities</p>	<p><b>Impact UT-11:</b> Increase in Demand for Water Supply Services (LTS) No mitigation required, but the following will monitor Project measures: <b>Mitigation Measure UT-MM-8:</b> Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities No change.</p>
<p><b>Impact E-11:</b> Increase in Demand for Sewage Disposal Services (LTS) Measures that would minimize the effects of this impact have been incorporated into the Project description. However, implementing the following would monitor the effectiveness of those measures: <b>Mitigation Measure E-7:</b> Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities</p>	<p><b>Impact UT-12:</b> Increase in Demand for Sewage Disposal Services (LTS) No mitigation required, but the following will monitor Project measures: <b>Mitigation Measure UT-MM-8:</b> Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities No change.</p>
<p><b>Impact E-12:</b> Increase in Demand for Solid Waste Removal (LTS) Measures that would minimize the effects of this impact have been incorporated into the Project description. However, implementing the following would monitor the effectiveness of those measures: <b>Mitigation Measure E-7:</b> Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities</p>	<p><b>Impact UT-13:</b> Increase in Demand for Solid Waste Removal (LTS) No mitigation required, but the following will monitor Project measures: <b>Mitigation Measure UT-MM-8:</b> Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities No change.</p>
<b>ALTERNATIVE 3</b>	
<p><b>Impact E-13:</b> Increase in the Structural Integrity of County Roads (B) <b>Mitigation:</b> No mitigation is required.</p>	<p><b>Impact UT-1:</b> Increase in the Structural Integrity of County Roads (B and LTS) <b>Mitigation:</b> No mitigation is required No change.</p>
<p><b>Impact E-14:</b> Increase in the Risk of Structural Failure of SR12 (LTS) Measures that would minimize the effects of this impact have been incorporated into the Project description. However, implementing the following would monitor the effectiveness of those measures: <b>Mitigation Measure E-8:</b> Coordinate Design and Construction of Wilkerson Dam with Caltrans and DSOD</p>	<p><b>Impact UT-14:</b> Increase in the Risk of Structural Failure of SR 12 (LTS) No mitigation required, but the following will monitor Project measures: <b>Mitigation Measure UT-MM-9:</b> Coordinate Design and Construction of Wilkerson Dam with Caltrans No change.</p>
<p><b>Impact E-15:</b> Increase in the Fog Hazard on SR12 (SU) <b>Mitigation:</b> No mitigation is available.</p>	<p><b>Impact UT-15:</b> Increase in the Fog Hazard on SR 12 (SU) <b>Mitigation:</b> No mitigation is available No change.</p>

2001 FEIR and 2001 FEIS Impacts and Mitigation Measures	Differences between 2010 Place of Use EIR and 2001 FEIR and 2001 FEIS Impacts and Mitigation Measures
<p><b>Impact E-16:</b> Reduction in Ferry Traffic from Jersey Island to Webb Tract (LTS)  <b>Mitigation:</b> No mitigation is required.</p>	<p><b>Impact UT-2:</b> Reduction in Ferry Traffic from Jersey Island to Webb Tract (LTS)  <b>Mitigation:</b> No mitigation is required                      No change.</p>
<p><b>Impact E-17:</b> Increase in the Risk to Gas Lines Crossing Exterior Levees on Bacon Island Resulting from Levee Improvements (LTS-M)  <i>This impact is the same as Impact E-3</i>                      Mitigation Measures RE-1 and RE-2 would reduce this impact to a less-than-significant level.  <b>Mitigation Measure RE-1:</b> Monitor Locations Where Gas Pipelines Cross Bacon Island Levees during and after Levee Construction; and  <b>Mitigation Measure RE-2:</b> Implement Corrective Measures to Reduce Risk of Pipeline Failure during Levee Construction</p>	<p><b>Impact UT-3:</b> Increase in the Risk to Gas Lines Crossing Exterior Levees on Bacon Island Resulting from Levee Improvements (LTS)                      No mitigation required, but the following will monitor Project measures:  <b>Mitigation Measure UT-MM-1:</b> Monitor Locations Where Gas Pipelines Cross Bacon Island Levees during and after Levee Construction                      Implementation of these corrective measures in the 2006 Delta Wetlands Properties and PG&amp;E settlement agreement (discussed above for Impact E-3) would prevent damage to the gas pipeline from increased bending or shear loads at levee crossings during levee construction and settlement.                      Therefore, this impact is considered less than significant. However, Mitigation Measure RE-1 would monitor the effectiveness of the corrective measures implemented as part of the settlement agreement. Mitigation Measure RE-2 is no longer applicable.</p>
<p><b>Impact E-18:</b> Increase in PG&amp;E Response Time to Repair a Gas Line Failure on Bacon Island (No significance conclusion)  <i>This impact is the same as Impact E-4.</i>  <i>This potential impact is economic in nature. Because economic effects are not considered environmental impacts under CEQA and NEPA, no significance conclusion is made and no mitigation is identified.</i></p>	<p><b>Impact UT-4:</b> Increase in PG&amp;E Response Time to Repair a Gas Line Failure on Bacon Island (LTS)                      Since 2001, PG&amp;E installed Line 57C, which reduces the impact of the increased response time to a less-than-significant level and no mitigation is required.</p>
<p><b>Impact RE-3:</b> Increase in the Risk of Line 57A from Island Inundation (LTS-M)  <b>Mitigation Measure RE-3:</b> Securely Anchor Line 57A before Bacon Island Flooding</p>	<p>PG&amp;E has abandoned the portion of Line 57A across Bacon Island. Therefore, this is no longer an impact and no mitigation is required.</p>

2001 FEIR and 2001 FEIS Impacts and Mitigation Measures	Differences between 2010 Place of Use EIR and 2001 FEIR and 2001 FEIS Impacts and Mitigation Measures
<p><b>Impact RE-4:</b> Potential Interference with Pipeline Inspection Procedures (LTS-M)</p> <p><b>Mitigation Measure RE-4:</b> Provide Adequate Facilities on Bacon Island for Annual Pipeline Inspection</p> <p><b>Mitigation Measure RE-5:</b> Relocate Cathodic Protection Test Stations before Bacon Island Flooding</p>	<p><b>Impact UT-5:</b> Potential Interference with Pipeline Inspection Procedures (LTS)</p> <p><b>Mitigation:</b> No mitigation is required</p> <p>As part of the 2006 DW Properties and PG&amp;E settlement agreement (Delta Wetlands 2006), it is stipulated that:</p> <ul style="list-style-type: none"> <li>• Before water is diverted to storage on Bacon Island, the Project will provide mutually acceptable facilities on the island for PG&amp;E’s annual inspection of Lines 57B and 57C;</li> <li>• The Project will provide a ramp and turnaround facilities to launch a boat for regular inspections; provide a suitable staging area for materials and equipment necessary for gas pipeline repairs; and install an elevated access roadway adjacent to Lines 57B and 57C;</li> <li>• Before water is diverted to storage on Bacon Island, PG&amp;E will, at its expense, relocate Line 57B cathodic protection test stations on Bacon Island to a mutually acceptable location; and</li> <li>• PG&amp;E will consult with the Project on the design, siting and construction of the test stations if they are to be located on the Project applicant’s property, and the Project will provide PG&amp;E access to the stations.</li> </ul> <p>These measures and the addition of Line 57C will ensure that the Project does not interfere with PG&amp;E’s annual pipeline operation, inspection, and maintenance procedures. Therefore, this impact is considered less than significant, and no mitigation is required.</p>
<p><b>Impact E-19:</b> Inundation of Electrical Distribution Utilities on the Reservoir Islands (LTS-M)</p> <p><b>Mitigation Measure E-9:</b> Relocate Electrical Distribution Lines to the Perimeter Levees around Webb and Holland Tracts and Bouldin Island</p>	<p><b>Impact UT-6:</b> Inundation of Electrical Distribution Utilities on the Reservoir Islands (LTS-M)</p> <p><b>Mitigation Measure UT-MM-10:</b> Relocate Electrical Distribution Lines to the Perimeter Levees around Webb and Holland Tracts and Bouldin Island</p> <p>No change.</p>
<p><b>Impact E-20:</b> Possible Need to Increase Capacity of the Existing Electrical Distribution Lines on the Reservoir Islands (LTS)</p> <p><b>Mitigation:</b> No mitigation is required.</p>	<p><b>Impact UT-7:</b> Possible Need to Increase Capacity of the Existing Electrical Distribution Lines on the Reservoir Islands (LTS)</p> <p><b>Mitigation:</b> No mitigation is required</p> <p>No change.</p>

<b>2001 FEIR and 2001 FEIS Impacts and Mitigation Measures</b>	<b>Differences between 2010 Place of Use EIR and 2001 FEIR and 2001 FEIS Impacts and Mitigation Measures</b>
<p><b>Impact E-21:</b> Possible Need to Expand the Existing Electrical Distribution Lines on Webb Tract, Bouldin Island, and Holland Tract to Serve Proposed Siphon and Pump Stations and Recreation Facilities (LTS-M)</p> <p><b>Mitigation Measure E-2:</b> Extend Electrical Distribution Lines to Serve New Siphon and Pump Stations and Recreation Facilities</p>	<p><b>Impact UT-8:</b> Possible Need to Expand the Existing Electrical Distribution Lines on Webb Tract, Bouldin Island, and Holland Tract to Serve Proposed Siphon and Pump Stations and Recreation Facilities (LTS-M)</p> <p><b>Mitigation Measure UT-MM-3:</b> Extend Electrical Distribution Lines to Serve New Siphon and Pump Stations and Recreation Facilities</p> <p>No change.</p>
<p><b>Impact E-22:</b> Increase in Demand for Police Services on Project Islands (LTS-M)</p> <p><b>Mitigation Measure E-3:</b> Provide Adequate Lighting in and around Buildings, Walkways, Parking Areas, and Boat Berths</p> <p><b>Mitigation Measure E-4:</b> Provide Private Security Services for Recreation Facilities and Boat Docks</p>	<p><b>Impact UT-9:</b> Increase in Demand for Police Services on the Project Islands (LTS-M)</p> <p><b>Mitigation Measure UT-MM-4:</b> Provide Adequate Lighting in and around Buildings, Walkways, Parking Areas, and Boat Berths</p> <p><b>Mitigation Measure UT-MM-5:</b> Provide Private Security Services for Recreation Facilities and Boat Docks</p> <p><b>Mitigation Measure REC-MM-1:</b> Reduce the Size or Number of Recreation Facilities</p>
<p><b>Impact E-23:</b> Increase in Demand for Fire Protection Services on the Project Islands (LTS-M)</p> <p><b>Mitigation Measure E-5:</b> Incorporate Fire Protection Features into Recreation Facility Design</p> <p><b>Mitigation Measure E-6:</b> Provide Fire Protection Services to Webb Tract and Bacon Island</p>	<p><b>Impact UT-10:</b> Increase in Demand for Fire Protection Services on the Project Islands (LTS-M)</p> <p><b>Mitigation Measure UT-MM-6:</b> Incorporate Fire Protection Features into Recreation Facility Design</p> <p><b>Mitigation Measure UT-MM-7:</b> Provide Fire Protection Services to Webb Tract and Bacon Island</p> <p>No change.</p>
<p><b>Impact E-24:</b> Increase in Demand for Water Supply Services (LTS)</p> <p>Measures that would minimize the effects of this impact have been incorporated into the Project description. However, implementing the following would monitor the effectiveness of those measures:</p> <p><b>Mitigation Measure E-7:</b> Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities</p>	<p><b>Impact UT-11:</b> Increase in Demand for Water Supply Services (LTS)</p> <p>No mitigation required, but the following will monitor Project measures:</p> <p><b>Mitigation Measure UT-MM-8:</b> Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities</p> <p>No change.</p>
<p><b>Impact E-25:</b> Increase in Demand for Sewage Disposal Services (LTS)</p> <p>Measures that would minimize the effects of this impact have been incorporated into the Project description. However, implementing the following would monitor the effectiveness of those measures:</p> <p><b>Mitigation Measure E-7:</b> Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities</p>	<p><b>Impact UT-12:</b> Increase in Demand for Sewage Disposal Services (LTS)</p> <p>No mitigation required, but the following will monitor Project measures:</p> <p><b>Mitigation Measure UT-MM-8:</b> Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities</p> <p>No change.</p>

2001 FEIR and 2001 FEIS Impacts and Mitigation Measures	Differences between 2010 Place of Use EIR and 2001 FEIR and 2001 FEIS Impacts and Mitigation Measures
<p><b>Impact E-26:</b> Increase in Demand for Solid Waste Removal (LTS)                      Measures that would minimize the effects of this impact have been incorporated into the Project description. However, implementing the following would monitor the effectiveness of those measures:  <b>Mitigation Measure E-7:</b> Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities</p>	<p><b>Impact UT-13:</b> Increase in Demand for Solid Waste Removal (LTS)                      No mitigation required, but the following will monitor Project measures:  <b>Mitigation Measure UT-MM-8:</b> Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities                      No change.</p>
<p>Note: SU = Significant and unavoidable; LTS = Less than significant; LTS-M = Less than significant with mitigation; B = Beneficial.</p>	

## Summary of Changes, New Circumstances, and New Information

Changes in the environmental setting, regulatory setting, or environmental effects of the Project related to utilities, public services, and highways are described in the Existing Conditions section below. A summary of findings based on that consideration follows.

### Substantial Changes in the Project

Since the 2001 FEIR and 2001 FEIS were completed, the Project applicant and PG&E entered into an agreement in 2006 (Delta Wetlands Properties 2006), amended in 2007, that resolved PG&E's protest to the Project water right applications. The agreement between the Project applicant and PG&E provides for:

1. The removal of abandoned Line 57A on Bacon Island before water is diverted for storage onto Bacon Island.
2. Grant of an easement for new Line 57C to PG&E.
3. Reinforcement of the Line 57B levee crossings on Bacon Island before water is diverted for storage onto Bacon Island.
4. Relocation of the Line 57B cathodic protection station on Bacon Island, and provision of facilities for PG&E's annual inspection of pipelines 57B and 57C before water is diverted for storage onto Bacon Island.
5. Relocation of electrical transmission lines on Bacon Island before water is diverted for storage onto Bacon Island.

This agreement is discussed under Environmental Commitments, below, and in Chapter 2, "Project Description and Alternatives."

### New Circumstances

Since the 2001 FEIR and 2001 FEIS were issued, PG&E has added a natural gas transmission pipeline, Line 57C, to the existing utility infrastructure on Bacon Island. Line 57C was installed in 2007 to improve the reliability of the Line 57 system connecting McDonald Island to major PG&E transmission facilities. The majority of the deactivated Line 57A across Bacon Island has been removed, and the line is now considered abandoned. The remainder of Line 57A under Bacon Island Road will be removed prior to water storage on Bacon Island in accordance with the agreement between PG&E and the Project applicant.

## New Information

There is no new information of substantial importance that would result in a substantial increase in severity of effects on utilities, public services, or highways.

## Existing Conditions

This section discusses changes in the existing conditions or regulatory setting since the 2001 FEIR and 2001 FEIS.

## Regulatory Setting

Federal, state, and local regulations were not summarized in the 2001 FEIR and 2001 FEIS. Although no federal laws or policies related to utilities, public services, highways, and county roads apply to the proposed Project, applicable state and local regulations and policies are summarized in the following section. These changes in the regulatory environment do not alter the 2001 FEIR and 2001 FEIS impact analysis conclusions or mitigation measures.

### State

#### State Building Energy Efficiency Standards

The energy consumption of new buildings in California is regulated by State Building Energy Efficiency Standards, Title 24. These are contained in the California Code of Regulations (CCR), Title 24, Part 2, Chapter 2-53. Enforcement of the regulations is addressed in the CCR, Title 20, Chapter 2, Subchapter 4, Article 1. Title 24 applies to all new construction of both residential and nonresidential buildings and regulates energy consumed for heating, cooling, ventilation, water heating, and lighting. Title 24 is the minimum requirement for energy efficiency. Not all cost-effective efficiency equipment is necessarily installed in projects.

### Local

Bacon and Bouldin Islands are located in San Joaquin County and Webb and Holland Tracts are located in Contra Costa County. The local regulations established by San Joaquin and Contra Costa Counties that pertain to the islands that fall within their respective boundaries are described below.

## **Contra Costa County General Plan 2005–2020**

The Contra Costa County General Plan 2005–2020 (CCGP), updated in 2005, establishes goals and policies that address the provision of public facilities and services, as well as roadway facilities, in Contra Costa County.

### **Police and Fire Protection**

Policies regarding routine police service and fire protection are presented in the Public Facilities/Services Element of the CCGP (Contra Costa County 2005: 7-24 to 7-30). Included are policies regarding the configuration of sheriff patrol beats to ensure minimum response times and efficient uses of resources; maximum and total response time goals for police and fire protection services; and upgrading fire facilities and equipment.

### **Domestic Water Supply**

Goals and policies addressing water services are presented in the Public Facilities/Service Element, Water Services section of the CCGP (Contra Costa County 2005: 7-10 to 7-11). These policies include assurance of meeting regulatory standards for water delivery, water storage, and emergency water supplies to residents. The County encourages water conservation and water reclamation.

### **Stormwater Drainage**

Drainage policies for stormwater and flood water conveyance are addressed in the CCGP's Public Facilities/Services Element, in the Drainage and Flood Control section. These policies provide for the protection of the public health from flooding hazards and a surface water drainage system for projected growth (Contra Costa County 2005: 7-20 to 7-21).

### **Wastewater**

Goals and policies for wastewater management are detailed in the CCGP's Public Facilities/Services Element, within the Sewer Service section (Contra Costa County 2005: 7-14 to 7-16).

### **Solid Waste Management**

Solid waste management policies and implementation measures are outlined in the CCGP's Public Facilities/Services Element, Solid Waste Management section (Contra Costa County 2005: 7-33 to 7-35). These policies are intended to ensure the adequate, safe, and cost-effective removal of solid waste from residences and businesses. Solid waste resource recovery (including recycling, composting, and waste to energy) is encouraged by the County.

### **Roadways**

The Transportation and Circulation Element of the CCGP establishes goals, policies, and implementation measures intended to maintain an efficient traffic circulation network. Such goals and policies include right-of-way requirements, emergency response efficiency, and roadway development (Contra Costa County 2005: 5-13 to 5-18). The CCGP also outlines level of service (LOS) standards (discussed further in Section 4.10, Traffic and Navigation, of this EIR) and routes of regional significance. Contra Costa County has not designated local truck

routes or adopted specific policies regarding management of construction activities.

## **San Joaquin County General Plan 2010**

### **Police and Fire Protection**

Policies regarding routine police service and fire protection are presented in the Public Health and Safety chapter of the San Joaquin County General Plan (SJCGP) (San Joaquin County 1992: Volume 1, V-8 to V-9). These policies are intended to ensure that fire and police protection services and facilities are provided for the public's health and safety, and that fire and law enforcement hazards are prevented through physical planning.

### **Domestic Water Supply**

The Community Development chapter, Water Supply section of the San Joaquin County general plan contains policies intended to maintain a safe and adequate public water supply within the county (San Joaquin County 1992: Volume 1, IV-105 to IV-108).

### **Stormwater Drainage**

The Community Development chapter, Infrastructure Services—Stormwater Drainage section of the general plan establishes goals and policies for the collection and conveyance of stormwater within the county (San Joaquin County 1992: Volume 1, IV-109 to IV-110). On-site drainage is a minimum requirement for stormwater drainage for discretionary applications in rural and agricultural areas in the county.

### **Wastewater**

The Community Development chapter, Infrastructure Services—Wastewater Treatment section of the general plan establishes goals and policies for the collection and treatment of wastewater in the county (San Joaquin County 1992: Volume 1, IV-102 to IV-104). Septic tanks are the minimum requirement for wastewater treatment facilities in rural and agricultural areas for discretionary applications within the county.

### **Solid Waste Management**

Solid waste management and disposal is governed by the San Joaquin County Waste Management Plan. This plan defines programs for recycling, resource recovery, and disposal. All development in the county must be consistent with the County's Waste Management Plan. The County promotes solid waste source reduction, composting, and recycling.

### **Roadways**

The Community Development chapter, Transportation section of the general plan establishes goals and policies for the design and management of the County's transportation system (San Joaquin County 1992; Volume 1, IV-128 to IV-159). The general plan also outlines LOS standards (discussed further in Section 4.10, Traffic and Navigation, of this EIR), routes of regional significance, and planned major arterial improvement projects.

## Affected Environment

The description of utilities, public services, and highways has been updated to reflect changes in the utility infrastructure, police and fire protection services, and Jersey-Bradford-Webb ferry passenger numbers and ferry service. These changes have been incorporated into the environmental setting summary below. There have been no substantial changes to the roads or SR 12; they remain as described in the 2001 FEIR and 2001 FEIS and are incorporated by reference. More information on the existing use of roads is given in Section 4.10, Traffic and Navigation.

Similarly, there have been no substantial changes to public services such as water supply, sewage disposal, or solid waste collection/disposal. These services for the Project islands remain as described in the 2001 FEIR and 2001 FEIS and are hereby incorporated by reference.

## Highways, County Roads, and Ferry Service

As stated above, there have been no changes to the highways and county roads in the Project vicinity since the 2001 FEIR and 2001 FEIS. The discussion for Bacon Island, Bouldin Island and Holland Tract from the 2001 FEIR and 2001 FEIS are incorporated here by reference.

### Webb Tract

The Delta Ferry Authority continues to provide ferry service to Webb Tract and Bradford Island from Jersey Island. The Victory II Ferry is a 100-ton car ferry capable of transporting up to 12 vehicles. Hours of operation are from 8:00 a.m. to 5:00 p.m., Monday through Friday, excluding Thanksgiving and Christmas, and half-days on weekends. A total of 5,146 passengers used the Delta Ferry Authority ferry system in Contra Costa County in fiscal year 2005–2006 (California Office of the Controller 2007). Based on this figure, year-round average daily use is estimated at 20 passengers. The ferry system is funded through the Delta Ferry Authority. The Delta Ferry Authority is composed of Reclamation District No. 2026 (Webb Tract) and Reclamation District No. 2059 (Bradford Island). Each reclamation district provides monthly funding for ferry operation and maintenance, and Contra Costa County supplements these local funds annually to support the ferry service.

## Gas Facilities and Transmission Pipelines

### Bacon Island

PG&E presently owns two high-pressure gas transmission pipelines that cross Bacon Island, Lines 57B and 57C (Figure 4.4-1). PG&E has abandoned



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**Figure 4.4-1**  
**Gas Transmission Lines on Bacon Island**

Line 57A within Bacon Island. As part of PG&E's Line 57C Reliability Project, Line 57C, an approximately 6.4-mile high-pressure gas transmission pipeline, was constructed in 2007. Line 57C provides redundant pipeline capacity to ensure gas transmission between Brentwood and the McDonald Island Storage Field in the event of a failure of Line 57B in this region.

### **Line 57A**

The majority of the deactivated Line 57A across Bacon Island has been removed, and the line is now considered abandoned. The remainder of Line 57A will be removed prior to water storage on Bacon Island in accordance with the agreement between PG&E and the Project applicant.

### **Line 57B**

Line 57B, constructed in 1974, serves as an input and output conduit for gas stored in the McDonald Island Storage Field. Line 57B connects PG&E's interstate and intrastate gas transmission and distribution system to the utility's underground natural gas storage facility under McDonald Island. The McDonald Island Storage Field has been used primarily to supply gas to the Bay Area and Sacramento/Stockton market centers when other resources, such as gas production fields in Canada and the southwestern United States, are inadequate to meet instantaneous (i.e., peak) demands. The McDonald Island storage facility has supplied gas for up to one-third of PG&E's customers during peak demand periods (Jones & Stokes 2001).

Line 57B is 22 inches in diameter and is buried at a minimum of 3.5 feet below the ground surface as it crosses Bacon Island. Line 57B is designed to operate under temporarily flooded conditions or in saturated soils and, as constructed, is engineered and built to withstand more than the external pressure that would be applied by the load, or weight, of water under full reservoir conditions. Normal operation or integrity of the pipeline would not be impaired by the pressure of overlying water in a full reservoir. Line 57B is concrete-coated and rated for pressures up to 2,160 pounds per square inch (psi). It can convey approximately 1.25 billion cubic feet per day (Bcf/day).

### **Line 57C**

Line 57C was installed in 2007 to expand and improve the reliability of the Line 57 system connecting McDonald Island to the major PG&E transmission facilities.

Line 57C originates at the McDonald Island Storage Field and crosses four islands—McDonald Island, Lower Jones Tract, Bacon Island, and Palm Tract—and four major waterways—Old River, Middle River, Latham Slough and Empire Cut. Line 57C ties in with PG&E's existing Line 57 system on Palm Tract.

On Bacon Island, Line 57C is buried approximately 6 feet below farm fields, directionally drilled under the levees at a depth of approximately 100 feet and under the center canal at a depth of approximately 30 feet (Forkel pers. comm.). Line 57C is 24 inches in diameter and concrete-coated. Line 57C is rated for pressures up to 2,160 psi.

## **Webb Tract**

There is one active natural gas well on Webb Tract (Forkel pers. comm.). There is one gas transmission pipeline from the island. There also are several previously plugged and abandoned gas extraction wells on Webb Tract (Jones & Stokes 2001).

## **Bouldin Island**

One natural gas well exists on Bouldin Island, and it is not presently active (Forkel pers. comm.). There are no gas transmission pipelines on the island.

## **Holland Tract**

No natural gas wells or transmission pipelines exist on Holland Tract.

## **Electrical Transmission and Distribution Lines**

No changes in electrical distribution lines have been made since the 2001 FEIR and 2001 FEIS. Briefly, PG&E operates 12-kilovolt (kV) electrical distribution lines on all four Project islands to serve residences and farm operations. These lines typically run on wooden utility poles.

Additionally, two major electrical transmission lines cross Hotchkiss Tract and Veale Tract to the west and southwest of Holland Tract: PG&E's 500-kV Table Mountain-to-Tesla line and Western Area Power Administration's 230-kV Intertie line.

## **Police and Fire Protection Services**

### **Bacon Island and Bouldin Island**

Police protection for Bacon Island and Bouldin Island is provided by the San Joaquin County Sheriff's Department. The department's headquarters are in French Camp, California. The San Joaquin County Sheriff's department marine patrol division provides water patrol services to approximately 600 square miles of waterways in the Delta area. The marine patrol unit is staffed by six deputy sheriffs and one supervisor; reserve officers are also used during major events and holidays. The marine patrol division substation, located at Steven's Anchorage in Stockton, responds to emergencies on the water for Bouldin Island and Bacon Island. Sheriff's land units respond to emergencies on the islands. Through a mutual aid agreement with San Joaquin County, the Sacramento County Sheriff's Department, the Contra Costa County Sheriff's Department, and the U.S. Coast Guard also provide emergency services to Bacon and Bouldin

Islands if needed. The San Joaquin County Sheriff's Department is responsible for law enforcement and investigation in the area regarding, but not limited to, drownings, boat accidents, drunkenness, theft, vandalism, property crimes, trespassing, disturbances, and enforcement of boat speed limits (Malcolm pers. comm.).

Fire protection for Bouldin Island is provided by the Woodbridge Fire District. The Woodbridge Fire District's service area encompasses approximately 192 square miles. Station 74, located in Lodi, provides fire protection and emergency services to Bouldin Island. Station 74 is staffed by three personnel and equipped with one engine and one fire boat. Volunteer firefighters are also available to respond to fire emergencies as needed. The fire boat is berthed and launched at Tower Park Marina, on Little Potato Slough. Response time from Station 74 to Bouldin Island is approximately 5–8 minutes (Kirkle pers. comm.).

Bacon Island is not in a fire protection district. Fire protection services are the responsibility of the landowners.

### **Webb Tract and Holland Tract**

The Contra Costa County Sheriff's Department provides law enforcement services for Webb and Holland Tracts. The department's headquarters are in Martinez. The Contra Costa County Sheriff's Department Delta marine patrol division provides emergency service to Webb and Holland Tracts through its substation in Oakley. The marine patrol is staffed by two deputy officers year-round; an additional deputy officer is available during the peak summer season (Memorial Day through Labor Day). Contra Costa County has a statewide mutual aid agreement with the San Joaquin County Sheriff's Department and the U.S. Coast Guard to respond to emergency situations in the Delta.

The East Contra Costa Fire Protection District provides fire protection for Holland Tract. The district is staffed by approximately 48 full-time firefighters and 24 reserve firefighters. The district service area encompasses approximately 260 square miles. Station 94, located in Knightsen, is the closest station to Holland Tract. Response time from Station 94 to Holland Tract is less than 7 minutes. The district has a Class III/VIII Fire Department Insurance Service Office Rating and operates under a statewide mutual aid agreement with other fire agencies in and around San Joaquin County (Helmick pers. comm.).

Webb Tract is not in a fire protection district. Fire protection is the responsibility of the landowners.

## **Environmental Commitments**

Since publication of the 2000 RDEIR/EIS, the following environmental commitments related to flood control and levee stability have been added to the

Project description. These environmental commitments are described in detail in Chapter 2.

As previously described, since the 2001 FEIR and 2001 FEIS were completed, the Project applicant and PG&E entered into an agreement that resolved PG&E's protest to the Project water right applications. This agreement has resulted in environmental commitments specific to utilities and these include those following.

- If levee embankment construction for the Project creates stress on the Line 57B pipeline that is significantly greater than the stress on the pipeline caused by the current levee, the Project will pay for the design and construction of a mutually acceptable engineering solution to reinforce, replace, or relocate the Line 57B eastern levee crossing on Bacon Island before water is diverted for storage onto Bacon Island.
- Line 57B, at the western Bacon Island levee embankment adjacent to Old River, will be replaced with a new pipeline installed by horizontal directional drilling (HDD) between Bacon Island and Palm Tract, unless the Project and PG&E mutually agree in writing to another approach. The design and length will be similar to the Line 57C HDD crossing, including setbacks to prevent pipe exposure in the event of a levee failure. Prior to construction of the new pipeline, the Project and PG&E will enter into a 50/50 cost sharing agreement for the design, permitting, material procurement, and construction of a new Line 57B HDD crossing beneath Old River, Bacon Island, and Palm Tract levees. The Project's construction activities that require the isolation and blowdown of Line 57B will occur only at a time when activities will not disrupt PG&E gas operations, typically between April 15 and November 15.
- The Project will pay to relocate the Line 57B cathodic protection station on Bacon Island, and will provide facilities for PG&E's annual inspection of pipelines 57B and 57C before water is diverted for storage onto Bacon Island.
- The Project will compensate PG&E for any loss or damage to Line 57C caused by the conversion of Bacon Island into a water storage reservoir.

In addition to the above commitments stipulated in the settlement agreement, as part of the Project's environmental commitments, during levee strengthening, Project engineers will install equipment to monitor levee settlement and subsidence rates. After levee completion, the Project will conduct weekly inspections to check for potential problems at the gas pipeline crossings, including concerns about levee stability, settlement, and subsidence. If the weekly inspection indicates that settlement, erosion, or slumping at the gas pipelines has occurred, the Project will notify PG&E and will implement corrective measures to mitigate any decrease in levee stability near the gas lines.

# Environmental Effects

## Methods

The analytical approach, impact mechanisms, and significance criteria remain as presented in the 2001 FEIR and 2001 FEIS and are hereby incorporated by reference. To summarize, potential effects of the Project alternatives on emergency services and public utilities were evaluated based on how Project operation would affect the ability of the service agencies and existing facilities to adequately serve the Project islands. Effects of the Project alternatives on gas and electrical lines and facilities on the Project islands were determined through discussions with the affected utility agency and estimation of alterations to the existing infrastructure and any changes in existing operation of the facilities that would be needed during Project operation.

Effects of the Project alternatives on highways and county roads were evaluated based on how operation of the Project could affect the integrity of the roadway levees through wave erosion and differential settlement; these effects are based on the assessment of levee stability described in Section 4.3, Flood Control and Levee Stability. Potential changes in operation of the ferry system to Webb Tract were evaluated through discussions with the Delta Ferry Authority and estimation of changes in passenger travel during Project operation.

## Significance Criteria

The utilities, public services, and highway impact analysis considered several criteria for determining the significance of impacts related to this resource. The analysis took into account both relevant criteria contained in Appendix G of the State CEQA Guidelines (Association of Environmental Professionals 2009) and Project-specific criteria developed by the lead agency to address potential impacts unique to the Project's location and elements.

In the 2001 FEIR and 2001 FEIS analysis, an alternative was considered to have a significant impact on utilities, public services, or highways if it would:

- increase risk of structural failure of existing railways and roadways, gas facilities and pipelines, electrical transmission or distribution lines, and water distribution facilities;
- result in a need for new systems, or substantial alterations to or increased maintenance of power or natural gas facilities, communication systems, water infrastructure, sewer lines, septic tanks, or solid waste services;
- result in a substantial disruption to existing natural gas service;
- increase risk of structural failure of gas facilities and pipelines;
- result in a need for substantial alterations to, or increased maintenance of, natural gas facilities;

- result in increased demand for existing emergency services beyond their current capacity; or
- increase traffic hazards to motor vehicles, bicyclists, or pedestrians by degrading the existing infrastructure.

## Impacts and Mitigation Measures

Impacts on utilities, public services, and highways resulting from implementing the Project were described in detail in the 2001 FEIR and 2001 FEIS and are summarized briefly in Table 4.4-1. Where there have been no changes to the impact analysis or conclusions, the 2001 FEIR and 2001 FEIS is incorporated by reference, and the impact conclusions and mitigation measures are summarized briefly in the following section.

Certain changes in the affected environment, such as the agreement between the Project applicant and PG&E and changes in PG&E's gas utility infrastructure on Bacon Island, necessitate updating the impact analysis. None of these changes has resulted in new significant environmental effects or a substantial increase in the severity of previously identified significant effects on utilities, public services, or highways. However, as indicated in Table 4.4-1, certain impacts related to PG&E's gas lines, which previously were identified as significant, are now considered less than significant. Similarly, previously identified impacts on PG&E's Line 57A are no longer considered impacts because PG&E has abandoned Line 57A on Bacon Island, and most of the pipeline has been removed. These changes to impacts and associated changes in mitigation are discussed in the following sections as they apply to each alternative.

## Proposed Project (Alternative 2)

Alternative 2 involves storage of water on Bacon Island and Webb Tract (Reservoir Islands), with wildlife habitat and recreation constituting secondary uses. Bouldin Island and Holland Tract (Habitat Islands) would be managed primarily as wildlife habitat.

### Highways, County Roads and Ferry Service

Impacts on highways, county roads, and ferry service resulting from implementation of the Project were described in detail in the 2001 FEIR and 2001 FEIS. Where there have been no changes to the impact analysis, the 2001 FEIR and 2001 FEIS is incorporated by reference, and the impact conclusions and mitigation measures are summarized briefly in the following section.

#### **Impact UT-1: Increase in the Structural Integrity of County Roads**

Implementation of Alternative 2 would result in levees surrounding Reservoir Islands being raised and widened. Erosion-resistant facing would be placed on

the interior slopes of the levees. These levee improvement activities would increase the structural integrity of Bacon Island Road on the eastern perimeter levee of Bacon Island.

Because subsidence rates on Habitat Islands would decrease under Alternative 2, the stability of levees surrounding Bouldin Island and Holland Tract would increase. The Project would undertake levee rehabilitation on the Habitat Islands as needed consistent with the state standards as described in Department of Water Resources Bulletin 192-82 (California Department of Water Resources 1982), which would strengthen the levees. Holland Tract Road would benefit from the increased levee stability and the probable reduction of road maintenance activities. This impact is considered beneficial and less than significant.

#### **Mitigation**

No mitigation is required.

#### **Impact UT-2: Reduction in Ferry Traffic from Jersey Island to Webb Tract**

Implementation of Alternative 2 would result in cessation of farming operations on Webb Tract, and ferry traffic from Jersey Island to Webb tract would decline. Although Alternative 2 could generate approximately 15 passengers per hunting day (3 hunting days per week during the October–January season) for recreation access to Webb Tract, there still would be an overall decline of ferry use from the existing average of 20 passengers per day. The current ferry schedule (5 days per week) would not change during Project operation. The ferry would provide transportation for Project workers year round. A projected net decline in ferry use during Project operation would not result in a need for a new system or adversely affect operation and maintenance of the existing system. Reductions in traffic on the ferry, especially heavy grain truck traffic during harvest, could result in reduced operations and maintenance costs. Therefore, this impact is considered less than significant.

#### **Mitigation**

No mitigation is required.

### **Gas Facilities and Transmission Pipelines**

The 2001 FEIR and 2001 FEIS discussion of Project effects on gas facilities and transmission pipelines across Bacon Island has been superseded by the updated information presented in this Place of Use EIR. As previously stated, consistent with the settlement agreement between PG&E and the Project applicant (Delta Wetlands Properties 2006), Line 57A has been removed/abandoned and therefore will not be considered in the impact analysis. In addition, Line 57C was completed after the 2001 FEIR and 2001 FEIS were issued and is therefore included in the following impact analysis. The impact and mitigation conclusions below have been revised to reflect pertinent information contained in the settlement agreement, as well changes in PG&E's gas utility infrastructure.

Water storage on Webb Tract would not preclude future natural gas exploration. During the final design of the Project, consultations with the Department of Conservation, Division of Oil and Gas, and existing mineral rights holders would determine whether active wells located on Webb Tract would need to be raised or relocated (Forkel pers. comm.). Any new wells constructed on Webb Tract would be designed to accommodate seasonal flooding (Forkel pers. comm.).

Flooding of the PG&E easement on Bacon Island under proposed Project operations would not increase the risk of structural failure of the operating gas pipelines or cause a physical change in PG&E's ability to supply gas to Bay Area or Sacramento/Stockton market centers. Flooding the island probably would change the manner in which PG&E monitors its pipelines and repairs leaks to the pipeline. These impacts are discussed below.

### **Impact UT-3: Increase in the Risk to Gas Lines Crossing Exterior Levees on Bacon Island Resulting from Levee Improvements**

Implementation of Alternative 2 could cause settlement issues or increased loads on the pipelines at the levee crossings and may require corrective measures during levee construction and settlement. The proposed levee buttressing could locally increase the rates of levee settlement or subsidence where the gas pipelines penetrate the Bacon Island exterior levees. Levee settlement or subsidence could increase the shear or bending loads on the pipelines, depending on the location of the pipeline with respect to the compressible levee foundation materials. The need for corrective measures and associated costs may increase during levee construction and settlement compared to existing pipeline maintenance requirements.

As outlined in the Environmental Commitments for the Project, the Project will pay for the design and construction of a mutually acceptable engineering solution to reinforce, replace, or relocate the Line 57B eastern levee crossing on Bacon Island prior to water diversion for storage on the island. Similarly, the Project will replace the Line 57B pipeline at the western levee embankment and the cost of the design, permitting, materials, and construction of the new replacement pipeline will be shared by PG&E and the Project. Any reinforced, replaced, or relocated pipelines would be engineered to withstand increased soil settlement pressures. Implementation of these Environmental Commitments would prevent damage to the gas pipeline from increased bending or shear loads at levee crossings during levee construction and settlement. As such, this impact is considered less than significant. However, Mitigation Measure UT-MM-1 would monitor the effectiveness of the corrective measures implemented as part of the settlement agreement.

### **Mitigation Measure UT-MM-1: Monitor Locations Where Gas Pipelines Cross Bacon Island Levees during and after Levee Construction**

During levee strengthening, the Project applicant engineers will install equipment to monitor levee settlement and subsidence rates. After levee completion, the Project applicant will conduct weekly inspections to check for potential problems at the gas pipeline crossings, including concerns about levee stability, settlement, and subsidence. If the weekly inspection indicates that settlement, erosion, or slumping at the gas pipelines has occurred, the Project applicant will notify

PG&E and will implement corrective measures to mitigate any decrease in levee stability near the gas lines.

#### **Impact UT-4: Increase in PG&E Response Time to Repair a Gas Line Failure on Bacon Island**

Implementation of Alternative 2 would delay and complicate repairs of PG&E pipeline facilities. Inundation of the island under Project operations could interrupt service for a longer period than would occur under existing conditions; a severe leak or pipeline rupture would take longer to repair under flooded reservoir conditions than under the existing dry conditions. However, the risk of a pipeline leak or rupture on Bacon Island is very low, and such a leak or rupture would be equally likely under dry or wet conditions. This conclusion is based on the following considerations:

- Pipeline ruptures or leaks on Bacon Island under the proposed Project would be caused by internal or external corrosion, levee settlement, or subsidence loads. In recent years, no pipeline ruptures in the Delta have been caused by these modes (U.S. Department of Transportation 2008). PG&E more often must respond to leaks caused by farm equipment; emergency repairs in the Delta caused by ground-disturbing equipment generally occur once or twice a year (Jones & Stokes 2001).
- Annual inspections to detect small leaks, monitor corrosion protection, identify potential levee subsidence or settlement problems, and prevent future pipeline ruptures or substantial pipeline leaks in those areas by prescribing immediate repair work still will be conducted in accordance with federal and state regulations.
- Based on modeling of water storage operations for the proposed Project (see Chapter 3), it is estimated that Bacon Island would be at full storage in approximately 60% of the months simulated. Therefore, opportunities for repair and replacement of damaged pipeline segments under dry conditions would occur about 40% of the time.

Furthermore, it is unlikely that both Lines 57B and 57C would be damaged and need repair simultaneously. Line 57C was designed and constructed to provide redundancy in PG&E's Line 57 gas transmission system. Prior to the installation of Line 57C, Line 57B was the sole pipeline transporting gas between the McDonald Island underground storage field and PG&E's transmission system. Line 57C travels a different route from the McDonald Island storage field, thereby enhancing the reliability of gas supplies from that source.

If repairs are needed during flooded conditions on Bacon Island, the Project could extend the time required by PG&E to make necessary repairs. PG&E's emergency repair procedures under existing conditions and under Project conditions are described in detail in the 2001 FEIR and 2001 FEIS. However, the system redundancy from installation of Line 57C would reduce the impact of the increased response time to a less-than-significant level.

#### **Mitigation**

No mitigation is required.

### **Impact UT-5: Potential Interference with Pipeline Inspection Procedures**

As part of its pipeline operation, inspection, and maintenance procedures required by federal and state regulations (49 CFR 192 and California Public Utilities Commission [CPUC] General Order 112), PG&E conducts annual aerial and walking inspections along the pipeline route to check for small leaks, evidence of internal or external corrosion, or easement encroachment (e.g., new drainage ditches). Valves are also regularly monitored for pressure fluctuations that could be caused by leaks (Jones & Stokes 2001).

As part of the 2006 settlement agreement between the Project applicant and PG&E, before water is diverted to storage on Bacon Island, the Project will provide mutually acceptable facilities on the island for PG&E's annual inspection of Lines 57B and 57C (Delta Wetlands Properties 2006). These facilities will be identified and located during the planning and design phase for the Bacon Island reservoir. In addition, as part of the settlement agreement the Project will provide a ramp and turnaround facilities to launch a boat for regular inspections; provide a suitable staging area for materials and equipment necessary for gas pipeline repairs; and install an elevated access roadway adjacent to Lines 57B and 57C (Delta Wetlands Properties 2006). These measures will ensure that PG&E has access to the lines for annual inspections under wet as well as dry conditions.

PG&E also monitors the pipelines using internal inspection and cathodic protection testing. No valves are located on Bacon Island, and internal inspection ("pigging") could occur regardless of dry or wet conditions. Flooding the island would inundate cathodic protection test stations, rendering them unusable. The cathodic protection test stations would need to be relocated before flooding of Bacon Island. As stipulated in the 2006 settlement agreement, before water is diverted to storage on Bacon Island, PG&E will, at its expense, relocate the Line 57B cathodic protection test stations on Bacon Island to a mutually acceptable location (Delta Wetlands Properties 2006). In addition, if the test stations are to be located on Delta Wetlands' property, PG&E will consult with the Project applicant on the design, siting and construction of the test stations, and the Project applicant will provide PG&E access to the stations (Delta Wetlands Properties 2006).

This impact is considered less than significant.

#### **Mitigation**

No mitigation is required.

### **Electrical Distribution Lines**

Impacts on electrical distribution utilities resulting from implementation of the Project were described in detail in the 2001 FEIR and 2001 FEIS. Where there have been no changes to the impact analysis, the 2001 FEIR and 2001 FEIS is incorporated by reference, and the impact conclusions and mitigation measures are briefly summarized in the following section.

The Project has removed construction of recreation facilities from its CWA permit applications, and Corps will not include the construction of such facilities in permits issued for the Project at this time. Nevertheless, the analysis of impacts on electrical distribution utilities presented below assumes that the recreation facilities would be constructed and operated. This information provides readers with a complete record of the environmental analysis; it may be used in any subsequent environmental assessment of the recreation facilities.

#### **Impact UT-6: Inundation of Electrical Distribution Utilities on the Reservoir Islands**

Implementation of Alternative 2 would inundate existing PG&E overhead distribution lines on Webb Tract during water storage operations. Maintenance of electrical service between Bradford Island and Mandeville Island would require raising or relocating the distribution lines. This impact is considered significant.

Implementing Mitigation Measure UT-MM-2 would reduce this impact to a less-than-significant level.

#### **Mitigation Measure UT-MM-2: Relocate Electrical Distribution Lines to the Perimeter Levee around Webb Tract**

The Project, in coordination with PG&E, will permanently relocate the existing electrical distribution lines on Webb Tract to the improved perimeter levees during Project construction. The new or relocated distribution lines will be located along perimeter levees and will be installed overhead, similar to existing installations. Before temporarily or permanently modifying or relocating existing electrical lines, the Project will conduct special-status plant surveys (Mitigation Measure VEG-MM-1) in areas that could be affected by the proposed modifications. If threatened or endangered plant species are found, the Project will avoid disturbing those plants when making changes to existing electrical lines.

#### **Impact UT-7: Possible Need to Increase Capacity of the Existing Electrical Distribution Lines on the Project Islands**

Implementation of Alternative 2 may require PG&E to provide electrical service for discharge pump stations, siphon stations, and recreation facilities on the Project islands. If electrical service is required, PG&E would add capacity to the existing distribution lines. The proposed locations for some pump and siphon stations and recreation facilities are adjacent to or within existing electrical line easements. Increasing capacity of existing distribution lines would not require new distribution easements or structures on the islands. Therefore, this impact is considered less than significant.

It also may be necessary to relocate or upgrade electrical lines and substation facilities to serve new Project facilities; any relocation or upgrade of electrical substation facilities (50,000 volts and above) may require formal approval from the CPUC and the CPUC may need to conduct additional environmental impact analyses.

#### **Mitigation**

No mitigation is required.

**Impact UT-8: Possible Need to Expand the Existing Electrical Distribution Lines on Webb Tract, Bouldin Island, and Holland Tract to Serve a Proposed Siphon Station and Recreation Facilities**

Implementation of Alternative 2 may require PG&E to provide electrical service to a siphon station on the northeast end of Webb Tract and to recreation facilities along the perimeters of Webb Tract, Bouldin Island, and Holland Tract that would not easily be serviced by existing lines. Because service to these facilities would require an extension of existing service lines, this impact is considered significant. Implementing Mitigation Measure UT-MM-3 would reduce this impact to a less-than-significant level.

**Mitigation Measure UT-MM-3: Extend Electrical Distribution Lines to Serve New Siphon and Pump Stations and Recreation Facilities**

The Project, in coordination with PG&E, will extend existing electrical distribution lines on the Reservoir Islands where needed to serve new siphon and pump stations and recreation facilities. Before modifying existing electrical lines, the Project will conduct special-status plant surveys (Mitigation Measure VEG-MM-1) in areas that could be affected by the proposed modifications. If threatened or endangered plant species are found, the Project will avoid disturbing those plants when making changes to existing electrical lines.

**Police and Fire Protection Services**

Impacts on police and fire protection services resulting from implementation of the Project were described in detail in the 2001 FEIR and 2001 FEIS. Where there have been no changes to the impact analysis, the 2001 FEIR and 2001 FEIS is incorporated by reference, and the impact conclusions and mitigation measures are summarized briefly in the following section.

**Impact UT-9: Increase in Demand for Police Services on the Project Islands**

Implementation of Alternative 2 could result in an incremental increase in demand for police service during Project operation. Construction and operation of the proposed recreation facilities would result in the following conditions that would contribute to the need for emergency services:

- construction of new buildings;
- an increase in the number of people visiting the Project islands;
- an increase in boating use on waterways adjacent to the Project islands; and
- establishment of boat facilities, which commonly attract criminal activities (e.g., vandalism and theft).

This impact is considered significant. Implementing Mitigation Measures UT-MM-4 and UT-MM-5 would reduce this impact to a less-than-significant level. In addition, Mitigation Measure REC-MM-1: Reduce the Size or Number of Recreation Facilities (discussed in detail in Chapter 4.9, Recreation and Visual Resources) would also reduce this impact.

**Mitigation Measure UT-MM-4: Provide Adequate Lighting in and around Buildings, Walkways, Parking Areas, and Boat Berths**

The Project will provide illumination, in compliance with the recommendations of the Contra Costa County Sheriff's Department and the San Joaquin County Sheriff's Department, in and around recreation facilities, walkways, parking areas, and boat berths on all the Project islands. Also, the Project will consult with both sheriff departments for building design recommendations in order to avoid features that may promote criminal activity.

**Mitigation Measure UT-MM-5: Provide Private Security Services for Recreation Facilities and Boat Docks**

The Project will provide 24-hour on-site private security for the recreation facilities and boat docks on all four Project islands. The security service would assist the San Joaquin County Sheriff's Department and Contra Costa County Sheriff's Department in deterring criminal activity.

**Mitigation Measure REC-MM-1: Reduce the Size or Number of Recreation Facilities**

The Project will reduce the total number or size of recreation facilities proposed by removing from Bacon Island and Webb Tract all 22 facilities proposed for construction, and reducing the number or size of proposed facilities on Bouldin Island and Holland Tract by 70%. This will significantly reduce the number of people using the recreation facilities, resulting in a decrease in public services and crime concerns.

**Impact UT-10: Increase in Demand for Fire Protection Services on the Project Islands**

Implementation of Alternative 2 could increase demands on fire protection services during Project operation. Construction of the recreation facilities would increase the number of people recreating on the Project islands. Also, two of the Project islands (Webb Tract and Bacon Island) are not serviced by a fire protection district. This impact is considered significant. Implementing Mitigation Measures UT-MM-6 and UT-MM-7 would reduce this impact to a less-than-significant level.

**Mitigation Measure UT-MM-6: Incorporate Fire Protection Features into Recreation Facility Design**

The Project will require recreation facilities to incorporate the Uniform Building Codes and the Uniform Fire Codes into the design of the recreation facilities and boat docks.

**Mitigation Measure UT-MM-7: Provide Fire Protection Services to Webb Tract and Bacon Island**

The Project, in coordination with the county and the Local Agency Formation Commission (LAFCO), will incorporate Webb Tract and Bacon Island into an existing fire protection district, or will create new fire protection resources to serve these islands upon full development of the recreation facilities. In addition, Mitigation Measure REC-MM-1: Reduce the Size or Number of Recreation Facilities (discussed in detail in Chapter 4.9, Recreation and Visual Resources) would also reduce this impact.

## **Water Supply Facilities and Sewage Disposal Service**

Impacts on water supply facilities and sewage disposal service resulting from implementation of the Project were described in detail in the 2001 FEIR and 2001 FEIS. Where there have been no changes to the impact analysis, the 2001 FEIR and 2001 FEIS is incorporated by reference, and the impact conclusions and mitigation measures are briefly summarized in the following section.

### **Impact UT-11: Increase in Demand for Water Supply Services**

Implementation of Alternative 2 would increase the need for potable water on the Project islands. As part of the recreation facility design, the Project would increase bottled-water delivery service, drill new wells, and incorporate water purification techniques as necessary to increase water supply at the recreation facilities. New services would need to be consistent with County policies. Therefore, this impact is considered less than significant. Measures that would minimize the effects of this impact have been incorporated into the Project description. Mitigation Measure UT-MM-8 would monitor the effectiveness of those measures.

### **Mitigation Measure UT-MM-8: Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities**

Before construction of the proposed recreation facilities, the Project will obtain all required permits and approvals from local and state agencies for the design and construction of utilities and services, including, but not limited to, water supply, sewage disposal, and solid waste disposal on the Project islands.

In order to obtain a sewage permit in San Joaquin County, the Project will submit an application along with a work plan for the recreation facilities to the San Joaquin County Environmental Health Department. The work plan will be reviewed by the Environmental Health Department to ensure compliance with all county requirements, and a permit will be issued or denied based on the findings of the review (Jones & Stokes 2001).

Contra Costa County Environmental Health Division issues sewage permits in Contra Costa County. As with San Joaquin County, the Project will be required to submit an application. In addition, the Project will be required to submit three sets of plans for the recreation facilities along with a site map depicting existing structures and resources on the islands, and a safety plan. Issuance of the permit will be based on compliance with all County requirements, review of the application, and site visit information obtained by the health inspector (Jones & Stokes 2001).

If, when specific design details are submitted to the appropriate regulating agencies, the agency determines that site-specific environmental impacts are not covered in enough detail by the NEPA and CEQA documentation already completed for the Project, additional environmental documentation may be required prior to approval of permits, entitlements, or alternative treatment methods.

**Impact UT-12: Increase in Demand for Sewage Disposal Services**

Implementation of Alternative 2 would result in an increased need for sewage disposal at the proposed recreation facilities. As part of the recreation facility design, the Project would install a new sewage disposal system at each facility consistent with San Joaquin County and Contra Costa County requirements for sewage disposal systems and design. Therefore, this impact is considered less than significant.

Measures that would minimize the effects of this impact have been incorporated into the Project description. Implementing Mitigation Measure UT-MM-8 (described above) would monitor the effectiveness of those measures.

**Mitigation Measure UT-MM-8: Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities****Solid Waste**

Under Alternative 2, use of the recreation facilities would increase demand for solid waste removal services on the Project islands. The Project would need to contract with a private waste collection and disposal service authorized to operate in Contra Costa County and San Joaquin County to serve the recreation facilities.

**Impact UT-13: Increase in Demand for Solid Waste Removal**

Some waste would likely be generated during construction activities. The small amount of waste that may require landfill disposal is not expected to substantially decrease the existing lifespan of the landfills near the Project area.

Implementation of Alternative 2 would result in the need for solid waste removal at the recreation facilities. The Project would contract with a private waste collection and disposal service to respond to the need for removal of solid waste from the recreation facilities. The Project would investigate and implement, to the extent financially feasible, recycling opportunities for the recyclable waste generated at the recreation facilities. However, the amount of solid waste generated at the recreation facilities would not likely exceed capacity of the collection service or local landfills. Therefore, this impact is considered less than significant.

Measures that would minimize the effects of this impact have been incorporated into the Project description. However, implementing Mitigation Measure UT-MM-8 (described above) would monitor the effectiveness of those measures.

**Mitigation Measure UT-MM-8: Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities****Infrastructure Facilities on Adjacent Islands**

Infrastructure on adjacent islands includes transportation and water conveyance facilities, underground gas fields and storage areas, and gas and electrical lines.

Increased risk of levee failure and seepage to adjacent islands caused by proposed water storage on Bacon Island and Webb Tract could threaten the reliability of these facilities and increase maintenance and repair costs; however, the Project has made a commitment to improve levees around the Project islands, which would increase their reliability. The Project also would mitigate any seepage problems beyond existing seepage levels by installing an interceptor well system around the Project island levees. Project features would maintain potential impacts related to levee stability and seepage at existing levels or better, so implementation of Alternative 2 would not increase the risk to adjacent utilities. Adjacent utilities would not be affected by Alternative 2.

## Alternative 1

Impacts and mitigation measures under Alternative 1 are the same as under Alternative 2.

## Alternative 3

Alternative 3 involves storage of water on Bacon Island, Webb Tract, Bouldin Island, and Holland Tract with secondary uses for wildlife habitat and recreation. The portion of Bouldin Island north of SR 12 would be managed as a wildlife habitat area and would not be used for water storage. A detailed impact analysis of Alternative 3 was presented in the 2001 FEIR and 2001 FEIS, and is incorporated here by reference. The impact conclusions and mitigation are briefly summarized in the following section.

## Highways, County Roads, and Ferry Service

### **Impact UT-1: Increase in the Structural Integrity of County Roads**

Implementation of Alternative 3 would result in levees surrounding the reservoirs on the Project islands being raised and widened. Erosion-resistant facing would be placed on the interior slopes of the levees. These levee improvements would increase the structural integrity of Bacon Island Road on the eastern levee of Bacon Island and Holland Tract Road on the southern levee of Holland Tract. Therefore, this impact is considered beneficial and less than significant.

### **Mitigation**

No mitigation is required.

### **Impact UT-14: Increase in the Risk of Structural Failure of SR 12**

Implementation of Alternative 3 could potentially affect the structural integrity of SR 12 and expose SR 12 to flooding. If Alternative 3 is implemented, a dam, Wilkerson Dam, would be required south of SR 12 to retain water on the island and protect the existing highway. Because the design of Wilkerson Dam would minimize seepage, settlement, and erosion, adverse impacts on the structural integrity of SR 12 caused by levee failure and flooding would have a low

probability of occurring (see 2001 FEIS, Appendix E1, “Design and Construction of Wilkerson Dam South of SR 12 on Bouldin Island).

Groundwater levels beneath SR 12 roadbed and in the seepage drainage ditches on both sides of the highway are controlled by farming practices. Water levels in the ditches can vary by as much as 6 feet over 1 year because of cyclical flooding and irrigation. Water from the existing drainage ditches would be pumped to stabilize groundwater levels in the ditches and beneath the SR 12 roadbed. To ensure that the Project does not cause a significant increase in water levels, the Project applicant will coordinate with the California Department of Transportation (Caltrans) to establish a seepage performance level for Wilkerson Dam. Groundwater levels along SR 12 would be regulated by pumps that maintain water levels in the drainage ditch along SR 12 being set to activate automatically if ditch water levels exceed the performance standard established by Caltrans and the Project applicant. Additionally, as part of Alternative 3, the Project applicant, in coordination with Caltrans, will review the regrading design for the North Bouldin Habitat Area (NBHA) to verify that the probability of adverse flooding impacts along the north side of SR 12 would be negligible. Therefore, this impact is considered less than significant.

Measures that would minimize the effects of this impact have been incorporated into the Project description. However, implementing Mitigation Measure UT-MM-9 would monitor the effectiveness of those measures.

**Mitigation Measure UT-MM-9: Coordinate Design and Construction of Wilkerson Dam with Caltrans**

Prior to Project construction, the Project will consult with and obtain all required permits and approvals from Caltrans for the design and construction of Wilkerson Dam.

**Impact UT-15: Increase in the Fog Hazard on SR 12**

Implementation of Alternative 3 could increase the amount of fog produced along SR 12 on Bouldin Island by increasing the water surface area adjacent to the roadway. Fog on the roadway would increase traffic hazards on SR 12. This impact is considered significant and unavoidable.

**Mitigation**

No mitigation is available to reduce this impact to a less-than-significant level.

**Impact UT-2: Reduction in Ferry Traffic from Jersey Island to Webb Tract**

This impact is described above under Alternative 2. This impact is considered less than significant.

**Mitigation**

No mitigation is required.

## Gas Facilities and Transmission Pipelines

### **Impact UT-3: Increase in the Risk to Gas Lines Crossing Exterior Levees on Bacon Island Resulting from Levee Improvements**

This impact is described under Alternative 2. This impact is considered less than significant, as discussed above. However, Mitigation Measure UT-MM-1 would monitor the effectiveness of the corrective measures implemented as part of the settlement agreement.

#### **Mitigation**

No mitigation is required.

### **Impact UT-4: Increase in PG&E Response Time to Repair a Gas Line Failure on Bacon Island**

This impact is described above under Alternative 2. The potential impact on PG&E's operation is economic in nature. Because economic effects are not considered environmental impacts under CEQA and NEPA, no significance conclusion is made and no mitigation is identified.

#### **Mitigation**

No mitigation is identified.

### **Impact UT-5: Potential Interference with Pipeline Inspection Procedures**

This impact is summarized above under Alternative 2. The impact on access for pipeline inspections and on monitoring facilities is considered less than significant, as discussed above.

#### **Mitigation**

No mitigation is required.

## Electrical Distribution Lines

### **Impact UT-6: Inundation of Electrical Distribution Utilities on the Reservoir Islands**

Implementation of Alternative 3 would cause inundation of existing PG&E overhead distribution lines on Webb Tract, Holland Tract, and Bouldin Island during water storage operations. To maintain existing service, the lines would need to be relocated. This impact is considered significant.

Implementing Mitigation Measure UT-MM-10 would reduce this impact to a less-than-significant level.

#### **Mitigation Measure UT-MM-10: Relocate Electrical Distribution Lines to the Perimeter Levees around Webb and Holland Tracts and Bouldin Island**

The Project applicant, in coordination with PG&E, will permanently relocate the electrical distribution lines on Webb and Holland Tracts and Bouldin Island to the improved perimeter levees during Project construction. The new or relocated

distribution lines would be located along perimeter levees and would be installed overhead, similar to existing installations. Before temporarily or permanently modifying or relocating existing electrical lines, the Project will conduct special-status plant surveys (Mitigation Measure VEG-MM-1) in areas that could be affected by the proposed modifications. If threatened or endangered plant species are found, the Project will avoid disturbing those plants when making changes to existing electrical lines.

#### **Impact UT-7: Possible Need to Increase Capacity of the Existing Electrical Distribution Lines on the Reservoir Islands**

Alternative 3 may require PG&E to provide electrical service for discharge pump stations, siphon stations, and recreation facilities on the Project islands. PG&E would add capacity to the existing distribution lines, which would not require new easements or structures on the islands. Therefore, this impact is considered less than significant.

It also may be necessary to relocate or upgrade electrical lines and substation facilities to serve new Project facilities; any relocation or upgrade of electrical substation facilities (50,000 volts and above) may require formal approval from the CPUC. If, when specific design details are submitted, the CPUC determines that the NEPA and CEQA documentation already completed for the Project does not cover site-specific environmental impacts in enough detail, it may require additional environmental documentation before it provides approvals.

#### **Mitigation**

No mitigation is required.

#### **Impact UT-8: Possible Need to Expand the Existing Electrical Distribution Lines on Webb Tract, Bouldin Island, and Holland Tract to Serve Proposed Siphon and Pump Stations and Recreation Facilities**

Implementation of Alternative 3 may require PG&E to provide electrical service to siphon stations, a pump station, and recreation facilities that would not be serviced easily by existing lines. The following proposed pump station and siphon stations (as shown in Figures 2-1 through 2-4) would not be located adjacent to existing electrical line corridors: a siphon station in the northeastern corner of Webb Tract, a discharge pump station and a siphon station on the eastern side of Bouldin Island, and a siphon station near the northernmost point of Holland Tract. Recreation facilities also would be located along the perimeter levees in areas not serviced by electrical lines. Because electrical service to those facilities would require an extension of existing service lines, this impact is considered significant.

Implementing Mitigation Measure UT-MM-3 would reduce this impact to a less-than-significant level.

#### **Mitigation Measure UT-MM-3: Extend Electrical Distribution Lines to Serve New Siphon and Pump Stations and Recreation Facilities**

This mitigation measure is described above under Alternative 2.

## **Police and Fire Protection Services**

The effects on emergency services that would result from constructing and operating recreation facilities are described above for Alternative 2 and briefly summarized here.

### **Impact UT-9: Increase in Demand for Police Services on the Project Islands**

This impact is described above under Alternative 2. This impact is considered significant.

Implementing Mitigation Measures UT-MM-4 and UT-MM-5, both described above for Alternative 2, would reduce this impact to a less-than-significant level. In addition, Mitigation Measure REC-MM-1: Reduce the Size or Number of Recreation Facilities (discussed in detail in Chapter 4.9, Recreation and Visual Resources) would also reduce this impact.

### **Mitigation Measure UT-MM-4: Provide Adequate Lighting in and around Buildings, Walkways, Parking Areas, and Boat Berths**

This mitigation measure is described above under Alternative 2.

### **Mitigation Measure UT-MM-5: Provide Private Security Services for Recreation Facilities and Boat Docks**

This mitigation measure is described above under Alternative 2.

### **Mitigation Measure REC-MM-1: Reduce the Size or Number of Recreation Facilities**

This mitigation measure is described above under Alternative 2.

### **Impact UT-10: Increase in Demand for Fire Protection Services on the Project Islands**

This impact is described above under Alternative 2. This impact is considered significant. Implementing Mitigation Measures UT-MM-6 and UT-MM-7, both described above for Alternative 2, would reduce this impact to a less-than-significant level.

### **Mitigation Measure UT-MM-6: Incorporate Fire Protection Features into Recreation Facility Design**

This mitigation measure is described above under Alternative 2.

### **Mitigation Measure UT-MM-7: Provide Fire Protection Services to Webb Tract and Bacon Island**

This mitigation measure is described above under Alternative 2.

## **Water Supply Facilities and Sewage Disposal Service**

The effects on water supply and sewage disposal services that would result from constructing and operating recreation facilities are as described above for Alternative 2 and briefly summarized here.

### **Impact UT-11: Increase in Demand for Water Supply Services**

This impact is described above under Alternative 2. This impact is considered less than significant.

Measures that would minimize the effects of this impact have been incorporated into the Project description. However, implementing Mitigation Measure UT-MM-8, described above for Alternative 2, would monitor the effectiveness of those measures.

### **Mitigation Measure UT-MM-8: Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities**

This mitigation measure is described above under Alternative 2.

### **Impact UT-12: Increase in Demand for Sewage Disposal Services**

This impact is described above under Alternative 2. This impact is considered less than significant.

Measures that would minimize the effects of this impact have been incorporated into the Project description. However, implementing Mitigation Measure UT-MM-8 would monitor the effectiveness of those measures.

### **Mitigation Measure UT-MM-8: Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities**

This mitigation measure is described above under Alternative 2.

## **Solid Waste**

The effects on solid waste disposal services that would result from constructing and operating recreation facilities are as described above for Alternative 2 and are briefly summarized here.

### **Impact UT-13: Increase in Demand for Solid Waste Removal**

This impact is described above under Alternative 2. This impact is considered less than significant.

### **Mitigation Measure UT-MM-8: Obtain Appropriate Local and State Permits for Recreation Facility Services and Utilities**

Measures that would minimize the effects of this impact have been incorporated into the Project description. However, implementing Mitigation Measure UT-MM-8, described above for Alternative 2, would monitor the effectiveness of those measures.

## **Infrastructure Facilities on Adjacent Islands**

Under Alternative 3, potential seepage from Project islands would be similar to that described for Alternative 2. As part of Alternative 3, the Project would install an interceptor well system in the exterior levees of the Project islands to control seepage onto adjacent islands, as described in Appendix D2, “Levee Design and Maintenance Measures,” of the 2001 FEIS. Design features and proposed seepage control measures would keep potential adverse seepage problems at existing levels or better and there would be no change in the risk to facilities on adjacent islands. Adjacent utilities would not be affected by implementation of Alternative 3.

## **No-Project Alternative**

### **Increase in the Risk of Road Failure and Maintenance and Repair Needs, Increase in Maintenance Requirements for Gas Lines on Bacon Island, and Increase in the Risk of Structural Failure and Increase in Maintenance Requirements for Existing Distribution Utilities**

It is assumed that under the No-Project Alternative, agricultural conditions would intensify on the Project islands. As such, implementation of the No-Project Alternative would result in continued, if not increased subsidence of the island interiors. Subsidence would gradually increase levee instability, seepage, and threats to utility and highway facilities on the Project islands and the risk of a cumulative levee failure on adjacent islands. If the rate of subsidence were to increase with intensified farming under the No-Project Alternative, the rate at which these effects begin to occur on the Project islands also would increase. These effects are discussed in detail in the 2001 FEIR and 2001 FEIS (Jones & Stokes 2001) and hereby are incorporated by reference.

The Project applicant would not be required to implement mitigation measures if the No-Project Alternative were selected by the lead agency. However, mitigation measures were presented for impacts of the No-Project Alternative in the 2001 FEIR and 2001 FEIS to provide information to the reviewing agencies regarding the measures that would reduce impacts if the Project applicant implemented a project that required no federal or state agency approvals. Those mitigation measures are hereby incorporated by reference.